

**1951 BRITANNICA  
BOOK OF THE YEAR**







A Record of the March of Events of 1950

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1951  
BRITANNICA  
BOOK OF  
THE YEAR

- Prepared Under the Editorial Direction of  
Walter Yust, Editor of  
Encyclopædia Britannica

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BRITANNICA BOOK OF THE YEAR

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IN THIS VOLUME, in addition to bibliographies of books and periodicals, references are made to films which cover the subjects of many articles. In all instances the films referred to are 16-mm. sound motion pictures which were produced in 1950. So these references, in addition to giving the reader information about further visual study he can pursue on these subjects, provide a record of most of the major 16-mm. films produced during the year.

There are thousands of 16-mm. films, and perhaps the most comprehensive source of titles and subjects is the *Educational Film Guide* published by the H. W. Wilson Company, New York, N.Y.

These 16-mm. films may be obtained from many film rental libraries maintained throughout the United States by state universities, by many public libraries and by commercial visual-education dealers. The Film Council of America with headquarters in Chicago, Ill., and its community Film Councils can usually provide information about how to obtain the films. Many public libraries can also give this information. Should these sources fail to help in securing a desired film, the reader should write directly to the producer.

*The editor of the BRITANNICA BOOK OF THE YEAR acknowledges with gratitude the privilege of using 35 pictures from LIFE. Acknowledgments of the copyright ownership of all illustrations may be found on the following three pages.* THE EDITOR



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# INTRODUCTION

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**T**HE *Encyclopædia Britannica* company was purchased by two Americans in May 1901, and thereupon began a historic half century of publishing enterprise and innovation which has distributed ten times as many volumes as were distributed during the previous 133 years of Britannica's long history. But the American publishers have done more than that to extend the resources and services of Britannica.

In 1913 the first Britannica annual was issued. It was called *Britannica Year-Book*, created to do the same work as the present *Britannica Book of the Year*. But World War I intervened and the depressions which followed discouraged further publication. In 1933 *The World Today*, a magazine-bulletin, appeared at intervals for five issues and continued to appear five times a year until June 1937. The following year the first *Britannica Book of the Year* was issued, and has been published annually since.

The book you hold in your hand is the fourteenth of the series and its publication in 1951 marks the beginning of the 50th anniversary of American ownership of the 183-year-old *Encyclopædia Britannica*.

From 1768 this publication has been, by common consent, the most useful and most comprehensive encyclopædia in the English language. Its extensive, international distribution since 1901 has made possible the continuous annual revision by classification of the *Encyclopædia*, the publication of *Britannica Junior* (1934), a fifteen-volume encyclopædia designed especially for boys and girls, *The World Atlas* (1943), the purpose of which, by carefully designed innovations, is to help peoples everywhere understand how all nationalities live and govern themselves, and *Ten Eventful Years* (1947), a four-volume reflection of the World War II years.

The usefulness of *Encyclopædia Britannica* itself has expanded with the development of the Library Research Service (1936), available to owners who pose some 34,000 questions of fact to be answered each year, and by publication of the *Britannica Book of the Year*, to keep the reader abreast of the times.

The present anniversary year marks the closing of the first half century of American ownership during which millions and millions of Britannica books have been distributed throughout the world and points to the beginning of a new half century of continued effort to combat, in a small way, the evil of ignorance and to help to achieve that era of understanding and peace toward which a troubled world slowly moves.

WALTER YUST



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DONALD J. HART. Dean, School of Business Administration, University of Idaho, Moscow, Ida.
- D.Lh.** **Tariffs**  
DAVID LYNCH. Special Adviser on European Trade Policy, United States Tariff Commission. Author of *The Concentration of Economic Power*; etc.
- D.L.I.** **Ireland, Republic of (in part)**  
DENIS LIDDELL IRELAND. Senator, Republic of Ireland. Author of *Eamon de Valera Doesn't See It Through*; etc.
- D.Nn.** **London**  
LADY DOROTHY NICHOLSON. Author of *Private Letters: Pagan and Christian*; *The Londoner*; etc.
- D.R.Gi.** **France (in part); Saar**  
DARSIE R. GILLIE. Paris Correspondent, the *Manchester Guardian*.
- D.St.** **Advertising (in part)**  
DANIEL STARCH. Consultant in Business Research. Former Lecturer and Professor at Harvard University and the University of Wisconsin. Author of *Principles of Advertising*; etc.
- D.Wn.** **Botany (in part)**  
DONALD WYMAN. Horticulturist, Arnold Arboretum, Harvard University, Jamaica Plain, Mass.
- D.W.N.** **Civil Aeronautics Administration**  
DONALD W. NYROP. Administrator of Civil Aeronautics, U.S. Department of Commerce, Washington, D.C.
- E.A.Gs.** **Children's Books (in part)**  
ELIZABETH A. GROVES. Assistant Professor, School of Librarianship, University of Washington, Seattle, Wash.
- E.A.P.** **Spanish Literature**  
EDGAR ALLISON PEERS. Professor of Spanish, University of Liverpool, Liverpool, Eng. Author of *A History of the Romantic Movement in Spain*; etc.
- E.A.Pr.** **Fisheries (in part)**  
EDWARD A. POWER. Chief, Statistical Section, Branch of Commercial Fisheries, Fish and Wildlife Service, U.S. Department of the Interior, Washington, D.C.



- E.B.F.** **National Guard**  
EVELYN B. FRASER. Captain, N.G.B. Executive Officer, Information Office, National Guard Bureau, Washington, D.C.
- E.B.Mc.** **Korea (in part)**  
EVELYN BECKER McCUNE (Mrs. George McCune). Lecturer, University of California, Berkeley, Calif.
- E.C.Sd.** **Aviation, Civil (in part)**  
EDWIN COLSTON SHEPHERD. Air Correspondent, *Sunday Times*, London, Eng. Former Secretary-General, Air League of the British Empire.
- Ed.D.** **Motion Pictures (in part)**  
EDGAR DALE. Professor of Education, Bureau of Educational Research, The Ohio State University, Columbus, O. Author of *Audio-Visual Methods in Teaching; How to Read a Newspaper*; etc.
- Ed.M.E.** **North Atlantic Community (in part)**  
EDWARD MEAD EARLE. Professor, School of Historical Studies, The Institute for Advanced Study, Princeton, N.J. Editor and Co-author of *Makers of Modern Strategy; Nationalism and Internationalism*; etc.
- Ed.R.P.** **Architecture (in part)**  
EDMUND R. PURVES. Executive Director, American Institute of Architects, Washington, D.C.
- E.E.B.** **Montana**  
EDWARD E. BENNETT. Professor of History and Political Science, Montana State University, Missoula, Mont.
- E.E.Bs.** **Civil Service (in part)**  
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- E.E.R.** **United States (in part)**  
EDGAR EUGENE ROBINSON. Byrne Professor of American History and Director of the Institute of American History, Stanford University, Stanford, Calif. Author of *The New United States*; etc.
- E.F.D.** **Maine**  
EDWARD FRENCH DOW. Professor of Government and Head of the Department of History and Government, University of Maine, Orono, Me.
- E.G.An.** **Shoe Industry**  
ESTELLE G. ANDERSON (Mrs. Arthur D. Anderson). Associate Editor, *Boot and Shoe Recorder*.
- E.H.Co.** **Gold (in part)**  
EDWARD H. COLLINS. Member, Editorial Board, *The New York Times*, New York, N.Y. Author of *Inflation and Your Money*.
- E.Hd.** **Ceylon (in part); Nepal; etc.**  
EDWIN HAWARD. Secretary, India, Pakistan and Burma Association, London, Eng. Author of *A Picture of India*; etc.
- E.H.Kr.** **Mineralogy**  
EDWARD HENRY KRAUS. Dean Emeritus of the College of Literature, Science and the Arts, and Professor Emeritus of Crystallography and Mineralogy, University of Michigan, Ann Arbor, Mich.
- E.I.F.** **Horticulture**  
E. I. FARRINGTON. Former Secretary, Massachusetts Horticultural Society and Editor of *Horticulture*. Author of *The Gardener's Almanac*; etc.
- E.I.P.** **Salvation Army**  
ERNEST I. PUGMIRE. National Commander of the Salvation Army in the United States.
- E.J.C.** **Canning Industry (in part)**  
EDWIN J. CAMERON. Director, Research Laboratories, National Canners Association.
- E.L.Co.** **Shipping, Merchant Marine, U.S.**  
E. L. COCHRANE. Vice-Admiral, U.S.N. (ret.). Chairman, Federal Maritime Board, and Administrator, Maritime Administration, U.S. Department of Commerce, Washington, D.C.
- E.L.Mn.** **Philosophy**  
EDWIN L. MARVIN. Professor of Philosophy and Psychology, Montana State University, Missoula, Mont.
- E.L.R.** **St. Louis**  
E. LANSING RAY. Chairman of the Board, Publisher and Editor, *St. Louis Globe-Democrat*, St. Louis, Mo.
- E.L.S.** **Armies of the World**  
EDWIN L. SIBERT. Brigadier General, U.S.A. Director of Staff, American Defense Board, Washington, D.C.
- E.M.E.** **Airports and Flying Fields (in part)**  
EMERY M. ELLINGSON. Manager, Air Transport Association of America, Los Angeles, Calif.
- E.P.Jo.** **Diabetes**  
E. P. JOSLIN, M.D. Professor Emeritus of Clinical Medicine, Harvard University Medical School; Medical Director, George F. Baker Clinic, New England Deaconess Hospital, Boston, Mass.
- E.R.Bl.** **International Bank for Reconstruction and Development**  
EUGENE R. BLACK. President, International Bank for Reconstruction and Development, Washington, D.C.
- E.S.Br.** **Tennis**  
EDWIN S. BAKER. Executive Secretary, United States Lawn Tennis Association.
- E.Se.** **Book Publishing (in part); etc.**  
EDMOND SEGRAVE. Editor of the *Bookseller*, London, Eng.
- E.S.J.** **Child Labour**  
ELIZABETH S. JOHNSON. Chief, Division of Child Labor and Youth Employment, Bureau of Labor Standards, U.S. Department of Labor, Washington, D.C.
- E.T.B.** **Mathematics**  
ERIC TEMPLE BELL. Professor of Mathematics, California Institute of Technology, Pasadena, Calif. Author of *The Magic of Numbers; The Search for Truth*; etc.
- E.V.Lh.** **Brewing and Beer**  
E. V. LAHEY. Chairman and President, United States Brewers Foundation Inc.
- E.W.G.** **Electrical Industries (in part); etc.**  
EDWARD WILLIAM GOLDING. Head, Rural Electrification and Wind-Power Department, Electrical Research Association, London, Eng. Author of *Electrification of Agriculture and Rural Districts*; etc.
- E.W.Gn.** **Illiteracy**  
ELLA WASHINGTON GRIFFIN. Special Consultant, U.N.E.S.C.O.
- E.Wi.** **Italy (in part); etc.**  
ELIZABETH WISKEMANN. Writer. Former Rome Correspondent, *The Economist*. Author of *Czechs and Germans; Undeclared War; The Rome-Berlin Axis*; etc.
- E.Ws.** **Psychosomatic Medicine**  
EDWARD WEISS, M.D. Professor of Clinical Medicine, Temple University Medical School, Philadelphia, Pa. Co-author of *Psychosomatic Medicine*.
- F.A.Sw.** **Art Exhibitions (in part); etc.**  
FREDERICK A. SWEET. Associate Curator of Painting and Sculpture, The Art Institute of Chicago, Chicago, Ill.
- F.C.Bg.** **Bread and Bakery Products**  
FRANKLIN C. BING. Consultant in the food and drug field. Former Director, American Institute of Baking.
- F.Cn.** **Kansas**  
FRANK CARLSON. Governor of Kansas, 1947-51.
- F.C.W. (d. 1951)** **Cancer**  
FRANCIS CARTER WOOD, M.D. Emeritus Director, Cancer Research, Columbia University, and Consulting Pathologist, St. Luke's Hospital, New York, N.Y. Author of *Clinical Diagnosis*; etc.
- F.D.N.** **Seventh-day Adventists**  
FRANCIS D. NICHOL. Editor, *Review and Herald*. Author of *The Midnight Cry; The Answer to Modern Religious Thinking*; etc.
- F.D.R.** **New Mexico**  
FRANK D. REEVE. Professor of History, University of New Mexico, Albuquerque, N.M.
- F.D.S.** **Denmark (in part); Greenland (in part); etc.**  
FRANKLIN D. SCOTT. Professor of History, Northwestern University, Evanston, Ill. Author of *Bernadotte and the Fall of Napoleon; The United States and Scandinavia*; etc.
- F.E.D.** **Blind, Education of the**  
F. E. DAVIS. Superintendent, American Printing House for the Blind, Inc., Louisville, Ky. President, American Association of Instructors of the Blind.
- F.E.Fe.** **Physiology**  
FLORENT EDWIN FRANKE, M.D. Associate Professor, Department of Physiology, School of Medicine, St. Louis University, St. Louis, Mo.

- F.E.St.** **Somaliland, Italian; etc.**  
FRANK EDMUND STAFFORD. Adviser on Former Italian Colonies, African Department, Foreign Office, London, Eng.
- F.H.Aw.** **Netherlands (in part)**  
FRANCIS HARRY ANDREW. British Press Officer and Adviser, Netherlands Embassy, London, Eng.
- F.J.B.** **Relief**  
FRANK J. BRUNO. Professor Emeritus, Applied Sociology, and Chairman, Department of Social Work, Washington University, St. Louis, Mo.
- F.J.K.** **Electrical Industries (in part)**  
FRANCIS J. KOVALCIK. Assistant Editor, *Electrical World*.
- F.J.Se.** **Vitamins (in part); etc.**  
FREDRICK J. STARE, M.D. Professor of Nutrition, Schools of Medicine and Public Health, Harvard University, Boston, Mass.
- F.L.Do.** **New York City**  
FRANK LEE DONOGHUE. Director of Commerce for the City of New York, N.Y. Author of *Spotted Horse Patrol* (case histories of the New York State Police); etc.
- F.L.K.** **Libraries (in part)**  
FRANCIS LAWRENCE KENT. Librarian, U.N.E.S.C.O. Former Librarian of Bristol University, Bristol, Eng.
- F.L.Kp.** **Religious Education (in part)**  
FORREST L. KNAPP. General Secretary, World Council of Christian Education.
- F.L.Mt.** **Newspapers and Magazines (in part)**  
FRANK LUTHER MOTT. Dean, School of Journalism, University of Missouri, Columbia, Mo. Author of *Golden Multitudes*; etc.
- F.M.B.(d. 1951)** **Marine Biology**  
FRANCIS MARSH BALDWIN. Professor and Chairman, Biology Division; Sometime Director, Marine Biological Station, University of Southern California, Los Angeles, Calif.
- F.Nn.** **Seismology**  
FRANK NEUMANN. Chief, Seismology Branch, U.S. Coast and Geodetic Survey, U.S. Department of Commerce, Washington, D.C.
- F.Re.** **Antarctica**  
FINN RONNE. Commander, U.S.N.R. Expert Consultant with the U.S. Army on Arctic Equipment. Lecturer on the Antarctic. Leader of the Ronne Antarctic Research Expedition, 1946-48. Author of *Antarctic Conquest*.
- Fr.Ro.** **Handball**  
FREDERICK ROTHE. Governor and Member of Athletic Committee, New York Athletic Club, New York, N.Y.
- F.S.L.** **Fertilizers**  
FRED S. LODGE. Assistant to the President, The National Fertilizer Association.
- F.Sn.** **Great Britain and Northern Ireland, United Kingdom of (in part)**  
FRANK SINGLETON. Editor, Tillotson Newspapers, Ltd., Bolton, Eng. Author of *Independent Means*; etc.
- F.W.N.** **Yeast**  
FREDERIC W. NORDSIEK. Assistant Director, Research Service Department, Standard Brands Incorporated, New York, N.Y.
- F.W.Rr.** **Meteorology**  
F. W. REICHELDERFER. Chief, Weather Bureau, U.S. Department of Commerce, Washington, D.C.
- G.A.Ro.** **Copper; Secondary Metals; etc.**  
GAR A. ROUSH. Former Editor, *Mineral Industry*. Author of *Strategic Mineral Supplies*.
- G.A.Si.** **United Church of Canada**  
GORDON A. SISCO, D.D. Secretary, The United Church of Canada.
- G.B.En.** **Alimentary System, Disorders of**  
GEORGE B. EUSTERMAN, M.D. Senior Consultant in Medicine (Retired), Mayo Clinic, Rochester, Minn. Professor Emeritus of Medicine, Mayo Foundation, University of Minnesota Graduate School, Minneapolis, Minn. Co-Author of *The Stomach and Duodenum*.
- G.D.H.C.** **Wages and Hours (in part); etc.**  
GEORGE DOUGLAS HOWARD COLE. Chichele Professor of Social and Political Theory, Oxford University, Oxford, Eng. Author of *The World of Labour*; *Self-Government in Industry*; *Guild Socialism Restated*; etc.
- Ge.Bu.** **Hospitals (in part)**  
GEORGE BUGBEE. Executive Director, American Hospital Association.
- Ge.C.** **Christian Science**  
GEORGE CHANNING. Manager, Christian Science Committees on Publication, Boston, Mass.
- G.E.L.** **Ear, Nose and Throat, Diseases of (in part)**  
GEORGE E. LIEBERMAN, M.D. Associate in Otolaryngology, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pa.
- G.Gr.** **National Geographic Society**  
GILBERT GROSVENOR. President and Editor, National Geographic Society.
- G.Hb.** **Floods and Flood Control (in part); etc.**  
GENE HOLCOMB. Deputy Chief, Technical Information Division, Office of the Chief of Engineers, Department of the Army, Washington, D.C.
- G.H.H.** **International Court of Justice**  
GREEN H. HACKWORTH. Judge, International Court of Justice, The Hague, Neth. Author of *Digest of International Law*.
- G.H.M.F.** **Canning Industry (in part)**  
GEORGE HENRY MORRIS FARLEY. Editor, *Tin Printer and Box Maker and Canning Industry*, London, Eng.
- G.J.C.** **Economics**  
GEORGE JOHNSON CADY. Professor of Economics, University of Redlands, Redlands, Calif. Author of *Economics of Business Enterprise*; *Entrepreneurial Costs and Price*; etc.
- G.L.Bs.** **Television (in part)**  
GEORGE LISLE BEERS. Assistant Director of Engineering, RCA Victor Division, Radio Corporation of America, Camden, N.J.
- G.L.W.** **Refugees**  
GEORGE L. WARREN. Adviser on Refugees and Displaced Persons, Department of State, Washington, D.C.
- G.M.C.** **Ear, Nose and Throat, Diseases of (in part)**  
GEORGE MORRISON COATES, M.D. Emeritus Professor of Otolaryngology, Medical School and Graduate School of Medicine, University of Pennsylvania, Philadelphia, Pa.
- G.McA.** **Housing (in part)**  
GILBERT McALLISTER. Member of Parliament for Rutherglen, Scot. Co-author of *Town and Country Planning*; etc.
- G.M.Ck.** **Disciples of Christ**  
GAINES M. COOK. Executive Secretary, International Convention of Disciples of Christ. Author of *The Privileges of Church Membership*; etc.
- G.M.Hy.** **Newspapers and Magazines (in part)**  
GRANT M. HYDE. Professor of Journalism, School of Journalism, University of Wisconsin, Madison, Wis.
- G.M.J.** **Interior Decoration**  
G. McSTAY JACKSON. President, McStay Jackson Co., Chicago, Ill.
- G.P.DuS.** **Zoology (in part)**  
GRAHAM PHILLIPS DUSHANE. Professor of Biology, Stanford University, Stanford, Calif.
- G.R.Mn.** **Rhodesia, Southern; etc.**  
GEORGE ROY MORRISON. Journalist. Author of *Farming in East Africa*; *Kenya Carols*; etc.
- G.S.Bd.** **Korean War (in part)**  
GEORGE S. BLANCHARD. Captain, U.S.A. Assistant to the Chairman of the Joint Chiefs of Staff, Washington, D.C.
- G.S.K.** **Presbyterian Church**  
GUY SOULLIARD KLETT. Research Historian, Department of History, The Presbyterian Church in the United States of America.
- G.St.** **Russian Literature**  
GLEB P. STRUVE. Professor of Russian, University of California, Berkeley, Calif. Author of *25 Years of Soviet Russian Literature*.
- G.T.H.** **British Columbia**  
G. T. HATCHER. Director, Bureau of Economics and Statistics, Province of British Columbia, Victoria, B.C.
- G.W.Hd.** **Rural Electrification (in part)**  
GEORGE W. HAGGARD. Deputy Administrator, Rural Electrification Administration, Washington, D.C.
- H.A.C.** **Deafness**  
HOWARD A. CARTER. Secretary, Council on Physical Medicine and Rehabilitation, American Medical Association.



- H.A.H.** **Arizona**  
HOWARD ARCHIBALD HUBBARD. Professor of History, University of Arizona, Tucson, Ariz.
- H.A.Rk.** **Medical Rehabilitation of the Disabled**  
HOWARD ARCHIBALD RUSK, M.D. Professor and Chairman of the Department of Physical Medicine and Rehabilitation, Bellevue Medical Center, New York University, New York, N.Y. Associate Editor, *The New York Times*, New York, N.Y. Chairman, Health Resources Advisory Committee, National Security Resources Board, Washington, D.C.
- H.A.Rn.** **Cold, Common**  
HOBART A. REIMANN, M.D. Professor of Medicine, Jefferson Medical College, Philadelphia, Pa.
- H.A.Y.** **Northwest Territories**  
HUGH A. YOUNG. Commissioner of the Northwest Territories, Canada.
- H.B.Cs.** **Anthropology**  
HENRY B. COLLINS, JR. Senior Ethnologist, Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.
- H.Bd.** **Flour**  
HARVIE BARNARD. Research Chemist, Clinton Foods, Inc., Clinton, Ia.
- H.Bec.** **Sociology**  
HOWARD BECKER. Professor of Sociology, University of Wisconsin, Madison, Wis. Fulbright Appointee, Great Britain, 1951. Author of *German Youth: Bond or Free*; etc.
- H.B.S.** **Heart and Heart Diseases**  
HOWARD BURNHAM SPRAGUE. Associate Physician, Massachusetts General Hospital, Boston, Mass.
- H.Bu.** **Public Health Services (in part)**  
HERMAN N. BUNDESEN, M.D. President, Board of Health, Chicago, Ill. Author of *The Growing Child*; etc.
- H.B.Wy.** **Supreme Court of the United States**  
HAROLD B. WILEY. Deputy Clerk, United States Supreme Court, Washington, D.C.
- H.C.Ce.** **Hotels (in part)**  
HENRY CHARLES CLARKE. Former Secretary of the Hotels and Restaurants Association of Great Britain. Author of *Hotels and Restaurants as a Career*.
- H.C.D.** **Education (in part)**  
HAROLD COLLETT DENT. Editor of *The Times Educational Supplement*, London, Eng. Author of *To Be a Teacher*; *Secondary Education for All*; etc.
- H.C.H.** **Chambers of Commerce (in part)**  
H. CLYDE HOSTETTER. Editor of *Future* magazine, Tulsa, Okla.
- H.C.La.** **Betting and Gambling (in part)**  
H. C. LAWTON. Chairman, Education and Action for Leisure, London, Eng. Author of *Everyman's Leisure*.
- H.D.G.** **Candy**  
H. DON GUSSOW. Publisher and Editor, *Candy Industry*, New York, N.Y.
- H.D.Z.** **Belgium (in part); etc.**  
HERBERT DAVID ZIMAN. Leader Writer and Special Correspondent, the *Daily Telegraph*, London, Eng.
- He.Br.** **Banking (in part)**  
HENRY BRUÈRE. Chairman of the Board, Bowery Savings Bank, New York, N.Y.
- H.E.F.** **Baltimore; Maryland**  
HORACE EDGAR FLACK. Director, Department of Legislative Reference, Baltimore, Md.
- H.E.Hi.** **Epidemics**  
HERMAN E. HILLEBOE, M.D. Commissioner of Health, New York State Department of Health, Albany, N.Y.
- H.G.Rn.** **India, (in part); etc.**  
H. G. RAWLINSON. Indian Educational Service (ret.). Former Principal, Deccan College, Poona, India. Author of *British Beginnings in Western India*; etc.
- H.G.S.** **Shipbuilding (in part)**  
H. GERRISH SMITH. Chairman of the Board, Shipbuilders Council of America.
- H.H.Be.** **Soil Erosion and Soil Conservation**  
HUGH H. BENNETT. Chief, Soil Conservation Service, U.S. Department of Agriculture, Washington, D.C.
- H.I.S.** **Accident Prevention (in part)**  
HELEN ISABEL SUTHERLAND. Secretary, The Royal Society for the Prevention of Accidents. Author of *Safety in the Home*; etc.
- H.J.A.** **Narcotics and Narcotic Traffic**  
H. J. ANSLINGER. Commissioner of Narcotics, Treasury Department, Washington, D.C. U.S. Representative on the United Nations Commission on Narcotic Drugs. Member, Committee on Narcotic Drugs and Drug Addiction, National Research Council. Author of *The Physician and the Federal Narcotic Law*.
- H.J.De.** **Washington**  
HERMAN J. DEUTSCH. Professor of History, State College of Washington, Pullman, Wash.
- H.Js.** **Town and Regional Planning; etc.**  
HARLEAN JAMES. Executive Secretary, American Planning and Civic Association.
- H.J.Sr.** **Indiana**  
HAROLD JOHN SANDER. Librarian, Business Library of the Indianapolis Public Library, Indianapolis, Ind.
- H.Ko.** **Communism; etc.**  
HANS KOHN. Professor of History, The City College of New York. Author of *The Idea of Nationalism, a Study of Its Origins and Background*; *The Twentieth Century*; etc.
- H.Lo.** **Golf (in part)**  
HENRY CARPENTER LONGHURST. Journalist, author, broadcaster. Author of *Golf*; *I Wouldn't Have Missed It*; etc.
- H.L.Tl.** **Rubber**  
HARLAN L. TRUMBULL. Vice-President in Charge of Research, The B. F. Goodrich Co., Research Center, Brecksville, O.
- H.M.A.** **Arkansas**  
HENRY M. ALEXANDER. Professor of Political Science, University of Arkansas, Fayetteville, Ark. Author of *Organization and Function of State and Local Government in Arkansas*.
- H.M.H.** **American Literature**  
HARRISON M. HAYFORD. Assistant Professor of English, Northwestern University, Evanston, Ill.
- H.Mm.** **Crime (in part)**  
HERMANN MANNHEIM. Reader in Criminology, University of London, London, Eng. Author of *The Dilemma of Penal Reform*; etc.
- H.M.Pr.** **Building and Construction Industry (in part); etc.**  
HENRY M. PROPPER. Housing Consultant. Lecturer, Division of Graduate Studies, Brooklyn College, Brooklyn, N.Y. Former Executive Vice-President, National Committee on Housing.
- H.M.We.** **Psychology**  
HELEN M. WOLFLE. Managing Editor, *American Psychologist*, Washington, D.C.
- H.M.Wr.** **Infantile Paralysis**  
H. M. WEAVER. Director of Research, National Foundation for Infantile Paralysis, New York, N.Y.
- H.Od.** **Standards, National Bureau of**  
HUGH ODISHAW. Assistant to the Director, National Bureau of Standards, U.S. Department of Commerce, Washington, D.C.
- H.Ra.** **Dermatology**  
HERBERT RATTNER, M.D. Professor of Dermatology, Northwestern University Medical School, Chicago, Ill.
- H.R.Ml.** **Luxembourg**  
H. R. MADOL. Commissioner of Information, Legation of the Grand Duchy of Luxembourg, London, Eng.
- H.R.V.** **Psychiatry**  
HENRY R. VIETS, M.D. Lecturer on Neurology, Harvard Medical School; Neurologist, Massachusetts General Hospital, Boston, Mass. Librarian, Boston Medical Library, Boston, Mass.
- H.S.A.** **Cricket**  
HARRY SURTEES ALTHAM. Master, Winchester College, Winchester, Eng. Chairman, Inquiry Committee, Marylebone Cricket Club, London, Eng. Author of *A History of Cricket*.
- H.S.D.** **Anglo-Egyptian Sudan (in part); etc.**  
HERBERT STANLEY DEIGHTON. Fellow of Pembroke College, Oxford University, Oxford, Eng.

- H.S.Lr.** Christian Unity; Religion  
HENRY SMITH LEIPER, D.D. Associate General Secretary, World Council of Churches. Author of *Blind Spots*; etc.
- H.S.S.** South Dakota  
HERBERT S. SCHELL. Professor of American History and Director of the Graduate School, University of South Dakota, Vermillion, S.D. Author of *South Dakota, Its Beginnings and Growth*.
- H.S.Vg.** Aviation, Military (in part)  
HOYT S. VANDENBERG. Chief of Staff, United States Air Force.
- H.S-W.** Bulgaria (in part); etc.  
HUGH SETON-WATSON. Fellow and Praelector in Politics, University College, Oxford University, Oxford, Eng. Author of *Eastern Europe Between the Wars*.
- H.T.Ch.** Chiang Kai-shek; China  
HUNG-TI CHU. Former Head of Information and Reference Department, Chinese News Service.
- H.W.Dg.** Prisoners of War; etc.  
HENRY W. DUNNING. Executive Secretary, League of Red Cross Societies, Geneva, Switz.
- H.W.Hk.** Child Welfare  
HOWARD WILLIAM HOPKIRK. Senior Consultant, Child Welfare League of America, Inc., New York, N.Y.
- H.W.L.** Socialism (in part)  
HARRY W. LAIDLER. Executive Director, League for Industrial Democracy.
- H.W.Rn.** Tunnels  
HAROLD W. RICHARDSON. Editor, *Construction Methods and Equipment*.
- H.Z.** Wildlife Conservation (in part)  
HOWARD ZAHNISER. Executive Secretary, The Wilderness Society. Editor of *The Living Wilderness*. Book Editor, *Nature Magazine*.
- I.Gg.** Post Office (in part)  
ISAAC GREGG. Former Director of Press Relations, Office of the Postmaster General, Washington, D.C.
- I.L.Bl.** Silk; etc.  
IRENE L. BLUNT. Secretary, The National Federation of Textiles, Inc., New York, N.Y.
- I.M.S.** Hawaii  
INGRAM M. STAINBACK. Governor of Hawaii.
- I.R.M.M.** Architecture (in part)  
IAN ROBERT MORE McCALLUM. Editor of *Physical Planning: The Groundwork of a New Technique*.
- I.W.D.** Farm Credit Administration  
I. W. DUGGAN. Governor, Farm Credit Administration, U.S. Department of Agriculture, Washington, D.C.
- I.W.H.** Selective Service  
IRVING W. HART. Lieutenant Colonel, A.G.D. Chief Information Officer, Selective Service System, Washington, D.C.
- I.W.R.** Words and Meanings, New  
I. WILLIS RUSSELL. Chairman of the Research Committee on New Words of the American Dialect Society which prepared the article. The Committee consists of Henry Alexander, O. B. Emerson, Atcheson L. Hench, Albert H. Marckwardt, Mamie J. Meredith and Peter Tamony.
- J.A.Fd.** Archaeology (in part)  
JAMES A. FORD. Assistant Curator of North American Archaeology, American Museum of Natural History, New York, N.Y.
- J.A.G.** Furniture Industry  
JEROME ARTHUR GARY. Editor, *Furniture Age*, Chicago, Ill. Author of *The Romance of Period Furniture*; etc.
- J.A.Ma.** Montreal  
J. ARTHUR MATHEWSON. Barrister, Montreal, Que. English Editor, Quebec Official Reports.
- J.A.Mi.** Electric Transportation (in part)  
JOHN ANDERSON MILLER. General Electric Co., Schenectady, N.Y. Author of *Fares Please!*; *Men and Volts at War*; etc.
- J.A.MI.** Patents  
JOHN A. MARZALL. Commissioner, United States Patent Office, U.S. Department of Commerce, Washington, D.C.
- J.A.My.** Tuberculosis  
J. A. MYERS, M.D. Professor of Medicine and Preventive Medicine and Public Health, University of Minnesota Medical School, Minneapolis, Minn. Author of *Man's Greatest Victory over Tuberculosis*; etc.
- J.A.S.R.** Coal (in part)  
J. A. S. RITSON. Professor of Mining, Royal School of Mines, Imperial College, London, Eng.
- J.Bk.** Book-Collecting and Book Sales  
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- J.En.** Delaware  
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- J.J.Dn.** Civil Service (in part)  
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- J.J.Kt.** Virginia  
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- J.Kd.** Floods and Flood Control (in part)  
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- J.K.R.** Agriculture (in part); Fruit; etc.  
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- J.Kt.** North Atlantic Community (*in part*)  
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- J.LaF.** Roman Catholic Church; Pius XII; etc.  
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- J.McAd.** Argentina (*in part*); Chile (*in part*); etc.  
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- J.M.Md.** Federal Trade Commission  
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- Jn.M.** Public Health Services (*in part*); etc.  
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- J.P.D.** Boxing (*in part*)  
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- J.P.J.** Donations and Bequests (*in part*)  
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- J.P.V.Z.** Aviation, Civil (*in part*)  
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- J.R.Cl.** Mormons  
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- J.R.Fo.** Osteopathy  
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- J.T.Ar.** Etching  
JOHN TAYLOR ARMS. President, Society of American Etchers, Gravers, Lithographers and Woodcutters, Inc. Author of *Handbook of Print Making and Print Makers*; etc.
- Ju.L.** South Africa, The Union of (*in part*)  
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- J.We.** Wines  
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- J.W.Gr.** Electric Transportation (*in part*)  
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- J.W.Je.** Federal Power Commission  
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- K.G.B.** Aden; British Borneo; etc.  
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- K.Gr.** Home Economics  
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- K.Sm.** France (*in part*); Poland; etc.  
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- L.A.L.** Insurance (*in part*)  
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- La.M.** Football (*in part*)  
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- L.de B.H.** Swimming  
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- L.D.L.** Painting  
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- L.E.F.** Insurance (*in part*); etc.  
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- L.E.Ms.** Dyestuffs (*in part*)  
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- Ln.M.** **Dance (in part)**  
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- L.Pr.** **Lawn Bowling**  
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- L.Ps.** **English Literature (in part)**  
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- Ma.B.** **Turkey; Bayar, Celâl**  
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- M.Ab.** **Foreign Investments**  
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- M.Fe.** **Trustee Territories (in part)**  
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- M.Lb.** **Liquors, Alcoholic (in part)**  
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- M.L.M.** **Guatemala; Honduras; etc.**  
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- M.Mo.** **Intoxication, Alcoholic**  
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- M.Si.** **Printing**  
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- M.Sp.** **Death Statistics; etc.**  
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- M.Sr.** **Birth Control**  
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- M.Te.** **Iowa (in part)**  
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- M.W.Ss.** **Aqueducts**  
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- N.A.D.W.** **Art Exhibitions (in part)**  
NEVILLE ARTHUR DOUGLAS WALLIS. Art Critic, the *Observer*, London, Eng. Author of *Fin de Siècle*.
- Na.G.** **Fairs and Exhibitions (in part); etc.**  
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- N.B.D.** **National Parks and Monuments (in part)**  
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- N.C.B.** **Lumber (in part)**  
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- N.E.W.** **Plague, Bubonic and Pneumonic**  
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- N.F.S.** **Jet Propulsion; Munitions of War (in part)**  
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- No.B.** **Jerusalem**  
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- N.Sy.** **Music (in part)**  
NICOLAS SLONIMSKY. Music Critic. Composer. Author of *Music since 1900*; *Music of Latin America*; etc.
- N.T.** **Socialism (in part)**  
NORMAN THOMAS. Socialist Presidential Candidate, 1940, 1944, 1948. Author of *America's Way Out*; *Appeal to the Nations*; etc.
- N.T.R.** **Coinage**  
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- O.A.T.** **Los Angeles**  
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- O.L.Ds.** **Securities and Exchange Commission**  
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- O.M.T.** **Arabia (in part); Jordan (in part); etc.**  
OWEN MEREDITH TWEEDY. Former British government officer. Author of *Cairo to Persia and Back*; etc.
- Oo.S.** **Chambers of Commerce (in part)**  
OTTO ADOLPH SEYFERTH. President, Chamber of Commerce of the United States, Washington, D.C.
- O.R.E.** **Federal Security Agency**  
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- O.U.C.** **Archery**  
OLIVE U. CROUCH. Historian, National Archery Association.
- P.Ae.** **Colorado**  
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- P.B.D.** **Drug Administration, U.S.**  
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- P.Br.** **Billiards**  
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- P.By.** **Cleveland; Ohio (in part)**  
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- P.Dn.** **English Literature (in part)**  
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- P.E.M.** **European Recovery Program**  
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- P.H-My.** **Barbados (in part); etc.**  
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- P.M.Hg.** **National Labor Relations Board**  
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- P.M.Sy.** **Botany (in part)**  
PATRICK MILLINGTON SYNGE. Editor to the Royal Horticultural Society. Author of *Mountains of the Moon*; *Flowers in Winter*; etc.
- P.Ss.** **Insurance (in part)**  
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- P.T.** **Gynaecology and Obstetrics**  
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- P.Ta.** **Employment; Strikes**  
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- P.V.C.** **Agricultural Research Administration**  
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- P.W.R.** **Table Tennis**  
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- Q.W.** **International Law**  
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- R.A.Bn.** **Advertising (in part)**  
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- R.C.Ha.** **Alabama**  
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- R.C.Pe.** **United States (in part)**  
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- R.d'E.** **Brazil**  
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- R.E.Bs.** **Nobel Prizes; Pulitzer Prizes; etc.**  
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- R.E.E.H.** **Baptist Church**  
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- R.G.D.A.** **Prices (in part)**  
ROY GEORGE DOUGLAS ALLEN. Professor of Statistics, University of London, London, Eng. Author of *Mathematical Analysis for Economists; etc.*
- R.G.M.** **Paper and Pulp Industry**  
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- R.H.Fr.** **Arthritis**  
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- R.H.Ls.** **Museums (in part)**  
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- R.Ho.** **Detroit**  
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- R.Hs.** **Community Trusts**  
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- Ri.A.B.** **Veterans' Organizations (in part)**  
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- R.Is.** **Anaemia**  
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- Ro.A.S.** **Far Eastern Unity**  
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- R.T.S.** **Chemotherapy**  
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- R.Tu.** **Democratic Party; Republican Party; etc.**  
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- R.V.B.B.** **Navies of the World**  
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- R.W.Cr.** **Radio (in part)**  
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- S.A.K.** **Exploration and Discovery**  
SERGE A. KORFF. Vice-President and Member of Board of Directors, the Explorers' Club.
- S.A.L.** **Prisons**  
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- S.de la R.** **Peru**  
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- S.L.L.** **Wool**  
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- S.L.S.** **Clothing Industry**  
STANLEY L. SIMONS. Editor, *The Clothing Trade Journal*. Director, Garment Technical Institute.
- S.McC.L.** **International Labour Organization**  
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- S.McG.** **Texas**  
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- S.Nr.** Formosa; Guam; etc.  
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- S.Tf.** Radio (in part)  
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- T.Bar.** Wealth and Income, Distribution of (in part)  
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- T.G.W.** Aliens (in part)  
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- T.H.K.** Geology  
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- T.H.MacD.** Roads and Highways  
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- T.H.O.** Physics  
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- W.Cy.** Federal Communications Commission  
WAYNE COY. Chairman, Federal Communications Commission, Washington, D.C.
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- W.E.Ss.** New Hampshire  
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- W.H.Is.** Hong Kong  
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- W.H.Se.** Protestant Episcopal Church  
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- W.H.Tr.** Motor-Boat Racing; etc.  
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- W.J.Bp.** Reichstein, Thadeus; etc.  
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ANONYMOUS.



# Nineteen Fifty

## A Survey of Politico-Cultural Trends of the Year

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### I

The year 1950 was culturally undistinguished and politically troubled. It was disturbed by disorders in 16 countries<sup>1</sup>, involved in acute border disputes in 6 crucial areas<sup>2</sup>, and was without the compensation of even the thin but steady stream of human achievement in the sciences, the arts, and ideas which had marked the previous year. Moreover, it was overshadowed by a peril of far greater magnitude—the fear, suddenly grown concrete, of the outbreak of a new world war less than five years after the end of the last great cataclysm.

The nuclear physicist, Leo Szillard, calculated that within 10 to 15 years all human life on the earth might be extinguished by hydrogen bombs. This kind of speculation, the effect of which in previous years was to induce feelings, not only of anxiety but also of guilt, on the part of those who considered themselves responsible—in the first place physicists and politicians—now provoked a desire for self-preservation, if need be by resistance to possible enemies—a combination of terror and resolution, rather than further self-examination or self-condemnation.

The event for which the year 1950 was likely to be most vividly remembered was the outbreak of war in Korea on June 25, when for the first time, the two great systems, which between them divided the civilized world, finally met in open conflict. This was merely a formal climax of the most crucial development of our times; but the tension between the Communist and non-Communist parts of the world mounted with particular rapidity, with symptoms which were observable in every region of human experience.

It was not an unconscious process. The fact that the 20th century had reached its midmost point stimulated much self-conscious reflection about the path which mankind had traversed since its early years. Obvious comparisons were made, in almost every country which

possessed a free press, with the relatively deep peace in which the century seemed to open and even more with that now almost fabulous time—the years of the middle 19th century in the European continent. It was an occasion for many sardonic analogies between the overflowing optimism and pride of the 1850s and our own time, with its sad prophecies about the human future, reflecting the disenchantment which unceasing material progress with its apparently inevitable accompaniment of uncontrollable chaos and destruction, had brought to the west.

These melancholy summaries no longer possessed that note of tranquil sadness, tinged with gently nostalgic feeling, which permeated both life and letters in quieter times. The previous year, 1949, so far as literature, for example, was concerned, to some degree took refuge in “escapist” reminiscences of the solid security of Victorianism and earlier periods. By 1950 the danger, not merely of war, but of total atomization of peaceful populations by the newly discovered weapons of unheard of destructive power, had come too close to permit of even the limited comfort of pleasant daydreams of this kind. The desire to avoid facing the painful facts, which had been responsible for the partial return, in western Europe at any rate, to purely “aesthetic” poetry and painting, to imaginative writing preoccupied by the problems of private life, to mordant but light social satire, to memoirs and biographies in which fastidious elegance and a desire to please was more evident than deep moral or political concern—this general trend, while it overflowed to some degree into 1950, was no longer characteristic of that year. The mild, sober, pensive mood of the post-World War II years began to give way to the anxiety and at times acute depression of what seemed a new prewar (rather than postwar) period; while there was no discernible hysteria in the countries of the west, they appeared to be permeated by a kind of grim expectation of a new *débâcle*; this feeling was not fatalistic, disaster might still be averted, there was no reason for resignation or despair. Nevertheless, the daily news given by the press and radio acquired a new and menacing urgency, and this was duly reflected in literature and the arts as well as the more obvious social and political manifestations of these months.

The output of books reflecting this preoccupation increased noticeably; the confessions of disillusioned ex-

<sup>1</sup> Bolivia, Eritrea, France, Greece, Gold Coast, Indochina, Indonesia, Ivory Coast, Guatemala, Kashmir, Malaya, Nepal, Iran (Persia), Puerto Rico, the Philippines, South Africa.

<sup>2</sup> Berlin, China, Cominform—Tito (Yugoslavia), Jerusalem, Trieste, Saar.

Communists (of which the most notable was the collection of essays by many hands entitled *The God That Failed*) no longer served merely to entertain or excite a public avid for sensational revelations or hair-raising "inside stories" as such—but directly affected readers to whom the energetic conspirators from whose midst came these eloquent "renegades" still appeared as a very real and immediate menace. James Burnham, Arthur Koestler, Ignazio Silone, Louis Fischer and Douglas Hyde were no longer merely repentant sinners or subjects of thrilling psychological autobiographies, but respected experts and daily guides to action. The *Kulturkampf* began in real earnest, with great embitterment on both sides and no quarter given.

Politically, the most important single aspect of this was the reluctant but for the most part final recognition by the majority of the thinking inhabitants of western Europe and the Americas (although not of Asia or Africa) that there were in fact two worlds; that the differences in the political spectrum were not graduated but broke sharply at the frontier marked by the so-called "iron curtain"; that however deeply men of liberal convictions might abhor the cruelties and injustices of the semicapitalist system under which they lived, there was more that was common to them and their moderate right wing opponents than between them and the rulers of Communist Russia and the police democracies. The destruction of the old "Popular Front" solidarity of all left wing groups against embattled reaction was a very painful disillusionment to large sections of progressive opinion. But this process, begun by Andrei Vishinsky's brutally direct speeches before various forums of the United Nations, and continued by other soviet spokesmen and brought home by the suppression of civil liberties in one Communist state after the other, did finally begin to achieve the result of isolating Communists as a *sui generis* totalitarian group with ideals in absolute conflict with those of liberals and democrats of every shade and hue, a conflict no less violent and irreconcilable than that with fascists or ultramontane Catholics.

It was in this atmosphere that the western powers were enabled to make a serious effort to achieve the limited objectives of the Atlantic pact—a move at self-defense from possible soviet aggression; and arrangements for making possible a united military and economic strategy (which later in the year led to the appointment of Gen. Dwight D. Eisenhower as commander in chief of the united western European forces) obtained a degree of general support in the west scarcely possible a year or two before, when such steps would have been denounced vehemently by a good many persons and bodies in no political sympathy with communism. Every western country now feared armed aggression and intervention by members of the soviet bloc and there was less liability to illusion (although it was by no means wholly absent) either about the consequences of this, or

about the possibility of remaining neutral and untouched.

The Communists, on their side, were plainly not unaware of the shift in opinion; they realized the consequent disadvantage to the Soviet Union, and took appropriate steps. They intensified production, particularly of war material, in the sovietized part of the world and took increasingly drastic steps to insulate their populations even more hermetically by continuing the violent campaigns against foreigners and foreign civilizations, and by reducing contacts with them to the level of the Muscovy of Ivan the Terrible. At the same time it became plain to them that propaganda about the immense achievements of soviet culture was no longer proving as effective in the west as it had been, and, indeed, tended to cover its agents with ridicule; consequently, strictly political and cultural issues were played down, and a universal appeal was made for peace. Hundreds of thousands of signatures, mainly in central and eastern Europe, were obtained for a document drafted at Stockholm, which carefully omitted controversial political issues and concentrated upon the world-wide yearning to avoid another war. The "Stockholm Peace Petition" was much the most successful piece of propaganda achieved by the Soviet Union for many months, and to some degree offset the painful effect caused by its particularly harsh recent persecution of all intellectuals and artists who saw any good in any aspect of western civilization, as well as by its openly aggressive policies in Asia. The most prominent countermove to this Communist campaign was made by the Roman Catholic Church, which by giving great publicity to the Holy Year and to the ensuing pilgrimage to Rome, further attracted attention with the promulgation by the pope of the new dogma of the Bodily Assumption of the Virgin.

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Thus 1950 was a year in which the general stiffening of the fronts had begun. The Roman Church formally denounced not merely association with communism in any form, but other intellectual heresies as well, such as idealism, pragmatism, existentialism, etc., which had begun to creep into the fold in spurious disguises. A major battle had begun. In the United States anti-Communist feeling had reached a new height. A bill had passed both houses of congress requiring Communists and "fellow travellers" to register themselves with the newly set up agency for counteracting subversive activities, and a new immigration law (passed over the president's veto) was enacted whereby anyone who belonged, or had ever belonged to a totalitarian community, whether of the left or the right, whether past or present, found it difficult, if not impossible, to enter the United States. The sense of present danger was increased not merely by the disturbing news of the growth of Communist power, particularly in Asia, but by such local events as the celebrated trial of Alger Hiss (who had been condemned for perjury in denying that he had, 12 years before, given



confidential government documents to a soviet spy) which culminated in his sentence to a term of imprisonment. This was accompanied and followed by the trials and convictions of lesser figures for similar offenses, in particular of scientists, some of whom by their own admissions had given to the Soviet Union secrets connected with atomic research. Of these the case of Klaus Fuchs, engaged upon secret work of this kind in England, who made a full confession, was perhaps the most notorious; not long after this an Italian physicist, Bruno Pontecorvo, disappeared under mysterious circumstances, it was supposed to the Soviet Union.

The notion that Communist parties abroad were in effect not political organizations so much as networks of espionage began to be established in the public mind. In this atmosphere a group of U.S. politicians led by Sen. Joseph R. McCarthy declared that United States government agencies, and in particular the state department, were riddled with Communists and their sympathizers who acted as foreign agents and spies. In particular they maintained that many homosexuals, who were open for this reason to blackmail by soviet agents, infested U.S. government departments and were a source of grave weakness to them. Senator McCarthy and his friends demanded a thorough-going purge of such persons. Departmental inquiries were duly held, followed by some dismissals, but this did not satisfy the accusers. Dean Acheson, the U.S. secretary of state, was attacked for conducting a vacillating foreign policy which discouraged such natural allies of the United States as Generalissimo Chiang Kai-shek and Gen. Francisco Franco and gave heart to their left wing opponents. Acheson's dismissal began to be steadily demanded. Pres. Harry S. Truman defended his secretary of state. The Tydings committee cleared the accused state department of most of the charges flung at its members. But the charge of Communist permeation had made a very deep impression upon the public imagination of the U.S., as shown by the defeat, later in the year, of many members of the U.S. congress suspected of insufficient anti-Communist zeal.

The passions aroused by this drive against communism, spread very widely. Persons of liberal views, untainted by communism, began to feel themselves affected by the political storm. Several universities demanded oaths of loyalty from their teaching staffs which some of these were not prepared to give. The issue of academic freedom became critical. A further spate of books and articles by ex-Communists and "nonreturning" refugees from the Soviet Union heightened this mood, and a holy war against communism in the United States, which felt it had most to lose by the advance of communism, was plainly in process of beginning, and might well number among its victims many innocent liberals and unpolitical persons, as well as Communist sympathizers. This phenomenon also occurred, but on a far smaller scale, in western Europe. The pursuit of security grew to be a major public concern and the discovery of

hitherto undetected friends of the Soviet Union in positions of responsibility in various countries of western Europe upset opinion in the United States more than it did in those countries themselves. Thus the dismissal of the celebrated Communist physicist Frédéric Joliot-Curie from his supervision of French nuclear research shook but did not cause an upheaval in French public opinion. Repercussions of this campaign occurred in Australia and South Africa in which bills to outlaw the Communist party were promulgated; South Africa pushed on with its policy of segregating its nonwhite natives in a world atmosphere less unfavourable to it than at the moment of liberal enthusiasm which followed the victory over fascism. In short, the question of one's attitude to the U.S.S.R. and communism became the central social and personal issue of the time. The Soviet Union was ranged against the United States, each ringed by its allies and dependencies, and the principal preoccupation of many western Europeans was how to avoid being crushed in the collision of the great giants, against both of whom a rising resentment began to be felt. The *Kulturkampf* between the two worlds had reached a stage which made other issues, and attempts at synthesis between the rival systems of ideas, of which there was a good deal of talk in the years immediately following the end of World War II, begin to seem both irrelevant and futile.

This had several interesting and important consequences. In the countries which had been defeated by the Germans five years before, preoccupation with the danger of total destruction to some degree took precedence over older political beliefs and principles. Catholics and Communists were protected by their faith and guarded their sacred heritage; but the vast intermediate bloc of opinion, from unreflecting conservatives to left wing non-Communist radicals, asked themselves not so much what it was they believed, what principles they were ready to defend, but the more pragmatic question—from which side the attack would come first and how it was to be averted. This practical problem of life and death, which the experiences of the very recent war of extinction had rendered particularly real, made the older theoretical issues, such as secularism versus clericalism, collectivism versus individualism, political versus economic action, etc., seem somewhat academic and obsolete. One of the alternatives to becoming obsessed with immediate perils was to concentrate one's attention upon remoter fields. The success of the existentialist philosophy in lands which had been ruled by fascists was certainly in part due to the fact that, by dealing in an impressively obscure metaphysical terminology, it served as so often before to relieve, e.g., many Germans, of the painful need to contemplate their own past crimes and errors by sublimating the issue into a dark and lofty region where nothing was any longer sufficiently connected with daily life to stir remorse or indignation or human feeling applicable to the events of daily life. The French, with a philosophical and literary tradition less

capable of generating this kind of spiritual smoke screen, contrived to turn this mood into a literature which, in the works of M. Sartre, Mlle. Beauvoir, M. Camus and others, continued to create a very talented, imaginative metaphysico-psychological fiction thereby avoiding the sharp issues of the mounting crisis. This bifurcation—on the one hand the elimination of political philosophies and principles by an urgent preoccupation with the spectacle of approaching doom accompanied by a search for the means to avoid it, and, on the other, elevation or immersion into a sphere above or below the terrors of daily life—did not develop in American, British or Scandinavian countries to a similar extent, perhaps because it was the result of harrowing moral experiences and a scepticism born of unbearable humiliation to which these countries had not had to submit.

In England, and to a large extent in the Netherlands and Scandinavia also, public opinion became increasingly anxious about the approaching possibility of war between the giants; sections of opinion, both left and right wing, still nursed the hope of being able to remain neutral, albeit with diminishing confidence. The United States—the symbol of an active attitude to the coming struggle for power—at times became almost as great an irritant to British Conservatives as to adherents of the Labour party which continued to be in power. The root of this attitude lay, not merely in the natural resentments which painful stabilization at a level of lesser influence and power must naturally induce among previously dominant nations and continents, but in the feeling, familiar enough to Americans (since it was an ingredient of American isolationism both of the right and the left in the two decades before Pearl Harbor) of wishing to be left to solve their own sufficiently acute social and economic problems without being drawn into a lethal war by powers too strong to resist, too hard to influence, and yet impossible to ignore or offend, inasmuch as one of them at any rate was the source of indispensable financial and economic aid. And yet in spite of much angry criticism in the socialist and liberal press of western Europe and the British dominions of what was considered heavy-handed or blundering American diplomacy in Europe, or ignorance and bigotry on the part of influential circles of American opinion, a clear majority of the groups and individuals which form western European opinion, felt the United States to be their indispensable protector against the designs of the expansionist Soviet Union. The situation was, indeed, in some respects not unlike the state of U.S. opinion in the late 1930s: the number of Americans who were in those days positively profascist was very small, although distrust and disapproval of Europe was very widespread; there was disdainful talk of “rival imperialisms” from whose degrading struggle the new world should steer clear; but even then it was obvious that as against Hitler and Mussolini, U.S. opinion was solidly on the side of the democracies. So now, western European opinion, resentfully,

distrustfully and uneasily, ranged itself on the side of Washington and against Moscow, although the pro-Moscow minorities were relatively larger, more indignant, although perhaps no more influential, and held their ground more steadily than profascist groups in the United States ten years before.

Certainly the Communists did not increase in influence during the year: in England and northern Europe they remained negligible. The case of Britain was instructive. In the British general election, which returned the British Labour party to precarious power with a minute majority of six, the Communist representation of two was wiped out altogether; and bitter though controversies over such measures as steel nationalization, and the tempo of rearmament, at times became in the British houses of parliament, the attitude to the U.S.S.R. played relatively little part therein. On the major issues of foreign policy both the Conservative and the Labour parties were in tacit agreement, and when events made the British government's rearmament plans seem ludicrously inadequate, the government no less than the opposition accepted this fact without a struggle, and so, what in fact in all but name was a “bipartisan” foreign and defense policy, remained singularly undisturbed, despite the temptation which a tiny government majority would have presented to a morally less responsible opposition at a less perilous moment.

In France and Italy communism and its sympathizers offered a far greater danger, yet even there the Communist party made no headway. The somewhat right wing cabinets of France of Bidault and Plevin (with a very short interlude by Henri Queuille), and the De Gasperi government in Italy, successfully stemmed the left wing tide. The “Stockholm Peace Petition” had made some impression. The French C.G.T. unions remained under Communist influence, and so did corresponding trade unions in Italy and Belgium, and these from time to time staged spectacular strikes; but the net result of this was not significant. Despite such traditionally demoralizing factors as bitter disputes about wages and taxes, about electoral reform and Catholic schools, despite the attempts by Communists to start disorders by attacks on the conservative newspaper *Figaro*, and the campaign to build up the Communist leader Thorez into a national champion of patriotic democracy—a kind of Gambetta or Jaurès—the fearless enemy of the cosmopolitan conspiracy of bankers and warmongers, French political life did not go through a major crisis. Some Polish Communists were expelled and relations with Poland and the Soviet Union deteriorated. There was a violent campaign against Jules Moch, who had been an exceptionally active minister of the interior and of defense, and was attacked from both right and left, being accused by the left of brutal suppression of political liberties, and by the right of opposing German rearmament to the detriment of France and western defense; but this assault from which both Communists and Gaullists seemed to



expect much, finally petered out. The constructive imagination of France manifested itself in the so-called Schuman plan, largely inspired by Jean Monnet, for the integration of iron and steel production in Europe under a supernational authority. In the controversy with Britain that ensued, France appeared to be speaking for Europe more truly than any other great nation. But this was the official voice of France; there were no echoes of it in French art or literature, still absorbed, save for the Communists, with personal themes.

Even in Belgium, where a major succession crisis shook the country, stability was preserved. The very large and bitterly hostile minority opposed to King Leopold's return (which included left wing parties, liberals, trade unionists, etc.,) nearly caused a civil war. Disturbances occurred; there were violent deaths; a Communist leader was assassinated. Finally a compromise was adopted by the acceptance of King Leopold's son, Prince Baudouin, as king. Thus even in Belgium, communism was in 1950 not a serious internal danger, and the same was true of most of the countries of western Europe.

Yugoslavia, under Tito, continued as a heretical outpost against orthodox communism, thereby incidentally providing an outlet for the loyalty of those left wing intellectuals in western Europe who most of all abhor capitalism and even the kind of socialism which compromises with it, and would like to come to terms with, but cannot quite bring themselves to swear absolute obedience to, the despotic demands of undiluted soviet communism. Spain and Portugal continued under their dictatorships; Greece, with the Communists crushed, consolidated its economic position, Switzerland continued to be solidly Conservative while Germany and Austria remained battlegrounds between the ideologies modified by local religious and nationalistic traditions. The United States saw itself (as indeed it was) in the role of a financial patron and saviour, engaged in shoring up the rickety European structure against an otherwise unavoidable collapse, and showed some resentment against isolationist or "neutralist" attitudes on the part of countries which only it had saved from being gobbled by the soviet crocodile, and who now appeared to be venting their ill temper upon their largely disinterested rescuer. Consequently, there was much talk in the United States of inability to help those who showed no desire to help themselves, and of a limit to the feasibility of defending those obstinately labouring under separatist delusions. Unless Europe gave some concrete sign of federating itself into a political and economic unit, capable at any rate of some degree of serious self-defense, its military future looked to United States-observers very gloomy; the various international organizations seemed disappointingly unable to create a single political and economic texture, and Britain, with its Scandinavian followers, looked like the ringleader in the prevention of a European union on U.S. lines, because, so it was held, Britain was dominated by a selfish fear of losing its world position which depended on its extra-Euro-

pean connections. On the other hand, it was allowed that Attlee's government, despite its minute majority, showed a remarkable capacity for survival; parliament behaved with a commendable sense of responsibility; on major issues of foreign policy it seemed largely undivided, and the angry taunts occasioned by Sir Stafford Cripps' devaluation of the pound were silenced by the solid fruits of this audacious step. Sir Stafford Cripps retired, leaving Britain in a financial position stronger than that during the previous year. In the autumn the British government took the spectacular step of declaring itself no longer in need of Marshall aid, and yet this nation insisted on displaying an apparent lack of solidarity with its neighbours in western Europe. It looked for all the world as if French and Italians, the Benelux countries and others, were ready enough to form a union, but for sabotage by the British Labour government, which had shown itself no less isolationist and empire-minded than its Conservative predecessors. Winston Churchill lent his great authority to such a view and demanded a greater degree of European integration; spokesmen of the British government declared that the lowering of economic standards of living with a sudden reversal of British economy by "integrating" itself into the complementary continental economy, even to the limited extent proposed by the Schuman plan with control no longer vested in democratically elected parliaments, could hardly strengthen western Europe or the free world. Their opponents replied that this was mere defense of the obsolete, and now obstructive concept, of national sovereignty against wider forms of association, posing as a demand for democratic control.

The middle eastern countries, preoccupied with the internal social problems arising from the semif feudal systems under which they live, filled with bitter hostility toward the new state of Israel, and nursing resentful memories of the defeat of their armies, and of lack of concrete sympathy from the western Allies, took up a stiffly neutral position vis-à-vis the east-west conflict, pronouncing themselves anti-Communist indeed, but in favour of a more cautious and independent policy of no alliances with the great powers to avoid fresh disillusionments. India and Pakistan, themselves in the grip of a ruinous conflict, with war between them narrowly averted and a fierce dispute about the territory of Kashmir, displayed an equal neutrality. Turkey proved the freedom of its institutions by the result of elections in which Kemal Atatürk's successor had been defeated and was peacefully succeeded by the leader of the opposition; neither party concealed its fear of the U.S.S.R. and both were unequivocally on the side of the west. Iran (Persia), which alone held the distinction of having successfully frustrated soviet plans by purely diplomatic means, continued to tread a cautious and tortuous path. China, under a victorious Communist government, violently denounced American aid to the defeated nationalists now driven to the island of Formosa. The French were pursuing a none too successful war against the left

wing Viêt-Nam party in Indochina, supported Emperor Bao Dai, and complained of insufficient help from the United States in the campaign. The new Indonesian republic finally stabilized its relations with the Dutch on a solid basis and was granted admission to the ranks of the United Nations. . . .

The assumption that all the new republics with seats in the assembly of the United Nations lived in the same century was not entirely justified: on April 2 the government of the Burmese republic, in the midst of a civil war against its Karen rebels, suddenly resigned; official astrologers were ceremoniously consulted, and, five minutes later, the government resumed its office. In Malaya left wing terrorism continued, as in the case of Indochina with Chinese Communist aid. Thailand was nervous but relatively peaceful under its new king. In Korea the soviet-supported government of the north and the U.S.-supported government of the south glared at each other balefully across the artificial dividing line of the 38th parallel. This was the situation until June, when the North Korean government invaded South Korean territory, using the age-old formula that they had received intelligence that the South Koreans were on the point of launching a major attack upon them. On June 26, the day after the North Koreans crossed the 38th parallel—a term destined to become unforgettable by endless reiteration—President Truman, with the approval of the majority of the Security council of the United Nations, offered air and naval aid to the attacked South Korean government, and a few days later, after the Security council had formally called upon all its members to aid it in repelling the aggressor, the United States, Great Britain, the non-Asiatic British dominions and other members of the United Nations, sent reinforcements to support the South Koreans in their war.

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There is no need to trace here the vicissitudes of this war: after the initial reverses by the forces of the United Nations at the hands of the North Koreans, widely held to be armed and trained by the Soviet Union, the invaders were repelled and driven back by General MacArthur's forces (of which much the greater part was supplied by the United States) after a successful landing in their rear; the United Nations forces drove across the 38th parallel and to certain points on the Manchurian border, where, in November, they unexpectedly met a large Chinese army which in its turn drove the United Nations forces across the peninsula, so that by the end of the year they were arrayed near the 38th parallel, awaiting further attack. This was the first serious armed conflict between a state supported by the Soviet Union and its satellites, and a state supported by other members of the United Nations. The possibility of world war seemed suddenly greatly increased, and under its shadow the lines were still more tightly drawn. Various agencies of the United Nations, while expressing their abhor-

rence of the act of aggression, unsuccessfully attempted to end immediate hostilities by an armistice or a cease-fire order.

For a period American opinion achieved greater unity than at any time since the end of World War II; for a time the violent personal attacks upon the department of state and U.S. foreign policy ceased to occupy the forefront of attention. Pres. Truman's bold act in sending military aid to Korea was acclaimed as truly representing the will of the American people. That curious combination of isolationism, acute right wing nationalism and conservatism in domestic affairs, linked with a passionate emphasis on far eastern in preference to European involvement, which had characterized the isolationist camp during World War II, for once seemed to melt, and its leaders to approach more closely to the outlook of the internationalist leaders of the Democratic administration and the state department. Even the pre-occupation with the Communist Trojan horse took second place to the consciousness of international responsibility, of the United States as the leader of the free nations against totalitarian aggression. But the "mid-term" elections proved that the activities of Senator McCarthy and his allies had nevertheless borne fruit; a number of liberal senators and congressmen were defeated, "rock-ribbed" Republicans were elected by increased majorities, the inquisitors of the state department and the U.S. administration generally were returned in great force, and although the revered figure of General Marshall soon entered the cabinet to replace the somewhat discredited Louis Johnson, violent onslaughts on policies common to him and Acheson continued unabated. In Europe the Korean war produced at first admiring approval, on the part of the majority, of the U.S. president's attempt to back words with deeds and demonstrate that the United Nations could defend its interests by force as well as argument. But after the initial North Korean advance continued, reaction set in. It took the form of protests against what was conceived as an unnecessary war, particularly when this was represented as being due to the intemperate policies of the great non-European powers who neither understood nor cared for the survival of western Europe and its values. Opinion presently crystallized round the views expressed by Churchill (whom no one could accuse of prosoviet tendencies or anti-American feeling or inclination to undue pessimism) when he told the house of commons that the Asiatic war was a diversion from the main issue, which lay in Europe—a trap into which major western powers must not allow themselves to be drawn. This seemed only too clearly to be also the opinion of the Labour cabinet, and Attlee's swift resolve to visit Washington, D.C., acclaimed in France and elsewhere as a move likely to sober alleged American extremism, emphasized this as a general European attitude, which in its turn provoked American charges of European cowardice and ingratitude. Presently certain Asiatic powers together with Arab states, who looked upon themselves



as a neutral third force in this conflict, offered their mediation. Their proposal was rejected by the soviet bloc, to whom the whole situation may well have looked uncommonly like a repetition of western intervention in Russia in 1918, with Chiang Kai-shek as a kind of Chinese Denikin or Kolchak, and the United Nations as an angry but in the end insufficiently resolute entente, bent on intervention against a nation in arms, but, as always, with inadequate forces.

In this dark atmosphere quarrels and recriminations between the western Allies naturally grew in frequency and bitterness. Britain maintained that if its advice had initially been followed by the U.S., and the Chinese Communist government recognized by the United Nations at the beginning of the year, Chinese intervention in Korea and possibly even its invasion of Tibet (which astonished and dismayed the socialist Indian prime minister, Nehru) might not have occurred. American statesmen maintained that if they had earlier been allowed to rearm the Germans, there would now have been in Europe a far more solid obstacle to Russian aggression. The French declared that to allow the Germans a large army was the most fatal of all moves—the recreation of the reichswehr with its sinister memories of the Rapallo agreement followed by General Seeckt's secret and successful rearming of the Germans after 1918, and finally the Russo-German pact of 1939; it was surely better to let the Germans enter a European army as individuals rather than as units. The western Germans, meanwhile, were divided into those who did not wish to bear the brunt of war again under any circumstances, and rejected rearmament as a prelude to being turned into cannon fodder for the western powers, and those like Adenauer, the chancellor, who for reasons of national pride refused rearmament unless the establishment of some kind of independent German military establishment were authorized.

The year closed with only a very partial compromise upon these questions, with a wide divergence of views in America and Europe as to the need to fight a full-scale Asiatic war, and in the midst of military setbacks and a prospect of a dark future. Nevertheless, the basic alliance of the western powers remained intact and the appointment of General Eisenhower as supreme commander of the forces of the Atlantic powers in Europe was, as was noted above, symbolic of a degree of unity scarcely imaginable a few years before.

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Meanwhile the life of the peoples under soviet influence remained opaque to western eyes. So far as one could tell, the Soviet Union itself was absorbed in the pursuit of its postwar plan to achieve greatly increased production, at the expense of progress in the arts of peace, of both guns and butter. To the accompaniment of the (by now normal) punishments for inefficiency and sabotage on the part of those engaged in production, great economic progress was reported in the soviet press.

In the sphere of culture the acute chauvinism of the previous year was kept up, indeed intensified, and foreign influences still more rigidly excluded; apart from an exiguous but valuable stream of purely academic literary scholarship engaged in restoring the texts and publishing hitherto unknown fragments of the works of the authors admitted into the soviet canon, nothing of general significance, or even notoriety, came from the Soviet Union in 1950, apart from a sudden and, as it seemed to the outside world, bizarre pronouncement by Stalin himself, in which he publicly condemned the views of academician Marr, hitherto a sacrosanct soviet authority on linguistics, who had put forward views of increasing eccentricity until his death in 1934, which had made him and his followers the laughingstock of scholars in other countries. Stalin explained in a newspaper article that language did not necessarily alter as a direct function of the change in the class structure of society, but obeyed slower laws. This was the first pronouncement for many years on a theoretical topic by the high priest of Communist orthodoxy. As such it was not merely accepted with the routine universal adulation by all Communist scholars, but gave hope that the violent drive against artists and authors accused of insufficient Marxist orthodoxy might now be somewhat relaxed, at any rate in regions relatively free from politics—that, in fact, they might share in the blessings of the linguists so suddenly and gratifyingly freed from their heaviest theoretical fetters.

In the satellite countries the process of eliminating "fellow travellers" and "soft" Communists from key positions continued, and the primary duty of each country was rammed home to each and all of them. In Poland an obviously precarious and short-lived arrangement was arrived at with a certain representative of the Roman Church whereby Catholic worship was to be tolerated on terms duly denounced as not being acceptable to the Vatican. The violent abuse of, and threats against Tito and his heretical regime continued unabated, but the major weapons in this war of words were naturally reserved for the United States. The attack used in the course of propaganda to, and within, the western countries was two-pronged; in each case it attributed to the United States policies of which the Soviet Union was itself most frequently and plausibly accused. It stressed the desirability of peace, endangered solely by American imperialist greed, but also it appealed openly to the national traditions of each country, and to its longing to remain free and independent, and true to its own national traditions, as opposed to exploitation and destruction as so much raw material for the ruthless American war machine. The English were duly reminded that they were the land of Shakespeare, Milton, Dickens, and not the degenerate tools of the bankers of Wall street. The French were invited to reflect on the past glories and the revolutionary tradition of the republic, and on the ancient friendship between France and Russia and France's traditional hostility to England.

Herbert Hoover's call to his country to return to old-fashioned isolationism and to abandon the European continent to its own devices—if need be to perish as the victim of its own ridiculous ineptitude—was given an almost approving prominence in the soviet press. Ever stricter Stalin worship was demanded from the satellite press and public. The last remaining nonpolitical poets and artists in satellite countries had pressure put upon them to pay homage to Stalin as the champion of humanity and peace. The United States was represented as the symbol at once of war and of a vulgar and materialistic cosmopolitanism seeking to destroy Europe, the cradle of civilization, morally, intellectually and physically, an image made familiar originally by nazi propaganda, and at various times applied by it both to the United States and to the U.S.S.R. and then, in turn used to describe Germany itself by soviet publicists in the period of friction before the soviet-nazi friendship pact of 1939.

## II

So far as the arts and letters and thought are concerned, 1950 was a remarkably undistinguished year. If we compare 1950 with the corresponding year after World War I, the contrast is even more depressing. 1923 was a year when such writers as Joseph Conrad, George Moore, H. G. Wells and Bernard Shaw were still full of creative power; D. H. Lawrence, Virginia Woolf, Sinclair Lewis, André Gide, Arnold Bennett and W. B. Yeats were at the height of their powers. Aldous Huxley, Edith Sitwell, Jean Cocteau, François Mauriac, Ernest Hemingway, T. S. Eliot and other exceptionally gifted writers were beginning to arouse attention. If it be said that men of genius and even of striking talent are seldom noticed by their contemporaries and loom much larger in retrospect than at the time of their emergence, and that consequently many a genius may today be writing or painting or composing and not be visible as yet to the average critical eye, it may be answered that the attitude toward the arts had greatly changed in a quarter of a century. In those far off days the unorthodox and unconventional was often sharply condemned by the average respected critic, and sharp controversies were common round figures whom their followers claimed as men of genius, while their opponents denounced them as charlatans or the false idols of ephemeral coteries. Since then, so poor does the world seem to have grown in literary and artistic giants, that the critics, so far from disparaging the unfamiliar or the disconcerting, seemed only too much on the alert to catch the faintest symptom of anything remotely suggestive of truly original talent. The danger now is not that men of gifts may be ignored or unjustly treated, but that the commonplace or the counterfeit may be overpraised by those who, in their terror of missing a masterpiece for lack of sensibility or perception see a swan in every goose. The public can no longer, at any rate in Europe, be shocked into protest; even the most philis-

tine assume that genius may be concealed in the incomprehensible. The capacity for sharp reaction, whether favourable or hostile, has grown very weak; the atmosphere is becalmed; eyes and ears are acutely strained to catch the faintest glimpse, the faintest whisper of something interesting or unusual, and yet there is little enough that the most generous and comprehensive fisher of talent can catch in his net. Among English-speaking writers, Evelyn Waugh's phantasy about Saint Helena continued in his unique but by now familiar strain. Henry Green, Joyce Cary, William Sansom, Jocelyn Brooke, Liam O'Flaherty, Angus Wilson and Rose Macaulay added to the literature of imagination, but did not extend its boundaries in any dimension. In France M. Klossowski, André Dhôtel and M. Perain were new authors who wrote novels of distinction, but scarcely made a literary summer; Jean Giono and Julian Green added small jewels to the crowns secure upon their heads; Arthur Waley added yet another to his series of exquisite translations from Chinese; in Germany Hans Jahn wrote a work of fiction worthy of serious comment. Nor was the situation very different in the field of criticism. Lord Russell, G. M. Young, Aldous Huxley, Graham Hough, Edward Sackville West, Martin Turnell, Sir Maurice Bowra, Julian Benda, Rex Warner and Herbert Read produced essays of genuine distinction, but no new reputations were created, no well-established reputations were strikingly enhanced, no unfamiliar territory was discovered. There was much solid historical research, both in England and in the United States. Henry S. Commager and Allan Nevins produced valuable historical surveys, Professor Neale and Mr. Rowse made original contributions to knowledge of the Elizabethan age. Professor Feiling wrote a distinguished *History of England*. Professor Braudel produced a remarkable work on French mediaeval history and the Mediterranean, Professor Altamira's classical history of Spain was translated, and Menéndez Pidal's masterpiece on Spanish aesthetics may also now be read in English; E. R. Curtius put a lifetime of scholarship and thought into his book on the Latin tradition in mediaeval European literature. Magistral editions of Theocritus by A. S. Gow, and of the Agamemnon by E. Fraenkel were contributed by the universities of Cambridge and Oxford to the great storehouse of English learning. Msgr. Knox wrote a notable study of *Enthusiasm*—the emotional and spiritual deviations from the centre on the part of religious figures and preachers. The splendid edition of Ben Jonson, edited now by Percy Simpson alone, drew nearer to its close. C. G. Coulton's monumental and authoritative treatise on mediaeval monasticism achieved its posthumous culmination. John Hersey celebrated the heroic resistance of the Warsaw ghetto to its nazi executioners in *The Wall*, a work of greater humanitarian and historical than literary merit. Professors Renier, Halecki and Niebuhr wrote thoughtful works on the nature of history and its practice. Charles Morazé pursued his bold and original reinter-



pretation of recent history in terms of demographical and economic categories. A noble monument by Father Dvornik on the making of central and eastern Europe made its unobtrusive appearance. Several elegant biographies appeared of a now familiar type, of which the most informative was that of the Victorian worthy, Monckton Milnes, by James Pope Hennessy. This was followed by several studies of the 18th century with publication of hitherto unfamiliar private papers of which the most sensational was the lately discovered London journal of James Boswell. The life of Florence Nightingale by Miss Woodham Smith captured the public imagination. Bernard Berenson summed up a lifetime of critical experience in *Aesthetics and History*. Sir Osbert Sitwell added a charming pendant to his autobiography. Freya Stark, Wyndham Lewis, Sir Arthur Keith, Geoffrey Grigson, Mrs. Franklin Roosevelt and Benedetto Croce wrote their reminiscences. Richard Aldington wrote the life of D. H. Lawrence, and Louis Fischer a ponderous work on Gandhi. But these looked back to an older world. The public was reminded of the great distance which the world has travelled by the deaths of such great pillars of a civilization, now oddly remote, as Bernard Shaw, Gen. Jan Christiaan Smuts, Léon Blum, Henry Stimson, the composer Richard Strauss, the dancer Nijinsky and the actor Emil Jannings. Even the world of those who died at an age less ripe—the gifted, gay and versatile dilettante Lord Berners, the notable socialist Professor Harold Laski, Sinclair Lewis who invented a famous literary genre—seemed cut off from contemporary life, and to belong to an almost golden age of audacious new directions which turned out to lead to reputable but hardly startling goals. Only George Orwell, the most incorruptible of all modern writers, who died in the beginning of the year, was thoroughly contemporary in the feeling and content of his remarkable satires and essays. His writings have made a genuinely deep impression on the younger British and American intellectuals, and his influence, both literary and political, in large part, perhaps, because of the moral severity and rigid integrity of his personal life seems likely to have a lasting effect.

Meanwhile Agar, J. F. Dulles and Stringfellow Barr brought the lessons of history to bear upon the issues of our day in a large style, and based on presuppositions, which in western Europe seemed no longer to be accepted.

The poetry written during the year was neither better nor worse than that of other years, but on the whole less memorable; among the old masters Walter de la Mare, Ezra Pound and M. Supervielle published volumes of verse. Among the newer poets, Barker, Gascoigne, Montale and Ungaretti made some mark. But the most acclaimed works of this period were both works of poetic drama: T. S. Eliot's *The Cocktail Party* and Christopher Fry's *The Lady's Not For Burning* and other plays. The first achieved great popular success on

both sides of the ocean. It offered little new light upon Eliot's outlook but it was widely recognized as an ingenious and impressive translation of his social and religious principles into the medium of drama. As for Fry, his verbal felicity was conceded by the sternest critics to be of an uncommon order but he opened no new window, created no arresting new genre; nevertheless upon so flat and unimpressive a scene it was a performance of scintillating virtuosity, and sprang from a thin but genuine vein of talent.

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In the world of music much was written that was both agreeable and competent; apart from the performance of the posthumous works of Bartók, and the latest works of such established masters as Hindemith and Vaughan Williams, nothing appeared to mark the year; Stravinsky, Prokofiev, Poulenc, even Benjamin Britten remained relatively silent. In place of creative music there was a notable rise in the standards of performance and of critical interest. The growth of love for serious music among sections of society hitherto contented with musical banalities, or jazz, or nothing at all, was truly arresting. The exceptional number of musical festivals in Europe alone testified to the fact that a more widespread interest in music was probably taken at this moment than at any previous period in history. The festivals of Salzburg, Lucerne, Aix-en-Provence, Siena, Perugia, Venice, Besançon, Edinburgh, Glyndebourne (and, in the U.S., of Tanglewood, Mass.) and above all the Prades festival, organized round the violoncellist Pablo Casals, by far the greatest instrumental player of his age, and dedicated to the memory of J. S. Bach who died 200 years ago—as well as many less known, but no less devoted musical celebrations—provided a great enrichment to the world of pure art. The year was marred by the death of the Rumanian pianist Dinu Lipatti who, still in his twenties, was a lyrical genius of the first order.

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The great creative impetus which produced the remarkable Italian films of previous years seemed to be not indeed exhausted, but running at a lower ebb. The best films, and none of these were of lasting value, were made, as so often, in France. The firm classical culture of that country proved still the most solid framework for the arts. In literature, music and painting, if it produced nothing notable, it did not lower standards. Picasso alone, in his new light-hearted genial mood, produced work of wonderful gaiety and imagination. He painted ceramics, he published lithographs of satyrs and nymphs on sunlit rocks in Provence, he quarrelled with England for failing to admit his Communist friends to its shores, and paid England back by refusing to allow his work to be exhibited in London, and by designing the "dove of peace" which became the emblem of pro-soviet feeling on the eastern side of the "iron curtain." Politics played a greater part in art than ever before.



Creative artists of all kinds were deeply committed to both sides of the great east-west controversy; they took part in the congress dedicated to the freedom of culture held in Berlin and critical of soviet methods, and they were involved in the counterstroke in the form of the "peace" congress summoned originally to meet in Sheffield but finally shifted to Warsaw owing to the inability of many delegates to satisfy the British immigration authorities of their peaceful intentions. In general, metaphysical and moral considerations dominated in the world of art and letters at the expense of aesthetic and "formal" or frankly hedonistic tendencies. The mood was of the kind that Tolstoy would have approved; preoccupied with tormenting doubts about the ends of life which entered into considerations of every issue—whether centenary reappraisals of Wordsworth or R. L. Stevenson in England, or the historical studies in Germany (where only the very old and very grand—Alfred Weber and Friedrich Meinecke—were not engaged on apologies of German nationalism) or the metaphysical writings of French and German philosophers.

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In philosophy, indeed, the great chasm between, on the one hand the clear dry world of Anglo-American (and to some extent Scandinavian) empiricism, with its preoccupation with the importance of different uses of language in life and in the sciences, and, on the other, the darker and more personally anguished world of French and German religious or aesthetic or political metaphysics, was never deeper or more unbridgeable. Neither side recognized merit in the other, and no interpreters appeared to explain these apparently disparate activities to the other camp. To the lucid prose writers of the English-speaking world, the "logic" of, for example, Karl Jaspers appeared at best as a deep, impenetrably dark, romantic meditation whose claim to be a treatise on logic bore no relation to anything which they might understand by this term. Nor did they with any greater degree of success grasp the import of the Gifford lectures of the French existentialist philosopher Gabriel Marcel, or the agonized *pensées* and fragments of Simone Weil. Doubtless to thinkers of this kind, struggling like so many Laocoons with cosmic issues on which they must suppose salvation in some sense to depend, the logical writings of such positivists as Professor Ryle of Oxford, or such logicians as Professor Quine of Harvard, must, in their turn, have appeared thin, arid and almost wholly pointless. As for that quasiphilosophical world in which literature has a common frontier with abstract thought—that unclassifiable no man's land between the two, whose condition serves often as the truest index of the vagaries of the *Zeitgeist*—in that world formalism and positivism seemed to be yielding ground to a kind of neoromantic revival, in which criticism both of the arts and of life drew its inspiration from Dostoevski, Kafka, Kierkegaard and the German romantics, rather

than the tradition of European enlightenment, with its emphasis on clarity, its reliance on accessible evidence, rational argument and secular values.

In the meantime the Communist writers on either side of the "iron curtain" pursued their undeviatingly narrow path, heedless of all but the dogma to which they seemed attached with an ever growing intensity. The most gifted among them, the Hungarian Marxist George Lukács, made some impression when his literary studies, in the course of the year, appeared in an English translation. The world of art and of ideas seemed to be in a state of *détente*, possibly a trough before a splendid crest, but indubitably a trough. It was scarcely made more attractive by the sudden widespread popularity of television as a new method of mass communication; in due course T. S. Eliot gravely warned his English compatriots against this fatal American innovation as likely to destroy the last vestige of fastidious taste. Yet no fewer than 100,000 copies each of *The Iliad* and *The Odyssey* were purchased in the United States in the course of this same year. Matthew Arnold would certainly have abhorred the use, if not the notion, of television; but at the same time he believed passionately in the educational value of the great classics. It is difficult to measure the progress and regression of civilizations, the facts must be left to speak for themselves.

. . .

The principal trends of the moment accurately reflected the social and political state of the world. There was too much uncertainty, too much fear and tension for either of two possibilities to be realized; either of a lyrical and imaginative escape from the repellent realities as had happened during other periods of darkening skies; or, on the other hand of a serious effort toward some realistic technique capable of restating the central problems (even if not their solutions) in a manner adequate to the new kinds of human experience. The works most characteristic of the year 1950, whether they were inspired by Communist or capitalist ideals, whether they were objective and positivist, or personal and romantic, took forms which no longer fitted their relatively new content, and therefore made the result seem either lifeless or curiously ill-compounded—in the latter case, an urgent, earnest, but unsuccessful effort to speak in a medium which had conspicuously outlived its usefulness to an audience all too anxious to be told whatever there was to say by anyone who had something genuinely novel to express and had discovered, what was still missing, some method of effective communication. Never was the world more patently prepared for a new turn in the development of art and, indeed, other forms of thought and imagination, and never did the emergence of new forms created by, or at least appropriate to, the crucial moment seem so obstinately delayed everywhere—no less in Marxist than in non-Marxist and anti-Marxist societies.

ISAIAH BERLIN



# 1951

1950													
JANUARY							JULY						
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- JANUARY 1951**
- New Year's day.
  - First session of 82nd U.S. congress convenes.
  - Independence day, Union of Burma.
  - Epiphany, or Twelfth-night.
  - Jackson day.
  - Festival of St. Veronica.
  - Eve of St. Agnes.
  - Septuagesima Sunday.
  - Republic day, India.
  - Foundation day, Australia.
  - Feast of St. Chrysostom.
- FEBRUARY**
- Candlemas. Purification of the Virgin.
  - Ground-hog day.
  - Quinquagesima (Shrove) Sunday.
  - Shrove Tuesday. Mardi gras.
  - Ash Wednesday.
  - First Sunday in Lent.
  - Georgia day, U.S.A.
  - Lincoln's birthday, 1809.
  - St. Valentine's day.
  - Purim (Jewish festival), 1st day.
  - 150th anniversary, birth of John Henry Newman, English cardinal.
  - Washington's birthday, 1732.
  - Feast of St. Matthias.
- MARCH**



# CALENDAR OF EVENTS, 1950

Forelections and disasters of 1950, see under those headings in the text. For obituaries of prominent persons who died during 1950, see under the entry Obituaries.

## JANUARY

**1 U.S. officials** announced that Yugoslavia had been authorized to buy engines and other equipment for civil aircraft in the U.S.

**2 U.S. dept. of commerce** revealed that from July 1, 1945, to Sept. 30, 1949, the U.S. had extended \$24,802,000,000 in grants and credits to foreign nations.

**3 Hungary** was ordered by U.S. government to close its consulates at New York and Cleveland by Jan. 15.

**4 Pres. Harry S. Truman** in his annual state of union message to congress paid tribute to bipartisan co-operation in foreign affairs and urged enactment of his Fair Deal domestic program.

**Economic Cooperation administration** revealed request to each participating nation in Europe except Greece to take a 25% cut in aid for fiscal year 1951.

**5 Pres. Truman** barred any form of U.S. military aid or intervention in Formosa and limited U.S. aid to Chinese nationalists to current ECA program.

**6 British government** advised Communist authorities in Peking that Great Britain was prepared to establish full diplomatic relations with them.

**John Theotokis** formed neutral caretaker government in Athens, Gr., to replace cabinet headed by Alexander Diomedes.

**Sen. Pat McCarran**, chairman of senate judiciary committee, charged that administration of U.S. displaced persons law in Europe had completely broken down.

**8 Atty. Gen. J. Howard McGrath** stated that he supported wiretapping by the FBI because of the emergency which still existed in the U.S.

**9 Mayor William O'Dwyer** of New York city urged the state of New York to legalize and take control over betting on sporting events.

**U.S. freighter "Flying Arrow"** was shelled and damaged by a Chinese nationalist warship off Shanghai.

**Annual budget** submitted to congress by Pres. Truman for fiscal year beginning July 1, 1950, put expenditures at \$42,438,757,406, revenue at \$37,305,586,034, military costs at \$13,544,811,618 and international aid at \$4,710,606,863.

**High-ranking delegates** of 8 British Commonwealth nations met at Colombo, Ceylon, to review current problems in foreign affairs.

**10 Soviet Delegate Jacob A. Malik** walked out of U.N. Security council when it refused to consider at once his resolution for the ouster of the Chinese nationalist delegate.

**British Prime Minister Clement R. Attlee** announced that King George VI had agreed to dissolve parliament on Feb. 3, with general elections to be held on Feb. 23.

**11 Peking radio** broadcast claimed that Chinese Communists controlled entire Chinese mainland with exception of Tibet.

**12 Secy. of State Dean G. Acheson** charged that 4 northern areas of China—Manchuria, Sinkiang and Outer and Inner Mongolia—were being attached to the U.S.S.R.

**Restoration** of death penalty in the U.S.S.R. for treason, espionage and sabotage was decreed by presidium of the supreme council.

**Egyptian cabinet** composed entirely of Wafdist members was formed in Cairo by Mustafa el Nahas Pasha.

**13 U.N. Security council** rejected by vote of 6 to 3 a soviet resolution for the ouster of the Chinese nationalist delegate.

**British Commonwealth conference** at Colombo agreed upon a plan to aid Burma and other southeast Asian areas in building up their economies.

**14 U.S. state dept.** announced that it had ordered 135 U.S. consular representatives and their families to leave China following Communist seizure of U.S. consulate at Peking.

**15 French Foreign Minister Robert Schuman** rejected west German proposals for a modification of French control over the Saar.

**16 Soft-coal miners** in 6 states remained away from pits despite a suggestion by John L.

Lewis that they return to work on a 3-day work week basis.

**17 U.S.S. "Missouri,"** only active battleship in the U.S. fleet, ran aground on a mudbank in Chesapeake bay off Hampton Roads, Va.

**\$1,500,000** was stolen by a group of masked bandits who held up a garage of the Brink's armoured car service in Boston, Mass.

**18 Pres. Truman** accepted resignation of Myron C. Taylor as his personal representative at the Vatican.

**National Labor Relations board general counsel, Robert N. Denham,** petitioned U.S. district court in Washington, D.C., for an unfair labour practice injunction against John L. Lewis and the United Mine Workers.

**19 Bill** to provide \$60,000,000 in economic aid to Korea was defeated in house of representatives by vote of 193 to 191.

**Recall** of Donald R. Heath, U.S. minister to Bulgaria, was demanded by Bulgarian government on ground that he had engaged in espionage activities.

**Secy. of State Acheson** announced that the U.S. would support a U.N. resolution to permit member nations to return their diplomatic envoys to Spain.

**20 House of representatives** voted 236 to 183 to reject proposal to restore to its rules committee the power to block legislation.

**U.S. government** warned Bulgaria in a sharp note that failure to withdraw its demand for recall of U.S. minister in Sofia would force a break in diplomatic relations.

**21 Soviet Foreign Minister Andrei Y. Vishinsky** denounced as false U.S. charges that the U.S.S.R. had infringed upon the territorial integrity of China.

**Alger Hiss** was found guilty by federal jury of perjury in denying that he had passed confidential U.S. documents to Whitaker Chambers, and in denying that he had seen Chambers after Jan. 1, 1937.

**Treaty of friendship,** commerce and navigation between the U.S. and the Republic of Ireland was signed in Dublin.

**Paul J. Larsen** was appointed first chairman of Civilian Mobilization office to bring plans

for wartime civilian defense up to date.

**22 Preston T. Tucker** and 7 associates were acquitted of charges of mail fraud and conspiracy in promoting the Tucker automobile.

**23 Pres. Truman** in special message to congress requested cuts in some wartime excise taxes, to be balanced by closing of so-called tax loopholes and increased corporation and estate and gift taxes.

**Bandung,** capital of Indonesian state of West Java, was raided and held for several hours by guerrilla force led by a former Dutch army officer.

**24 Amendment** to Fair Labor Standards act raising legal minimum wage to 75 cents an hour went into effect at midnight.

**Senate** unanimously confirmed nomination of Adm. Forrest P. Sherman as chief of naval operations.

**25 United Automobile Workers** called nation-wide strike against the Chrysler Corp. to enforce demands for wage increase or pension and welfare program.

**Senate** passed by vote of 63 to 19 a proposed constitutional amendment granting women full equal rights but guaranteeing special legal protection already accorded them by law.

**C.I.O.** revoked the charter of California State Industrial council on ground that it followed the Communist party line.

**Alger Hiss** was sentenced to 5 yr. in prison for perjury by U.S. district judge Henry W. Goddard in New York city.

**26 India** was proclaimed a free and independent republic in colourful ceremonies at New Delhi marked by inauguration of Rajendra Prasad as first president.

**U.S., British and French** commandants in Berlin protested to soviet authorities the continued restrictions on truck traffic in and out of Berlin.

**27 U.N. Trusteeship council** approved an agreement for the administration by Italy of Italian Somaliland as a U.N. trust territory for 10-yr. period.

**Chinese Communists** claimed complete annihilation of last 2 intact nationalist armies in Yunnan province near Indochinese border.



## JANUARY—Continued

**Agreements** for the furnishing of \$1,000,000,000 in U.S. arms aid to Belgium, Denmark, France, the United Kingdom, Italy, Luxembourg, the Netherlands and Norway were signed in Washington, D.C.

**29 French national assembly** approved over vociferous Communist opposition treaties giving Indochinese states of Viêt-Nam, Laos and Cambodia the status of independent states within the French union.

**30 Boston city council** refused to permit 14 Japanese diet members touring the U.S. under army auspices to attend one of its sessions.

**Legislature of West Java** in Indonesia voted to dissolve its state government and surrender its powers to Indonesian federal government.

**31 Pres. Truman** directed U.S. Atomic Energy commission to continue its work on all forms of atomic weapons, including the so-called hydrogen bomb or superbomb.

**Soviet government** announced recognition of rebel Communist regime headed by Ho Chi Minh as the legal government of Viêt-Nam in Indochina.

**United Mine Workers** and soft-coal operators were asked by Pres. Truman to call a 70-day truce and submit points in dispute to a nonstatutory fact-finding board.

**Tibet radio** broadcast an appeal for aid against threatened invasion by Chinese Communist forces.

## FEBRUARY

**Soviet government** demanded the trial of Emperor Hirohito and several other former Japanese war leaders as war criminals by an international war crimes tribunal.

**Senate** approved by vote of 64 to 27 a constitutional amendment changing presidential election system so as to divide each state's electoral votes among candidates in proportion to popular vote.

**German Federal Republic** announced adoption of coat of arms of the Weimar republic, including the eagle, as its official emblem

**2 Major coal mine operators** accepted Pres. Truman's proposal for a 70-day strike truce, pending investigation by a fact-finding board.

**Paul L. Styles** of Alabama was nominated by Pres. Truman to be a member of the National Labor Relations board.

**Sen. Brien McMahon**, chairman of joint congressional atomic energy committee, proposed that the U.S. promote a \$50,000,000,000 global aid program in exchange for atomic disarmament.

**3 Klaus E. J. Fuchs**, British atomic scientist, was arrested by British police on charges of betraying atomic research secrets which might be useful to an enemy.

**4 Pres. John L. Lewis** of United Mine Workers rejected Pres. Truman's proposal for truce in coal industry pending a fact-finding inquiry.

**5 Veterans' Administrator Carl R. Gray, Jr.**, reported that millions of dollars had been wasted on training of veterans in schools set up solely to share in veterans' education funds.

**Federation of American Scientists** urged re-examination of U.S. atomic policy by a nonpartisan commission of experts unattached to any government agency.

**6 Pres. Truman** invoked national emergency provisions of the Taft-Hartley act and appointed a fact-finding board to report to him in the soft-coal dispute.

**German Federal Republic** halted the issuance of licences for export of iron and steel to east Germany.

**Archbishop of Cyprus** advised British Gov. Sir Andrew Wright that 96% of the island's population had voted for union with Greece in an unofficial referendum.

**U.S. High Commissioner John J. McCloy** warned western Germany that the U.S. would use all its power and influence to head off any revival of nazism.

**7 Great Britain** and the U.S. recognized the governments of Laos and Cambodia and the Viêt-Nam government headed by Bao Dai in French Indochina.

**Pres. Truman** accepted resignation of Lewis L. Strauss, one of the original members of the U.S. Atomic Energy commission.

**Organization for European Economic Cooperation** reported that member nations needed \$5,000,000,000 in U.S. aid and a 50% increase in U.S. sales to become self-sustaining by 1952.

**New French cabinet** without Socialist party representation was formed in Paris by Premier Georges Bidault.

**8 Secy. of State Acheson** told a press conference that agreements with the U.S.S.R. were worthless unless they were based on strength and backed by force.

**William Webster**, vice-president of New England Electric system, was named to succeed Karl T. Compton as chairman of Research and Development board.

**Martial law** was lifted throughout Greece by a decree of the Greek government.

**U.S. War Claims commission** ruled that 120,000 former U.S. prisoners of Germany and Japan would receive \$1 for each day of imprisonment on account of substandard rations.

**9 Gen. Douglas MacArthur** announced in Tokyo that Japan had been authorized to establish trade commissions in the U.S. without consular or diplomatic functions.

**10 Export-Import bank** agreed to loan the United States of Indonesia up to \$100,000,000 for the purchase of heavy machinery in the U.S.

**U.S. government** was revealed to have protested forcefully to the Chinese nationalist regime for its bombing attacks on U.S. property in Communist-held Shanghai.

**Senate** passed house-approved bill authorizing \$60,000,000 in aid to Korea and withdrawals up to June 30, 1950, from \$103,000,000 fund for Chinese nationalist aid.

**Klaus E. J. Fuchs** admitted in a signed confession introduced in court that he had passed atomic secrets to the Soviet Union for 7 yrs. because of his devotion to communism.

**11 10-day restraining order** and an unfair labour practice injunction were issued against the United Mine Workers by U.S. District Judge Richmond B. Keech in Washington, D.C.

**12 A. Whitney Griswold** was named to succeed Charles Seymour as president of Yale university effective July 1, 1950.

**13 U.S. supreme court** refused to review a lower court decision holding that use of the hiring hall system on the Great Lakes violated the Taft-Hartley act.

**Conference** of U.S. diplomatic representatives in 14 Asian countries opened in Bangkok, Thailand, under chairmanship of Philip Jessup, U.S. ambassador-at-large.

**Almost all members** of United Mine Workers failed to return to work despite federal court injunction and order of their president, John L. Lewis.

**14 German Federal Republic** released \$23,800,000 in ERP counterpart funds to western Berlin for industrial rehabilitation.

**U.S.S.R. and Communist China** signed a 30-yr. treaty of friendship and mutual aid in Moscow; agreements were also signed which granted a 5-yr. \$300,000,000 soviet credit and eventual return to China of Port Arthur, Dairen and the Changchun railroad.

**Pres. Truman** told a newspaper reporter in a special interview that the U.S.S.R. had broken all its postwar pacts with the U.S. and that he saw no reason to hope it would keep new ones.

**15 British Prime Minister Attlee** stated that, while he did not rule out Winston Churchill's suggestion for a high-level Anglo-U.S.-soviet conference, the matter was in the hands of the U.N.

**The pictures on this page are, left to right:**

**McCARRAN**.....Jan. 6  
**PRASAD**.....Jan. 26  
**HO**.....Jan. 31  
**FUCHS**.....Feb. 3  
**McCLOY**.....Feb. 6





**FEBRUARY—Continued**

**Secret codicils** in the soviet-Chinese treaty were reported to provide for a large Chinese labour force in Siberia and for soviet advisers in key Chinese army and secret police and party organization posts.

**16 British government** put into effect restrictions on imports of U.S. fuel oil and gasoline despite U.S. protests.

**17 Pres. Truman** set up a temporary communications policy board to study U.S. radio and wire communications problems.

**Members** of the United Mine Workers were again ordered to return to work by their president, John L. Lewis.

**18 Robert A. Vogeler**, a U.S. citizen, was said to have admitted at trial in Budapest that he was guilty of charge of spying against Hungary for the U.S. army intelligence service.

**Continued soviet interference** with truck traffic between Berlin and west Germany was protested by U.S., British and French commandants in Berlin.

**20 U.S. Supreme court** ruled 5 to 3 that police in arresting a person might search a limited area under his control for evidence without a search warrant.

**U.S. government** notified Bulgaria it was breaking diplomatic relations on the ground that U.S. diplomatic personnel in Belgrade had been systematically persecuted.

**21 U.S. justice dept.** filed a civil antitrust suit against Lee and Jacob J. Shubert charging them with monopolizing the legitimate theatre in the U.S.

**22 Pres. Truman** in speech at Alexandria, Va., barred separate U.S. negotiations with the Soviet Union on the issue of atomic control.

**The pictures on this page are, left to right:**

**GRISWOLD**.....Feb. 12  
**KHAMA**.....March 8  
**SANDER**.....March 9  
**JEBB**.....March 21  
**PACE**.....March 30

**Threatened nation-wide telephone strike** was postponed for 60 days by Communications Workers of America at the request of Pres. Truman.

**23 Hungarian government** demanded a reduction in the size of the U.S. and British legation staffs in Budapest.

**House of representatives** approved by vote of 240 to 177 a federal fair employment practices bill based on voluntary co-operation, after shelving a compulsory bill.

**British Labour party** won a narrow victory in parliamentary elections, securing 315 seats while Conservatives obtained 297, Liberals 9 and others 4.

**24 U.S. Atty. Gen. McGrath** ordered the freezing of assets in the U.S. owned by citizens of Bulgaria, Hungary and Rumania.

**United Mine Workers** were ordered by U.S. district court to stand trial on charges of contempt for disobeying the court's injunction against continuance of nation-wide soft-coal strike.

**World Meteorological organization** became U.N. specialized agency with deposit of ratification by Iraq, the 30th member.

**Pres. Truman** forestalled threatened nation-wide strike of Brotherhood of Railroad Trainmen and Order of Railway Conductors by appointing 3-man emergency board under Railway Labor act.

**25 Moscow radio** reported creation of an independent soviet navy ministry.

**Prime Minister Attlee** announced the decision of the British Labour government to continue in office despite its narrow majority in the house of commons.

**German Federal Republic** lifted its embargo on shipments of iron and steel to eastern Germany.

**26 Gen. MacArthur** announced that Japan would be permitted to join in international agreements and technical conferences if the other nations involved were willing.

**27 U.S. and Canada** signed a 50-yr. treaty designed to increase the power output of the

Niagara river and to protect the beauty of Niagara falls.

**28 Soviet council of ministers** issued an order pegging the rouble to gold instead of the U.S. dollar, thus raising the exchange rate from 5.3 to 4 roubles to the dollar.

**New British cabinet** headed again by Clement R. Attlee as prime minister was formed in London.

**U.S. High Commissioner McCloy** denounced proposed elections in soviet zone of Germany as a travesty and again proposed all-German elections on a free and democratic basis.

**MARCH**

**1 Klaus Fuchs** was sentenced to 14 yr. in prison by British court after pleading guilty to charges of giving atomic secrets to the U.S.S.R.

**Generalissimo Chiang Kai-shek** resumed presidency of the Chinese nationalist government.

**Deputies** of the foreign ministers of the U.S., the U.K., France and the U.S.S.R. at their 251st meeting again adjourned discussions on treaty with Austria.

**2 United Mine Workers** were cleared by U.S. court of charges of criminal and civil contempt based on alleged union violation of 2 injunctions ordering resumption of soft-coal production.

**3 House of representatives** approved admission of Alaska as a state by vote of 186 to 146.

**Agreement** giving France a 50-yr. lease on coal mines in the Saar was signed in Paris.

**International Court of Justice** ruled 12 to 2 that U.N. general assembly could not admit new members who had failed to secure majority in Security council or had been vetoed.

**United Mine Workers** and northern, western and captive coal operators agreed on a new contract several hours after Pres. Truman had requested seizure authority from congress.

**4 U.S. state dept.** released statement by former U.S. legation employee in Sofia describing his torture by Bulgarian police to force confession of espionage activities.

**5 Soft-coal operators** and United Mine Workers signed a collective bargaining contract to run until July 1, 1952.

**6 Economic Cooperation administration** revealed that it had held up further aid to British petroleum industry because of restrictions British had imposed on U.S. oil imports.

**U.S., Britain, France** and the Netherlands signed an agreement providing for co-operation in raising standard of living in their territories in the West Indies.

**King George VI** stated in speech from throne at opening of parliament that the Labour government proposed only a limited program of legislation during the session.

**7 House of representatives** approved bill to grant statehood to Hawaii by vote of 261 to 110.

**Judith Coplon** and Valentin A. Gubitchev were found guilty of charges of conspiracy and attempted espionage by federal jury in New York city.

**8 Senate** passed house-approved bill to repeal federal taxes on oleomargarine by vote of 59 to 20.

**British government** announced decision to withhold recognition of Seretse Khama as tribal chief in Bechuanaland because of situation arising out of his marriage to a white woman.

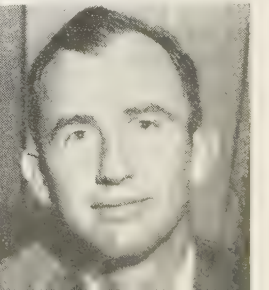
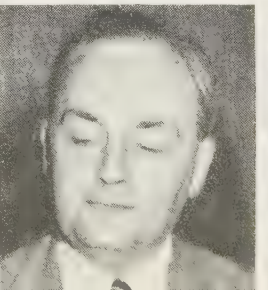
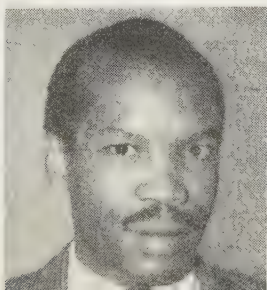
**Gen. Chen Cheng** became premier of nationalist China in succession to Marshal Yen Hsi-shan.

**U.N. Secy.-Gen. Trygve Lie** made public memorandum to all U.N. delegations stating that the U.N. should deal with whatever government exercised effective authority in a country.

**9 Dr. Hermann N. Sander** of Manchester, N.H., was acquitted by jury of charges that he killed a patient suffering from incurable cancer.

**British Labour government** won its first test in new house of commons, defeating motion of censure on nationalization of the steel industry, 310 to 296.

**10 Gerhart Eisler** predicted that all Berlin would be





## MARCH—Continued

taken over by rally of German youth to be held in May.

**II ECA Administrator Hoffman** stated that the U.K. faced the loss of \$150,000,000 in ERP aid unless it co-operated in plan to lower western European trade barriers.

**12 King Leopold III** received 57.68% of the votes cast in popular referendum on his return to Belgium.

**Pope Pius XII** in a Holy Year encyclical called upon Roman Catholics everywhere to counteract atheistic propaganda throughout the world.

**80 persons** were killed in the world's worst aeroplane crash near Cardiff, Wales.

**13 Pres. Truman** submitted to congress 21 plans for reorganizing executive branch of the government, including plans for abolition of maritime commission and office of general counsel of National Labor Relations board.

**General Motors Corp.** reported net earnings in 1949 of \$656,434,232, the largest annual net income ever shown by a U.S. corporation.

**Soviet government** announced that 99.96% of the eligible voters had voted the day before in elections for the supreme council.

**Complete integration** of the Yugoslav zone of Trieste into the Yugoslav economy was reported by Yugoslav officials.

**14 U.K. commissioner general** in southeast Asia announced that British forces in Malaya would be strengthened to cope with increased Communist bandit activity.

**U.N. Security council** voted 8 to 0 to use a single mediator to direct demilitarization of Kashmir and preparations for plebiscite on its future status.

**15 International bank** and the International Monetary fund announced the withdrawal of Poland from their organizations.

**U.S. navy Capt. John G. Crommelin, Jr.**, was furloughed indefinitely on half pay for ignoring orders to cease his attacks on U.S. defense unification.

**16 Sir Ivone Kirkpatrick** was named to replace Gen. Sir Brian H. Robertson as British high commissioner in Germany.

**Secy. of State Acheson** in major foreign policy speech called for soviet co-operation in 7-point program to ease world tensions and permit coexistence of soviet

and western systems in reasonable security.

**French national assembly** ratified U.S. arms aid agreement by vote of 416 to 181 over bitter Communist opposition.

**17 Discovery** of a new element, named californium, was reported by the University of California, Berkeley.

**18 Chinese nationalists** claimed the recapture of the town of Sungmen, on the Chinese mainland 200 mi. S. of Shanghai.

**19 Cuba, Guatemala** and the Dominican Republic were accused by 5-nation investigating committee of having aided conspirators in plots to overthrow governments in neighbouring states.

**Presence** of 2 U.S. destroyers in harbour of Saigon, Indochina, touched off allegedly Communist-inspired demonstrations.

**20 Federal Trade commission** charged 2 U.S. companies with using false and misleading advertising with respect to antihistamine cold tablets.

**U.S. Ambassador Philip C. Jessup** in testimony before senate committee accused Sen. Joseph R. McCarthy of making false and irresponsible statements which endangered U.S. foreign relations.

**21 British foreign office** announced appointment of Sir Gladwyn Jebb to succeed Sir Alexander Cadogan as permanent British delegate to the U.N.

**22 4 U.S. B-29 planes**—the first U.S. arms aid to be received under the Mutual Defense Assistance act—arrived in England.

**Pres. Truman** nominated Thomas E. Murray, a New York industrial engineer, to be a member of the U.S. Atomic Energy commission.

**German Federal Republic** issued proposal for unification of Germany based on nation-wide free elections, freedom of the press and elimination of interzonal barriers.

**23 Sophocles Venizelos** became premier of Greece at the head of a Liberal minority cabinet.

**U.S. labour department** reported that wages of the average worker had increased 130% since 1939 but that his buying power had gone up only 35%.

**Australian Prime Minister Robert G. Menzies** invoked for the first time the Emergency Crimes act as weapon against Communist-inspired strikes.

**24 British foreign office** announced that Britain, Cey-

lon, India, Pakistan and Australia had offered a 2-yr. loan of £6,000,000 to Burma.

**German Federal Republic** made public plans to move 11 of its agencies from Bonn to the western sectors of Berlin.

**25 Sen. Arthur H. Vandenberg** proposed that an "unpartisan" commission be set up to recommend a long-range policy of aid to nations menaced by the Soviet Union's plan for world domination.

**26 Philippine government** disclosed that it had directed the army to take over from the constabulary the battle against Hukbalahap guerrillas in southern Luzon.

**Owen J. Lattimore** of Johns Hopkins university, Baltimore, Md., was revealed to be the person denounced by Sen. McCarthy as the chief soviet espionage agent in the U.S.

**27 Atty. Gen. J. Howard McGrath** and FBI Director J. Edgar Hoover refused to turn over to the senate any part of the FBI files on state dept. personnel accused of disloyalty.

**Howrah**, suburb of Calcutta, was placed under martial law by the Indian government following a serious outbreak of communal rioting.

**Soviet Union** and the Chinese People's government signed a 30-yr. pact providing for joint exploitation of petroleum and non-ferrous mineral resources in far-western province of Sinkiang.

**28 Military committee** of the North Atlantic Treaty organization agreed upon an integrated defense plan for the North Atlantic area.

**Agreement** was announced providing for lifting of U.S. ban on travel by U.S. citizens in Yugoslavia.

**Secy. of State Acheson** revealed appointment of former Sen. John Sherman Cooper as his Republican consultant at forthcoming foreign ministers' meeting in London.

**Chinese nationalists** claimed they had smashed the first major Communist invasion of Hainan Island.

**29 Gen. Dwight D. Eisenhower** advised a senate subcommittee that about \$500,000,000 should be added to military budget for antisubmarine and Alaskan defenses and strengthening of U.S. air force.

**U.S. officials** in Berlin reported that youth organization members in eastern zone of Germany were receiving military, revolutionary and guerrilla-warfare training.

**30 Committee of ministers** of the Council of Europe voted to request German Federal Republic and the Saar to be associate members of the council.

**Pres. Truman** named Frank Pace, Jr., to be army secy., Frederick J. Lawton to succeed Pace as budget director and Air Force Secy. W. Stuart Symington to be chairman of the National Security Resources board.

**31 House of representatives** approved, 287 to 86, an omnibus foreign aid bill authorizing expenditures of \$3,102,450,000, including \$2,850,000,000 for European aid, during fiscal year beginning July 1, 1950.

## APRIL

**17th national decennial census** got under way throughout the U.S.

**Economic Cooperation administration** reported that the European Recovery program had raised the industrial production of participating nations an average of 15%.

**Indian central government** took over control of posts and telegraph, customs, excise and income taxes and armed forces from the former princely states.

**Italian Somaliland** was formally placed under the administration of Italy as U.N. trustee for a 10-yr. period.

**2 Moscow radio** announced the signing of a 10-yr. pact between the U.S.S.R. and the Chinese People's government providing for the joint operation of air lines from Peking to Alma Ata, Irkutsk and Chita.

**3 New power** and industrial development projects in Greece were suspended by the U.S. mission on ground that Premier Venizelos had not organized a stable government.

**4 C.I.O.** asked other U.S. labour groups to join in forming a committee to co-ordinate economic, legislative and political programs and achieve organic unity.

**Pres. Truman** nominated Thomas K. Finletter to be secy. of the air force.

**Harry Bridges** and 2 codefendants were found guilty by a federal jury in San Francisco of charges of perjury and conspiracy to violate the naturalization laws.

**Dirk U. Stikker** of the Netherlands was elected chairman of the Organization for European Economic Cooperation council.

**U.N. Trusteeship council** approved the text of a revised



APRIL—Continued

statute for an international regime for the city of Jerusalem.

**5 Senate** approved by a vote of 58 to 15 a bill to liberalize the admission of displaced persons to the U.S.

**Macassar**, capital of the state of East Indonesia, was seized by rebellious Indonesian soldiers who had formerly belonged to the Netherlands Indies army.

**Seth W. Richardson**, chairman of the Loyalty Review board, told a senate subcommittee that not a single case of espionage in the U.S. government had been revealed by board investigations.

**6 State dept.** announced the appointment of John Foster Dulles as a consultant to Secy. of State Acheson.

**Owen J. Lattimore** denied before a senate subcommittee the charge made by Sen. McCarthy that he was a soviet agent.

**Pres. Truman** urged congress in a special message to extend the coverage of the unemployment insurance system to 6,000,000 workers and to increase the amount and duration of benefits.

**U.N. convention** setting up standard procedures for establishing the legal deaths of missing persons was signed at Lake Success.

**7 State dept.** disclosed that the government of South Korea had been warned that failure to check inflation and hold elections on schedule might result in the loss of U.S. aid.

**8 Pakistan** and India signed a pact at New Delhi pledging the protection of religious minorities and the outlawing of communal strife.

**9 U.S. navy** revealed that a snorkel-equipped U.S. submarine had traveled 5,200 nautical mi. from Hong Kong to Pearl Harbor without surfacing in 21 days.

**Yugoslavia** vehemently rejected, in Communist paper *Borba*, a compromise proposal made by Italy to settle differences over the free territory of Trieste.

**10 Senate** approved and sent to the White House a \$3,500,000,000 housing bill designed to encourage home building by families of low and moderate incomes.

**Nationalist China** protested to the U.N. the alleged use of soviet aircraft and personnel in operations in China.

**Soviet government** accused Italy of failing to fulfil its reparations obligations to the U.S.S.R. under the Italian peace treaty of 1947.

**U.S. supreme court** upheld the right of a congressional committee to compel witnesses to reveal whether they are Communists by refusing to review the contempt convictions of 2 film writers.

**11 Thai Premier Pibul Songgram** announced that Thailand had been granted \$10,000,000 in U.S. military equipment under the military assistance program.

**Soviet government** reported in a note to the U.S. that a soviet fighter plane had fired upon a B-29 type bomber over Latvia after the latter had penetrated soviet territory.

**12 U.N. Security council** approved the appointment of Sir Owen Dixon of Australia as U.N. mediator in Kashmir.

**Pres. Gabriel González Videla** of Chile arrived in Washington, D.C., for a 20-day visit to the U.S.

**13 Western Germany** was revealed to have produced more than 1,000,000 tons of steel in March, thus exceeding the 11,100,000-ton annual rate fixed by the U.S., the U.K. and France.

**14 Gen. Nicholas Plastiras** was called upon by King Paul to form a coalition Greek cabinet.

**15 Pres. Truman** vetoed as not in the national interest the Kerr Natural Gas bill which would have exempted independent companies from control by the Federal Power commission.

**King Leopold** of Belgium offered, in radio broadcast to the people, to transfer his royal prerogatives temporarily to his son, Prince Baudouin, and to return to Belgium as king in name only.

**17 U.S. supreme court** refused by vote of 7 to 2 to pass upon the validity of Georgia's county-unit system for primary elections.

**Formation** was announced of a "war cabinet" to co-ordinate the campaign against Communist guerrillas in the Malayan federation.

**Soviet government** announced that it intended to withdraw its support for an international regime in Jerusalem.

**18 Postmaster Gen. Jesse M. Donaldson** ordered a sharp cut in postal services in order to meet deficit in the operation of the post office dept.

**U.S.** charged in a note to the U.S.S.R. that soviet fighter planes had shot down an unarmed U.S. navy plane over the Baltic sea.

**Chancellor of the Exchequer Sir Stafford Cripps** presented

British budget for the fiscal year 1950-51, estimating revenue at £3,897,800,000 (\$10,913,840,000) and expenditure at £3,455,069,000 (\$9,674,193,000).

**Boycott** of ships of Panaman registry was ordered into effect by the seafarers' section of the International Transport Workers federation.

**19 Czechoslovak foreign office** ordered the closing of U.S. Information Service libraries at Prague and Bratislava as alleged espionage and propaganda centres.

**Pres. Truman** signed bill authorizing a 10-yr. economic rehabilitation program to cost \$88,570,000 for the Navajo and Hopi Indian tribes.

**20 Former Communist Louis F. Budenz** told a senate subcommittee that high-ranking U.S. Communists had in years past advised him that Owen J. Lattimore was a concealed party member.

**Soviet government** accused the U.S., the U.K. and France of blocking the appointment of a governor for the free territory of Trieste.

**21 State dept.** ordered Czechoslovakia to close its consulate at Chicago in retaliation for Czech actions curbing the U.S. Information Service.

**Pres. Truman** asked congress in a special message to extend to June 30, 1951, the federal rent controls scheduled to expire on June 30, 1950.

**U.S.S.R.** rejected all demands contained in a U.S. note charging that soviet planes had shot down an unarmed U.S. navy plane over the Baltic sea.

**22 Soviet government** claimed that it had completed the repatriation of all but 2,467 Japanese prisoners of war.

**23 Hainan Island** was abandoned to Chinese Communist troops by nationalist forces.

**24 Parliament** of the kingdom of Jordan approved the annexation by Jordan of that part of Palestine held by Jordani troops, including the Old City of Jerusalem.

**Pres. Truman** asserted that not a single person adjudged to be a Communist or otherwise disloyal was in the service of the U.S. government.

**California law** restricting the ownership of land by aliens was held invalid by a California appellate court on the ground that it violated the U.N. charter.

**25 Scheduled nation-wide strike** of 250,000 employees of subsidiaries of the American

Telephone and Telegraph Co. was indefinitely postponed by Communications Workers of America (C.I.O.).

**U.S. government** ordered Rumania to close its commercial attaché office in New York city.

**Poland** announced decision to withdraw from the U.N. Food and Agriculture organization, charging that the U.S. had fostered discrimination against east Europe in the allocation of grain.

**26 John Maragon** was convicted of perjury by federal jury in Washington, D.C., in testifying before a senate committee investigating so-called "5 percenters."

**British Labour government** won votes of confidence in house of commons on 2 taxation proposals by 5 vote margins.

**27 British government** granted *de jure* recognition to Israel and also recognized the annexation by Jordan of that part of Palestine under Jordani control.

**Stanley Woodward**, state dept. chief of protocol, was named U.S. ambassador to Canada by Pres. Truman.

**Senate** rejected by vote of 42 to 35 an amendment to the Foreign Aid bill authorizing \$50,000,000 in loans to Spain.

**28 Frédéric Joliot-Curie**, Nobel prize winner and well-known French Communist, was dismissed as high commissioner for atomic energy by French cabinet.

**Allied high commission** withdrew its provisional disapproval of a German federal law lowering income tax rates upon receipt of assurance that the federal budget would be balanced.

**29 Italian Foreign Minister Count Carlo Sforza** rejected offer by Marshal Tito for the settlement of the Trieste question under which Italy would cede Gorizia in exchange for Trieste.

**Defense dept.** announced that 146,500 U.S. troops were stationed in Germany and 123,500 in the far east.

MAY

**1 Columbia university** announced award of 1950 Pulitzer prize for best American play to Richard Rodgers and Oscar Hammerstein II for their musical *South Pacific*; award for best novel to A. B. Guthrie, Jr., for his *The Way West*.

**2 International Red Cross** called on all signatories of Geneva Conventions to bar



**MAY—Continued**

atomic weapons and nondirected missiles.

**Jurisdiction** over the French Indian settlement of Chandernagor was transferred to India pursuant to the results of a plebiscite.

**3 Prime Minister Liaquat Ali Khan** of Pakistan arrived at Washington, D.C., for a visit with Pres. Truman and tour of the U.S.

**Senate** approved 69 to 1 the creation of a special committee to investigate interstate crime.

**4 100-day strike** of United Automobile Workers against the Chrysler Corp. ended when agreement was reached on a pension and social insurance program.

**Pres. Truman** rejected proposal by former Pres. Herbert Hoover that the U.N. be reorganized without Communist participation.

**Soviet government** announced that all German prisoners of war—numbering 1,939,163—had been repatriated from the U.S.S.R. However, 9,717 convicted of war crimes, 3,815 being investigated and 14 sick were still being held.

**Gen. MacArthur** charged that soviet inquiries about U.S. bases in the Ryukyu Islands and Japan could be regarded only as propagandistic or impertinent.

**5 Senate** approved by vote of 60 to 8 the omnibus Foreign Aid bill authorizing expenditure of \$3,122,450,000 in fiscal year 1951.

**U.S. government** denied in note to U.S.S.R. that U.S. navy plane lost off Denmark or Latvia had violated soviet territory and charged that the U.S.S.R. had flouted international law and world opinion in the matter.

**Phumiphon Adundet** was crowned king of Thailand as Rama IX in ceremonies at Bangkok.

**6 Swedish government** protested to the U.S.S.R. the seizure of 2 Swedish ships more than 12 mi. off the soviet coast and the pursuit of a third as far as Swedish territorial waters.

**8 U.S. supreme court** upheld constitutionality of the non-

Communist affidavit provisions of the Taft-Hartley Labour-Management Relations law.

**Secy. of State Acheson** announced in Paris the decision of the U.S. to give military and economic aid to France and the associated Indochinese states of Viet-Nam, Laos and Cambodia.

**Allied High commission** in Germany promulgated law designed to prevent German rearmament and to ensure demilitarization of German industry.

**9 Greek government** made public the conclusion of an agreement with Yugoslavia for the restoration of normal relations.

**French cabinet** adopted proposal by Foreign Minister Schuman that all steel and coal production in France and Germany be pooled under a common high authority.

**Chinese Communist regime** announced that it would release 2 U.S. navy fliers held by it since Oct. 1948.

**10 Locomotive firemen** went on strike on 4 major U.S. railroads to enforce acceptance of demands for a second fireman on multiple-unit diesel electric engines.

**House of representatives** passed by vote of 362 to 21 an omnibus appropriation bill of \$28,901,240,165 for fiscal year 1951.

**Pres. Dumarsais Estimé** of Haiti resigned and was succeeded by a military junta.

**Pres. Truman** named Leon H. Keyserling to be chairman of his council of economic advisers and appointed Roy Blough to fill a vacancy in the council.

**U.N. Secy.-Gen. Trygve Lie** arrived in Moscow for conferences with top soviet officials on current east-west difficulties.

**Senate** rejected Pres. Truman's plans to abolish independent office of NLRB general counsel and to reorganize the treasury dept. by votes of 53 to 30 and 65 to 13, respectively.

**Foreign secretaries** of the U.S., the U.K. and France met in London to consider current world problems.

**Grand Coulee dam** in the state of Washington was formally dedicated by Pres. Truman.

**12 American Bowling Congress** voted to repeal its rule restricting membership to white males.

**Allied High commission** issued regulation granting the German Federal Republic greater freedom in the fields of shipbuilding and shipping.

**13 U.S. government** ordered Czechoslovakia to reduce its diplomatic personnel in the U.S. by at least two-thirds and to close its consulates in Cleveland and Pittsburgh.

**14 Republican People's party**, in power in Turkey since 1923, was overwhelmingly defeated in parliamentary elections by the Democratic party.

**British, French and U.S. foreign secretaries** announced agreement to set up a group to consider possible liberalization of the Occupation statute for western Germany.

**15 Soviet government** charged in a note to Iran that aerial photographs were being taken of the soviet-Iran frontier by U.S. technicians.

**16 Vladimir Houdek** resigned as Czechoslovak delegate to the U.N. and requested asylum in the U.S.

**Strike** of locomotive firemen against 4 railroads ended with agreement to submit the controversy to arbitration.

**Soviet Premier Joseph Stalin** announced the U.S.S.R.'s decision to cut eastern Germany's war reparations balance (\$6,342,000,000) by 50%.

**17 Senate** rejected Pres. Truman's plans to reorganize the Interstate Commerce commission and the Federal Communications commission.

**U.S. Export-Import bank** announced the loan of \$125,000,000 to Argentine banks to help pay off Argentina's unpaid commercial debts to the U.S.

**North Atlantic council** agreed at meeting in London to create a permanent board of strategy, headed by an American, to coordinate economic and defense planning.

**19 U.S., the U.K. and France** made public plans for the termination of military government in Austria and the installation of civilian commissioners.

**Senate** failed by 12 votes to invoke closure on a motion to bring before it the bill to set up a federal fair employment practices commission.

**Agreement** on a program of economic aid to the nations of south and southeast Asia was made public at the close of conference of 7 British Commonwealth nations at Sydney, Australia.

**Federal government** of the United States of Indonesia and component state of republic of Indonesia agreed upon the transformation of Indonesia into a unitary state.

**20 Union of South Africa** argued before the International Court of Justice that it was free to incorporate South-West Africa since its mandate had lapsed with the disappearance of the League of Nations.

**21 Chancellor Konrad Adenauer** pledged the support of the German Federal Republic for the Schuman plan for the integration of German and French heavy industry.

**22 Senate** approved Pres. Truman's plans for the reorganization of the Federal Trade and Power commissions.

**Chinese Communist regime** in a radio broadcast offered Tibet regional autonomy if it would accede peacefully to Communist China.

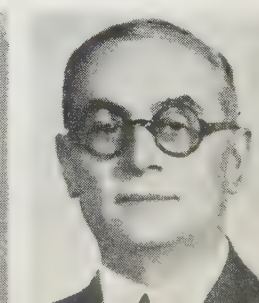
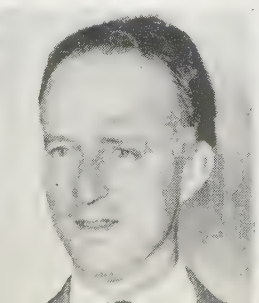
**Celâl Bayar** was elected president of Turkey by Turkish parliament.

**23 State dept.** made public an agreement with Iran providing for U.S. military aid under the Mutual Defense Assistance act.

**General Motors Corp.** and United Automobile Workers of

**The pictures on this page are, left to right:**

**LATTIMORE**..... April 6  
**LEOPOLD III**..... April 15  
**TITO**..... April 29  
**PHUMIPHON ADUNDET**.. May 5  
**BAYAR**..... May 22





**MAY—Continued**

America signed a comprehensive 5-yr. contract providing for annual wage increases and a jointly administered noncontributory pension plan.

**Federal Bureau of Investigation** arrested Harry Gold of Philadelphia on espionage charges based on his alleged dealings with Klaus Fuchs.

**U.S., U.K. and France** charged the U.S.S.R. with violation of several international pacts through its creation of a paramilitary police force and militia in east Germany.

**16 of 21** reorganization plans submitted to congress by Pres. Truman went into effect at midnight; other 5 had been rejected by the senate.

**24 Pres. Truman** appointed Mon C. Wallgren chairman of the Federal Power commission, James M. Mead chairman of the Federal Trade commission and Harry A. McDonald chairman of the Securities and Exchange commission.

**25 Agreement** to regulate arms sales to middle east nations on a basis of parity between Israel and the Arab countries was announced by the U.S., the U.K. and France.

**Brooklyn-Battery tunnel**, longest vehicular tunnel in the U.S., was formally opened to traffic in New York city.

**State dept.** issued an order restricting the travel of members of the Rumanian legation to within 35 mi. of the boundaries of the District of Columbia.

**26 U.S., British and French** high commissioners in Germany requested the soviet commander in east Germany to join with them in promulgating a law for the holding of all-German elections.

**27 State dept.** ordered the Czechoslovak government to close its consulate in New York city.

**Ladrone Islands**, 40 mi. S.W. of Hong Kong, were abandoned by Chinese nationalist forces, and occupied by Chinese Communists.

**28 Much vaunted rally** of Free German Youth in east Berlin reached its climax without any attempt to invade western Berlin.

**Israel** proposed as an alternative to the plan for the internationalization of Jerusalem adopted by the U.N. Trusteeship council that the holy places there be placed under an international authority.

**29 Gov. Gordon Browning** of Tennessee ordered national guard to restore order in labour dispute at American Enka plant at Morristown, Tenn.

**French Foreign Minister Schuman** announced that France, Belgium and the German Federal Republic would proceed with negotiations for a coal and steel pool without awaiting action by the U.K.

**30 21 western diplomats** and correspondents, including former U.S. Ambassador Laurence Steinhardt, were named in a Czechoslovak indictment charging 13 Czechs with espionage.

**JUNE**

**House committee** on lobbying activities requested 166 U.S. corporations to furnish comprehensive reports on money spent by them since 1947 to influence public opinion on national policy.

**Pres. Truman** asked congress to provide \$1,222,500,000 for military aid to foreign nations during second year of the Mutual Defense Assistance program.

**Maj. Gen. William E. Kepner** was named to succeed Lieut. Gen. Nathan F. Twining as commander-in-chief of U.S. forces in Alaska.

**Japanese foreign ministry** issued a statement saying that Japan was prepared to sign a peace treaty with any nation willing to accord it independence and equality.

**2 Petition** of the justice dept. for the dissolution of the Aluminum Company of America was rejected by U.S. district court in New York city.

**3 Belgium, France, Italy, Luxembourg, the Netherlands and western Germany** announced that they had agreed to enter into negotiations for merging their steel and coal production.

**4 Belgian parliamentary elections** gave a majority in the chamber of deputies to the Social Christian party favouring the return of Leopold III.

**5 U.S. supreme court** ruled unanimously that segregation of Negroes in railroad dining cars was in violation of the Interstate Commerce act.

**6 Gen. MacArthur** ordered the Japanese government to purge all members of the Communist party's central committee and to bar them from public service.

**U.N. Secy.-Gen. Lie** revealed that he had requested the U.S., Britain, France and the U.S.S.R. to end their deadlock over Communist China and take up a 10-point peace program.

**7 Polish government** announced that the German Democratic Republic had signed an agreement recognizing the Oder-Neisse frontier as its eastern boundary.

**Secy. of State Acheson** stated that the U.S. would not be coerced by the soviet boycott of the U.N. into voting for the admission of Communist China into the U.N.

**8 Allied High commission** authorized the German Federal Republic to negotiate and conclude international treaties, except those involving trade and payments, subject to the veto of the occupying powers.

**William W. Remington**, commerce dept. economist, was indicted on a perjury charge based upon his denial to a senate committee that he had ever been a Communist party member.

**9 Soviet government** notified the U.S., Britain, France, Argentina, Australia, Norway and New Zealand of its desire to participate in any conference on conflicting claims in Antarctica.

**Senate subcommittee** headed by Sen. Guy M. Gillette reported that there was not any coffee shortage in the U.S. and attributed high prices to speculative activity.

**10 France, the U.K. and the U.S.** rejected a soviet proposal for the withdrawal of the troops of the occupying powers from Berlin as a condition to city-wide elections.

**11 4 persons**, including 2 former nationalist generals, were executed at Taipei, Formosa, on charges of conspiring to turn Formosa over to the Chinese Communists.

**12 British foreign office** announced the appointment of Sir Harold Caccia, minister at Vienna, as the first civilian high commissioner in Austria.

**13 Executive committee** of the British Labour party rejected the Schuman plan for a western European coal and steel pool and proposals for a European federation.

**Yugoslav government** charged in a note to the U.S.S.R. that the latter was trying to block its trade on the upper Danube river.

**Soviet Finance Minister Arseny G. Zverev** submitted to the supreme council a 1950 state budget providing for expenditures totalling 427,900,000,000 roubles of which 18.5% was specifically earmarked for defense.

**14 U.N. Trusteeship council** voted to abandon its attempt to carry out the decision of the U.N. general assembly for the internationalization of Jerusalem, and to refer the matter back to that body.

**15 Federal Bureau of Investigation** arrested Alfred D. Slack of Syracuse, N.Y., on charge of espionage on behalf of the U.S.S.R. in collaboration with Harry Gold.

**Membership** of the German Federal Republic in the Council of Europe was approved by the *bundestag*, 220 to 152.

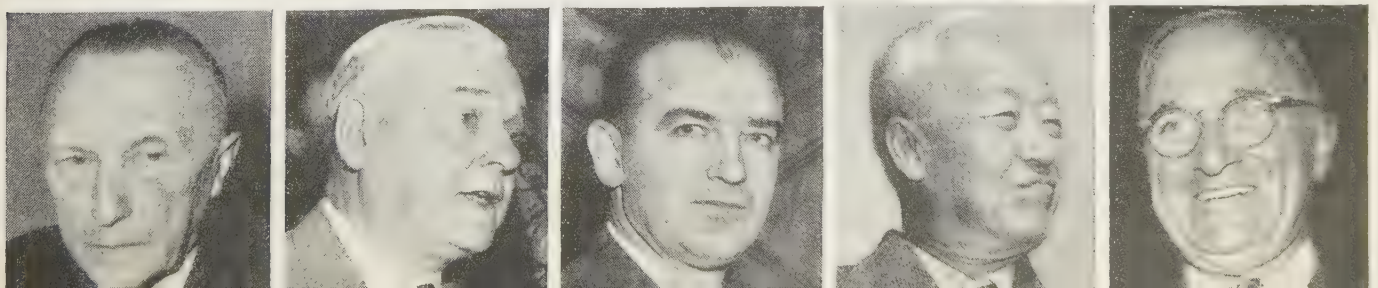
**Allied High commission** approved detailed measures for the relaxation of restrictions on foreign investments in western Germany.

**Executive board** of the C.I.O. expelled the Fur and Leather Workers union and the American Communications Assn. as adherents of the Communist party line.

**16 W. Averell Harriman**, special representative of the Economic Cooperation administration, was appointed Pres.

The pictures on this page are, left to right:

ADENAUER..... May 21  
WALLGREN..... May 24  
McCARTHY..... June 22  
RHEE..... June 28  
TRUMAN..... June 30





**JUNE—Continued**

Truman's special assistant on foreign affairs.

**U.S. citizenship** of Harry Bridges, leader of Pacific coast longshoremen, was revoked by a federal court because of his conviction for perjury.

**Federal Bureau of Investigation** arrested David Greenglass on charges of passing secret atomic data to the U.S.S.R. while stationed at the Los Alamos, N.M., atomic research centre.

**Bill** liberalizing the admission of displaced persons to the U.S. was signed by Pres. Truman.

**Pres. Truman** vetoed as not in the public interest the so-called basing-point bill intended to clarify pricing practices of manufacturers under the antitrust laws.

**17 Egypt, Lebanon, Saudi Arabia, Syria and Yemen** signed an Arab league collective security pact; Iraq and Jordan abstained.

**Pres. Truman** issued an executive order making federal income tax files available to the special senate committee investigating interstate crime.

**18 Gen. Omar N. Bradley,** chairman of the U.S. joint chiefs of staff, and Defense Secy. Louis Johnson arrived in Tokyo for policy discussions with Gen. MacArthur.

**19 Israel** formally apologized to Sweden for the assassination of Count Folke Bernadotte, U.N. mediator in Palestine.

**20 Delegates** of Belgium, France, the German Federal Republic, Italy, Luxembourg and the Netherlands met in Paris to consider the French plan to pool western Europe's heavy industry.

**Senate** passed, 81 to 2, its version of bill increasing federal social security benefits and expanding coverage under the act.

**Leon H. Keyserling,** chairman of Pres. Truman's council of economic advisers, stated that the U.S. had reached the highest point of prosperity in its history.

**21 Rumania's** virulent and hostile tactics against the U.S. were denounced in a U.S. note acceding to a Rumanian demand for the recall of an asst. U.S. military attaché.

**Both houses** of congress passed and sent to the White House the compromise bill extending federal rent control to Dec. 31, 1950, and giving states and other political units power to extend controls through June 30, 1951.

**22 John S. Service** denied in testimony before a senate subcommittee charges made by Sen. McCarthy that he was pro-Communist.

**Pres. Truman** named Lieut. Gen. Manton S. Eddy to be commander of U.S. army forces in Europe and Maj. Gen. Stafford L. Irwin to be U.S. commander in Austria.

**Charles M. Spofford** of New York was nominated to be U.S. deputy on the North Atlantic Treaty council.

**Both houses** of congress approved a resolution extending Selective Service on a temporary basis to July 9, 1950, pending action on a permanent extension measure.

**23 Pres. Truman** vetoed as unfair to other World War II veterans a bill giving pay raises to veterans in the postal service related to length of service in World War II.

**24 Cabinet** of French Premier Georges Bidault was overwhelmingly defeated by national assembly in vote of confidence involving civil service pay.

**58 persons** were killed in crash of a Northwest Airlines plane into Lake Michigan in worst U.S. commercial air line disaster.

**25 Service** on 4 major western railroads was halted by a strike of Switchmen's Union of North America over demands for shorter hours and more pay.

**North Korean Communist forces** launched a full-scale attack on South Korea at 4 A.M., Korean time; U.N. Security council ordered a cease-fire and immediate withdrawal of North Korean troops.

**26 Elements** of North Korean armoured troops were reported to have begun entering Seoul, capital of Republic of Korea.

**27 Pres. Truman** announced that he had ordered U.S. naval and air forces to aid South Korea and the U.S. 7th fleet to prevent any attack on Formosa.

**U.N. Security council,** by vote of 7 to 1 (Yugoslavia), asked member nations to supply South Korea with sufficient military aid to repel North Korean invasion.

**British house of commons,** by vote of 309 to 289, rejected an opposition motion calling on the U.K. to join in Schuman plan negotiations.

**28 British government** placed ships of the royal navy, including an aircraft carrier, at the disposal of Gen. MacArthur in the Korean area.

**Seoul** was captured by North Korean forces; South Korean government of Pres. Syngman Rhee retired southward to Taejon.

**Chinese nationalist government** ordered its navy and air force to cease attacks on the mainland of China.

**Senate** passed by vote of 76 to 0 a house-approved bill extending Selective Service to June 30, 1951, and empowering Pres. Truman to call up the national guard and organized reserves without regard to numerical limitations.

**29 Gen. MacArthur** flew to South Korea to survey the tactical situation and supervise the organization of defenses.

**Soviet government** charged that U.N. action with respect to Korea was illegal because of absence of U.S.S.R. and Communist China.

**30 Pres. Truman** authorized Gen. MacArthur to employ U.S. ground forces in Korea and to dispatch the air force against specific targets in North Korea. He also ordered naval blockade of entire Korean coast.

**Bill** liberalizing the restrictions of the Hatch act on the political activities of federal employees was vetoed by Pres. Truman.

**JULY**

**1 First units** of U.S. ground troops landed in southern Korea.

**2 New French cabinet** without Socialist representation was announced by Henri Queuille.

**Maj. Gen. William F. Dean,** commander of U.S. 24th infantry division, was designated commander of U.S. forces in Korea.

**U.S. state dept.** rejected the offer of the Chinese nationalist government to send 33,000 seasoned troops to fight in Korea.

**3 Secy. of the Treasury John W. Snyder** announced that the deficit for the fiscal year ending June 30, 1950, was \$3,122,000,000.

**U.S. joint chiefs of staff** ordered a force of U.S. marines and marine air units to the far east.

**4 Cabinet** presented by French Premier Henri Queuille was rejected by the national assembly by vote of 334 to 221.

**5 U.S. ground forces** made their first contact with North Korean troops near Osan, about 20 mi. S. of Seoul.

**6 Senate** rejected by voice vote Pres. Truman's proposal

to transfer the Reconstruction Finance Corp. to the commerce dept.

**Soviet government** charged in a note to the U.S. that the U.S. blockade of Korea was a new act of aggression and stated that the U.S. would be held responsible for damage to soviet interests.

**North Korean troops** were reported to have captured Pyongtaek, 60 mi. S. of Seoul, and to be advancing southward on Chonan.

**7 U.N. Security council** adopted an Anglo-French resolution empowering the U.S. to establish a unified U.N. command in Korea and to appoint a U.N. commander-in-chief.

**Pres. Truman** authorized the U.S. army, navy and air force to build up their forces to the limits needed to cope with the situation in Korea, selective service to be used if required.

**Proposal** for a European payments union was unanimously accepted by 17 European participants in the Marshall plan and by the U.S. at a meeting in Paris.

**8 Pres. Truman** appointed Gen. MacArthur commander-in-chief of all U.N. forces in Korea in accordance with U.N. Security council resolution.

**Army dept.** took over control of the strikebound Chicago, Rock Island and Pacific railroad on order of Pres. Truman.

**9 Gen. MacArthur** authorized the Japanese government to establish a national police reserve of 75,000 men.

**10 U.S. forces** were reported to have halted the advance of North Korean troops halfway between Chonan and Taejon.

**Presidential reorganization plan** took effect making Chairman W. Stuart Symington of the National Security Resources board responsible for the entire U.S. war mobilization program.

**House of representatives** rejected, 249 to 71, Pres. Truman's reorganization plan creating a new executive department of health, education and security.

**Defense dept.** called upon the selective service system for 20,000 men to be inducted into the army at the earliest possible time.

**11 Pres. Truman** named Gordon E. Dean to be chairman of the U.S. Atomic Energy commission and Deputy Undersecy. of State John Peurifoy to be U.S. ambassador to Greece.

**International Court of Justice** ruled in advisory opinion to the U.N. that the Union of



## JULY—Continued

South Africa must have U.N. approval before incorporating mandate of South-West Africa.

**12 Motion** to limit debate on the federal Fair Employment Practices bill failed in the senate by a vote of 55 to 33.

**U.S.** and South Korean forces withdrew south of the Kum river in the face of strong North Korean attacks.

**13 French national assembly** approved new cabinet of Premier René Pleven by vote of 335 to 226.

**All U.S. ground forces** in Korea were placed under the command of Lieut. Gen. Walton H. Walker, commanding general of the 8th army.

**Wosan**, important industrial town on the east coast of Korea, was heavily bombed by U.S. air force planes.

**U.S. court of claims** awarded the Ute Indians of Colorado and Utah \$31,700,000 to compensate them for land taken from them between 1891 and 1938.

**14 U.S.**, British and French governments called upon the U.S.S.R. to permit an impartial investigation of the actual fate of German prisoners of war known to be in soviet custody.

**U.N. Secy.-Gen. Trygve Lie** requested 50 member nations of the U.N. to consider sending combat forces, especially ground troops, to fight in South Korea.

**15 North Korean forces** were reported to have established a bridgehead across the Kum river—major U.S. defense line 20 mi. N. of Taejon.

**16 Gen. MacArthur** announced that the U.S. 7th fleet was instituting air reconnaissance of the Formosa straits and the South China sea.

**17 Federal Bureau of Investigation** arrested Julius Rosenberg of New York, N.Y., on a charge of conspiracy to commit espionage on behalf of the U.S.S.R.

**Main U.S. defense units** were reported to have abandoned Taejon and to be retreating toward Taegu.

**18 British government** announced the cancellation of all petroleum shipments to Communist China.

**Pres. Truman** invoked far-reaching credit restrictions over all phases of public and private housing.

**Secy. of State Acheson** rejected a plea by Indian Prime Minister Nehru urging the admission of Communist China to

the U.N. to end the soviet boycott of that body.

**U.S. 1st cavalry division** made an amphibious landing at Pohang on the east coast of Korea and moved inland without opposition; 25th infantry division landed at southeastern port of Pusan.

**19 42 North Korean planes** were reported damaged or destroyed on the ground by U.S. naval carrier planes.

**Pres. Truman** proposed partial U.S. mobilization in message to congress asking for \$10,000,000,000 for rearmament, the lifting of the statutory ceiling on the armed forces and the power to impose limited economic controls.

**20 Gen. MacArthur** declared in a communiqué that North Korea had lost its chance for victory and that U.S. troops now had a secure hold in South Korea.

**Governments** of the United States of Indonesia and constituent state of republic of Indonesia agreed to substitute unitary state with strong central government for present federal regime.

**Joint session** of the Belgian parliament approved a bill ending the regency and permitting the return to Belgium of King Leopold III.

**21 Army Dept.** ordered the first call-up of nondivisional national guard units and members of organized reserves.

**22 King Leopold III** returned to Belgium from 6 yr. of exile abroad.

**Maj. Gen. William F. Dean**, commander of U.S. 24th division, was officially listed as missing in action in fighting around Taejon.

**North Korean troops** captured Yongdok on the east coast and advanced in the west to Kwangju, 35 mi. from the southern coast of Korea.

**23 Police reinforcements** were called out in Brussels, Belg., to disperse persons demonstrating against the return of King Leopold III.

**24 Pres. Truman** asked congress for \$10,516,976,000 to finance rearmament, including an increase of 600,000 in strength of the armed forces.

**Thailand** informed the U.N. that it was prepared to send a combat force of 4,000 men to Korea.

**25 North Korean forces** captured Yongdong and continued their pressure on withdrawing U.S. forces.

**First U.S. report** to U.N. on Korean war said superiority in weapons and manpower would have to be achieved over aggressor, who had resources available far in excess of its internal capabilities.

**Pres. Truman** asked congress for an immediate \$5,000,000,000 increase in individual and corporate taxes pending development of a more comprehensive tax program.

**Charles M. Spofford** of the U.S. was elected chairman of the North Atlantic Treaty council of deputies at its first meeting in London.

**26 Great Britain**, Australia and New Zealand announced that they had decided to send small contingents of ground forces to Korea.

**Pres. Truman** in his midyear economic report to congress stated that price control, rationing and serious shortages could be avoided if he were granted limited economic controls and a \$5,000,000,000 increase in taxes.

**All-out mobilization** and a general ceiling over the entire U.S. economy was urged by Bernard Baruch in testimony before the senate banking and currency committee.

**Bill** authorizing the expenditure of \$1,222,500,000 under the Mutual Defense Assistance program in fiscal year 1951 was signed by Pres. Truman.

**27 Rioting** between supporters and opponents of King Leopold III broke out in many parts of Belgium.

**Pres. Truman** told his press conference, in answer to a question, that the U.S. would not use the atomic bomb to end the war in Korea.

**28 North Korean forces** launched a major attack against the 200-mi. U.N. defense perimeter in southeastern Korea.

**29 Federal Bureau of Investigation** arrested Abraham Brothman and Miriam Moskowitz in Cliftwood, N.J., on charge of conspiring to commit espionage for the U.S.S.R.

**31 Gen. MacArthur** flew to Formosa for a military conference with Generalissimo Chiang Kai-shek and other Chinese nationalist leaders.

**Pres. Truman** ordered 4 national guard divisions and 2 regimental combat teams into federal service.

**U.S. Atomic Energy commission** revealed in report to congress that atomic energy production during the first half of 1950 had proceeded at the highest rate in the history of the project.

## AUGUST

**Soviet Delegate Jacob A. Malik** ended boycott of U.N. Security council and took over as president; council rejected by vote of 8 to 3 his ruling that the Chinese nationalist delegate could not take part in its meetings.

**U.S. court of appeals** in New York, N.Y., upheld the conviction of 11 Communist leaders on charges of conspiring to teach and advocate the overthrow of the U.S. government.

**2 U.S. Atomic Energy commission** named E. I. du Pont de Nemours & Co. to build and operate plants for production of the hydrogen bomb.

**U.S. forces** in Korea began a general planned withdrawal from Kumchon to position behind the Naktong river in southeastern Korea.

**3 U.N. Security council** defeated soviet resolution under which it would first discuss admission of Communist China and voted to continue discussion of complaint of aggression on the Republic of Korea.

**Pres. Truman** signed bill authorizing the increase of U.S. armed forces to any level required by present or future emergencies.

**4 U.S. forces** repulsed North Korean attempts to penetrate the new U.S. defense line east of Chinju on the south Korean coast.

**U.S. army** issued a mandatory call to 62,000 enlisted reservists for 21 months' active duty.

**Soviet Delegate Malik** introduced a resolution in the U.N. Security council calling for a cease-fire in Korea, withdrawal of foreign troops and participation of Communist China and North Korea in Korean deliberations.

**5 Heavy fighting** was reported to have broken out at Makassar, Celebes, between Indonesian government forces and members of the Netherlands Indies army awaiting discharge.

**6 W. Averell Harriman**, special adviser to Pres. Truman, arrived in Tokyo for a policy conference with Gen. MacArthur.

**U.N. Secy.-Gen. Lie** in annual report again urged the convening of a special peacemaking session of the U.N. Security council to be attended by foreign ministers.

**7 U.S. marine corps** announced plans to mobilize its entire volunteer reserve of 80,000 men.



## AUGUST—Continued

**Canadian Prime Minister Louis St. Laurent** announced that Canada would recruit a special infantry brigade and supporting units for service in Korea.

**U.S. army** and marine troops made gains of up to 5 mi. in offensive action on the southern front east of Chinju.

**Milton F. Gregg** was named minister of labour in the Canadian cabinet; Solicitor Gen. Hughes Lapointe replaced him as veterans affairs minister.

**8 Carroll L. Wilson** resigned as general manager of the U.S. Atomic Energy commission, saying he lacked confidence in the ability of Chairman Gordon E. Dean.

**Henry A. Wallace** resigned from the Progressive party in a dispute over the adoption by it of the soviet line on Korea.

**Florence Chadwick** of San Diego, Calif., swam the English channel from Cap Gris Nez to Dover in the record time of 13 hr. 20 min.

**9 Senate** refused to confirm Pres. Truman's nominations of 2 U.S. judges and 2 members of federal commissions.

**10 U.S. forces** made further advances near Chinju on the southern coast; Yongdok on the eastern coast was retaken by North Korean troops.

**Gen. MacArthur** charged that defeatists and appeasers had misrepresented the purpose of his trip to Formosa which, he said, was limited purely to military matters.

**Soviet Delegate Malik** admitted in the U.N. Security council that the U.S.S.R. had supplied arms to North Korea but only prior to the evacuation of soviet troops.

**House of representatives** passed, 383 to 12, an economic mobilization bill giving Pres. Truman broad powers to control prices, wages, credit and production.

**11 North Korean forces** reached the port of Pohang on the east coast of Korea and threatened a U.S. fighter base near by.

**Consultative assembly** of the Council of Europe adopted a res-

olution proposed by Winston Churchill for the formation of a united European army to defend western Europe.

**Crown Prince Baudouin** was sworn in as ruler of Belgium, taking over the constitutional powers of his father, King Leopold III, who had agreed to abdicate when Baudouin became 21 years old (Sept. 1951).

**Pres. Truman** nominated T. Keith Glennan, president of Case Institute of Technology, Cleveland, O., to be a member of the U.S. Atomic Energy commission

**12 Defense dept.** and Atomic Energy commission issued a detailed handbook of instructions for civilian defense in case of atomic attack.

**Government** of Việt-Nam released a report indicating that Communist guerrilla forces in Indochina were receiving extensive aid from Communist China.

**Large North Korean force** established a bridgehead across the Nakdong river, western bulwark of the U.N. defense perimeter, near Changnyong.

**13 U.S. economic** and military aid was promised to Việt-Nam by Pres. Truman in a special Voice of America broadcast.

**14 U.S. 24th division** troops opened a counterattack against the North Korean bridgehead near Changnyong.

**15 White House** announced that Mayor William O'Dwyer of New York city would be named U.S. ambassador to Mexico after his resignation as mayor on Aug. 31.

**Second child**, a daughter, was born to Princess Elizabeth, heirless presumptive to the British throne.

**16 U.S. superfortresses** heavily bombed several North Korean divisions assembled on the west shore of the Nakdong river near Waegwan.

**Defense Secy. Johnson**, with the approval of Pres. Truman, asked congress for immediate passage of a universal military training law.

**17 Unitary Republic of Indonesia** with a strong central government replaced the United States of Indonesia by procla-

mation of Pres. Achmed Soekarno.

**Gen. MacArthur** urged all member nations to send ground forces to Korea speedily in a report to the U.N. Security council.

**18 Lieut. Gen. Walter B. Smith** was named director of the U.S. central intelligence agency by Pres. Truman.

**Federal Bureau of Investigation** arrested Morton Sobell in Laredo, Tex., on charges of conspiracy to commit espionage on behalf of the U.S.S.R.

**North Korean forces** opened a large-scale offensive along the Nakdong river aimed at Taegu.

**19 Pres. Truman** signed a bill authorizing the entry into the U.S. of 760 Japanese wives and children of members of U.S. armed forces.

**20 British war office** announced its decision to send immediately a British infantry force from Hong Kong to Korea.

**Proposals** for putting North Korea under U.N. trusteeship at the cessation of hostilities were denounced by John M. Chang, South Korean ambassador to the U.S.

**Gen. MacArthur** warned Kim Il Sung, North Korean premier and commander in chief, that he would be held personally responsible for further Communist atrocities against U.N. troops.

**21 Senate** approved, 85 to 3, an economic mobilization bill giving Pres. Truman wide powers but directing the simultaneous imposition of wage and price controls.

**22 All Canadian railroads** were tied up by a nationwide strike of nonoperating personnel.

**U.N. Mediator** Sir Owen Dixon reported that there was no immediate prospect for agreement between India and Pakistan on a plebiscite in the princely state of Kashmir.

**23 French authorities** in Indochina published the text of a document which was allegedly a treaty between the Việt-Minh rebels and the Chinese Communist government providing for armed intervention by the latter.

**24 Pres. Truman** announced that he had nominated Walter J. Donnelly to be minister to and the first U.S. civilian high commissioner in Austria.

**Chinese Communist government** charged in a message to the U.N. Security council that U.S. policy with respect to Formosa was a direct armed attack on Chinese territory.

**25 Scheduled nation-wide strike** of 300,000 railroad trainmen and conductors was called off shortly after Pres. Truman ordered federal seizure of the railroads.

**26 White House** and state dept. repudiated a speech made the day before by Navy Secy. Francis Matthews to the effect that the U.S. should be willing even to start a war to compel co-operation for peace

**27 North Korean forces** advanced to within a few miles of the port of Pohang in an offensive against the eastern end of the U.N. defense perimeter.

**Chinese Communist government** charged that U.S. planes had attacked a Manchurian railway station and airfield on the Chinese side of the Yalu river.

**28 Allied High commission** in Germany decreed the dissolution of the I. G. Farbenindustrie chemical trust.

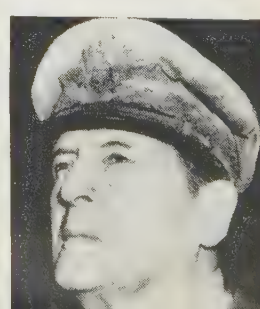
**Pres. Truman** signed the Social Security act amendments of 1950, providing for broadened social security coverage and greatly increased benefits.

**Soviet Delegate Malik** demanded that the U.N. Security council omit from its annual report to the general assembly any reference to action taken during the soviet boycott of the council.

**White House** announced that Pres. Truman had directed Gen. MacArthur to retract his statement to a veterans' convention implying that the U.S. should occupy Formosa.

**The pictures on this page are, left to right:**

DEAN.....July 11  
PLEVEN.....July 13  
NEHRU.....July 18  
MALIK.....Aug. 1  
MacARTHUR.....Aug. 6





**AUGUST—Continued**

**30 Canadian parliament** in emergency session passed a bill ordering the resumption of strikebound railway service within 48 hr.

**House of representatives** cited Edward A. Rumely of the Committee for Constitutional Government and William L. Patterson of the Civil Rights congress for contempt for refusal to answer questions of its lobbying committee.

**31 Both houses of congress** passed and sent to the White House a compromise bill to provide dependency allowances for families of enlisted personnel in the armed forces.

**U.S. Delegate Warren R. Austin** admitted in the U.N. Security council that a U.S. fighter plane might have strafed by mistake an airstrip 5 mi. inside Manchuria.

**SEPTEMBER**

**1 North Korean forces** opened an all-out offensive along a 50-mi. front south of the Chang-yong bridgehead.

**Pres. Truman** announced in a nation-wide broadcast plans for the mobilization of 3,000,000 men and the entire U.S. productive machine. He also announced an 8-point outline of U.S. beliefs in and desires for world peace.

**Soviet government** announced the appointment of Maj. Gen. A. P. Kislenko as soviet member of the Allied council for Japan in succession to Lieut. Gen. K. N. Derevyanko.

**2 Greek government** offered to dispatch a brigade of volunteer troops to join U.N. forces in Korea.

**All elements** of the U.S. far east air forces went into action in support of U.N. ground forces at the Naktong river line.

**British Prime Minister Attlee** declared in answer to Conserv-

ative criticism that the U.K. would never damage essential defense needs in order to ship goods to the U.S.S.R.

**3 Lieut. Gen. George E. Stratemeyer**, commander of the U.S. far east air forces, reported that bombing had virtually halted North Korean rail traffic south of the 37th parallel.

**4 U.N. commission** on Korea declared in its annual report to be presented to the general assembly that North Korea had launched an unprovoked and premeditated attack on South Korea.

**5 Yugoslav Foreign Minister Edward Kardelj** condemned Communist aggression in Korea as a threat to world peace.

**Army dept.** requested selective service to provide 70,000 men in November, thus raising its total requests to 170,000.

**U.S. Delegate Warren Austin** told the U.N. Security council that a bomber bearing a red star had been shot down by U.S. naval forces in Korean waters and the body of a soviet air force officer found near the wreckage.

**6 U.S.S.R. vetoed** a Security council resolution condemning North Korea for continued defiance of the U.N. and asking all nations to withhold aid to North Korea.

**Pres. Truman** apologized to the U.S. marine corps for his "unfortunate choice of language" in a letter to Rep. Gordon L. McDonough criticizing the corps.

**Secy. of State Acheson** stated at a press conference that it was highly desirable to find a way in which western Germany could take part in defending western Europe.

**U.S.S.R. charged** that the soviet bomber shot down in Korean waters was attacked by 11 U.S. planes without provocation while on a training mission.

**7 Pres. Truman** personally carried his apology to the marine corps to a convention of the Marine Corps league at Washington, D.C.

**Dept. of the air force** ordered 5 air national guard groups into active federal service.

**Immediate dissolution** of almost all Roman Catholic religious orders in Hungary was decreed by the Hungarian government.

**8 Pres. Truman** signed the Defense Production act of 1950, giving him emergency powers over the U.S. economy; federal reserve board ordered limited restrictions on installment buying.

**Secy. of State Acheson** was authorized by presidential executive order to begin operation of the Point Four program for aid to underdeveloped areas.

**Hugh L. Keenleyside** of Canada was appointed director-general of the U.N. Technical Assistance administration to handle aid programs for underdeveloped areas.

**9 W. Stuart Symington**, chairman of the National Security Resources board, was named co-ordinator of economic mobilization by Pres. Truman.

**Pres. Truman** announced that he had authorized substantial increases in U.S. military forces in western Europe.

**10 Commerce Secy. Sawyer** announced the formation of the National Production authority headed by William H. Harrison to handle priorities, allocations and inventory controls under the defense mobilization program.

**11 Greek Premier Venizelos** formed a new cabinet composed of Liberal, Populist and Socialist-Democratic party members.

**12 U.S.S.R. vetoed** the appointment of a U.N. commission to investigate Communist China's charge that U.S. planes had attacked Manchurian territory.

**Pres. Truman** accepted the resignation of Defense Secy. Johnson and said he would appoint Gen. George C. Marshall to the post as soon as congress passed enabling legislation.

**Foreign ministers** of the U.S., the U.K. and France met at New York, N.Y., to review the world situation and Europe's defense needs.

**13 Presidential emergency board** denounced the growing practice by railroad unions

of creating an emergency to force appointment of an emergency board whose recommendations they would accept only if favourable.

**14 Pres. Truman** announced that he had directed the state dept. to make new efforts to obtain a peace treaty with Japan.

**15 Elements** of the U.S. 1st marine division made an amphibious landing at Inchon, port of Seoul, after heavy naval bombardment.

**Congress** completed action on legislation permitting Gen. George C. Marshall to serve as defense secy. despite the fact that he had been an active army officer within the past 10 yr.

**16 Pres. Truman** accepted the resignation of Robert N. Denham as general counsel of the National Labor Relations board.

**Economic Cooperation administration** reduced aid to Greece by about 10% on the ground that the Greek government had not shown sufficient progress in its own recovery efforts.

**17 National Production authority** ordered manufacturers to limit purchases of 32 strategic materials to quantities reasonably needed for deliveries.

**U.S. marines** captured Kimpo airfield, 15 mi. N.W. of Seoul; South Korean marines captured Mokpo, 200 mi. S. of Seoul, in an amphibious assault.

**18 Pres. Truman** sent to congress a master plan for organizing civil defense against air and atomic attack.

**Gen. MacArthur** reported to the U.N. Security council evidence that the U.S.S.R. had supplied North Korea with munitions during 1949 and 1950.

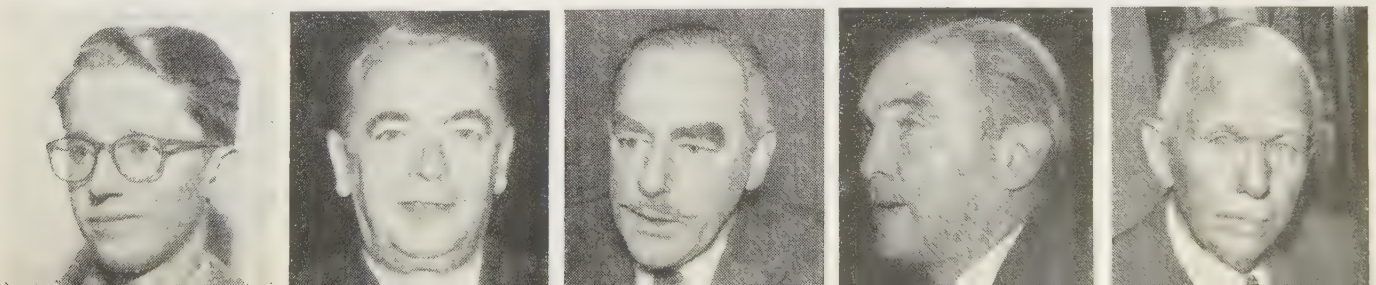
**Gen. Omar N. Bradley**, chairman of the U.S. joint chiefs of staff, was promoted to the 5-star rank of general of the army.

**19 Motion** censuring the British Labour government for its decision to nationalize the steel industry early in 1951 was defeated in the house of commons, 306 to 300.

**Annual session** of the U.N. general assembly met at Flush-

The pictures on this page are, left to right:

BAUDOUIN.....Aug. 11  
O'DWYER.....Aug. 15  
ACHESON.....Sept. 6  
SYMINGTON.....Sept. 9  
MARSHALL.....Sept. 12





## SEPTEMBER—Continued

ing Meadow, N.Y., and rejected Indian and soviet proposals for the admission of Communist China to the assembly and other U.N. organs.

**Foreign Ministers** of U.S., U.K. and France issued a communiqué stating that their governments would treat any attack on western Germany or western Berlin as an attack upon themselves.

**20 U.S. marines** crossed the Han river northwest of Seoul and cut the main highway from Seoul to Pyongyang.

**21 Appointment** was announced of Ernest G. Jansen as governor general of the Union of South Africa in succession to Maj. G. B. van Zyl, effective Jan. 1, 1951.

**Commerce dept.** prohibited the unlicensed export of strategic goods to Hong Kong and Macao, to stop their possible re-export to Communist China.

**Pres. Truman** told a press conference that the U.N. must decide whether U.N. forces should advance above the 38th parallel and that the U.S. would abide by its decision.

**22 Nobel peace prize** for 1950 was awarded to Ralph J. Bunche, director of the U.N. trusteeship division and former U.N. acting mediator in Palestine.

**Pres. Truman** vetoed the Internal Security act of 1950, saying it would aid, rather than weaken, the U.S. Communist movement; house of representatives overrode his veto, 286 to 48.

**Congress** approved and sent to the White House the Revenue act of 1950 providing for an annual increase of \$4,700,000,000 in personal and corporate taxes.

**U.S. forces** captured Suwon and its airstrip, 16 mi. S. of Seoul; U.N. forces made wide gains west and northwest of Taegu.

**23 Congress** recessed until Nov. 27 after the senate voted, 57 to 10, to override Pres. Truman's veto of the Internal Security act.

**24 U.S. marines** crossed the Han river southwest of Seoul and isolated the city from the west.

**25 Pres. Truman** accepted the resignation of Paul G. Hoffman as Economic Cooperation administrator and chose deputy administrator William C. Foster to succeed him.

**U.S. Supreme Court Justice Robert H. Jackson** reversed a federal appellate court and ordered that 10 of the 11 convicted

Communist leaders be admitted to bail pending appeal.

**U.S. marine** and army troops fought their way into Seoul proper from 3 sides against determined Communist opposition.

**26 Seoul** fell to U.S. troops; motorized column of the U.S. 1st cavalry division met 7th division troops moving south from Suwon to form a line from southeast Korea to Seoul.

**North Atlantic council** agreed upon the establishment at the earliest possible time of an integrated defense force for western Europe.

**27 Walter S. Gifford**, former chairman of American Telephone and Telegraph Co., was named to succeed Lewis W. Douglas as U.S. ambassador to the U.K.

**28 Pres. Truman** named Robert A. Lovett to be deputy secy. of defense and George J. Bott to be general counsel of the National Labor Relations board.

**U.N. general assembly** admitted Indonesia as the 60th member of the U.N. by acclamation.

**29 South Korean troops** who had reached the 38th parallel in their drive up the eastern Korean coast were ordered to halt for regrouping.

**U.N. Security council** approved, 7 to 3 (1 member abstaining), a proposal to invite Communist China to participate in discussion of the Formosa issue.

**U.N. general assembly** chose Brazil and the Netherlands to replace Cuba and Norway as nonpermanent members of the Security council, effective Jan. 1, 1951.

**Gen. MacArthur** on behalf of the U.N. command handed over the city of Seoul to Pres. Syngman Rhee of the Republic of Korea.

**30 Pres. Truman** awarded the congressional medal of honor to Maj. Gen. William F. Dean, missing in action, for exceptional heroism in the defense of Korea.

## OCTOBER

**Gen. MacArthur** demanded the unconditional surrender of North Korean forces in a radio message directed to their commander in chief.

**Elements** of the South Korean 3rd division crossed the 38th parallel into North Korea.

**Chinese Premier Chou En-lai** stated in a speech that Communist China would not stand aside

if the territory of North Korea were invaded.

**Local**, state and federal police in western Germany broke up Communist plans for a national resistance demonstration.

**2 Soviet government** rejected the demand of the U.S. for information about German prisoners of war still in soviet hands.

**National Production authority** promulgated a priorities system giving defense dept. and Atomic Energy commission contracts priority over civilian requirements.

**3 Far Eastern commission** announced that Japanese courts had been given jurisdiction over all U.N. nationals residing in Japan except troops and officials and their families.

**Getulio Vargas**, dictator of Brazil from 1930 to 1945, was elected to a 5-yr. term as president in national elections.

**4 U.S. state dept.** revealed that Turkey had accepted an invitation to consult with North Atlantic treaty nations on Mediterranean defense problems.

**5 National Labor Relations board** revealed that in the future it would limit itself to labour disputes seriously affecting interstate commerce.

**Pakistan** announced that it had driven back a body of Afghan tribesmen and regular troops which had invaded its territory in the Dobandi area.

**6 Pres. Truman** ordered registration of doctors, dentists and veterinarians less than 50 yr. old who were not in the armed forces or the reserves, and who had not served at least 21 months. First group to register would be those who were trained at government expense or deferred to complete medical training.

**7 New York Yankees** won the world series by defeating the Philadelphia Phillies in 4 straight games.

**Pres. Truman** appointed Alan Valentine to be administrator of the Economic Stabilization agency.

**U.N. general assembly** approved, 47 to 5, a resolution which gave tacit approval to the crossing of the 38th parallel into North Korea by U.N. troops.

**Turkey** was selected by the U.N. general assembly to succeed Egypt as a nonpermanent member of the Security council, effective Jan. 1, 1951.

**Elements** of the U.S. 1st cavalry division made the first U.S. crossing of the 38th parallel near Kaesong.

**9 Gen. MacArthur** called upon North Korean forces for the last time to lay down their arms and surrender.

**Soviet government** charged in a note to the U.S. that 2 U.S. fighter planes had strafed a soviet airport about 60 mi. N. of the Korean border.

**Sen. Homer Ferguson** accused the national administration of deliberately ordering mass detention of aliens seeking to enter the U.S. in order to undermine the Internal Security act.

**10 Gen. MacArthur's** demand for unconditional surrender was rejected by North Korean Premier Kim Il Sung.

**U.S. government agencies** announced drastic restrictions on financing terms for new 1- and 2-family homes.

**Cyrus S. Ching** was named chairman of the U.S. Wage Stabilization board by Pres. Truman.

**Wonsan**, North Korean port 100 mi. N. of the 38th parallel, was captured by 2 South Korean divisions.

**Lieut. Gen. Nathan F. Twining** was nominated by Pres. Truman to be vice-chief of staff of the air force with the rank of full general.

**Federal Communications commission** authorized the Columbia Broadcasting system to begin colour television broadcasts.

**12 U.S.S.R.** vetoed a U.N. Security council resolution that Secy.-Gen. Trygve Lie serve a second 5-yr. term.

**U.N. interim committee** on Korea ruled that the South Korean government did not have any jurisdiction over North Korea and asked Gen. MacArthur to take over administration of liberated areas.

**State dept.** cancelled all outstanding visas for entry into the U.S. pending investigation under the Internal Security act.

**13 Further limitations** were imposed on consumer installment buying by the federal reserve board.

**14 South Korean cabinet** issued a statement rejecting the decision of the U.N. interim committee on Korea to limit South Korea's authority to territory below the 38th parallel.

**15 Pres. Truman** and Gen. MacArthur conferred at Wake Island in the Pacific ocean west of Hawaii for several hours (Wake time).

**David Ben-Gurion** resigned as premier of Israel in a dispute



**OCTOBER—Continued**

with conservative cabinet members demanding less stringent government economic controls.

**16 French forces** in Indochina were revealed to have abandoned 250 mi. of the frontier with China to Viet-Minh rebels.

**17 U.S. government** agreed to give France up to \$2,400,000,000 in arms and equipment during 1951 to bolster its defenses in Europe and military operations in Indochina.

**18 Pres. Truman** ordered the U.S. coast guard to place all U.S. ports and shipping under virtual wartime control.

**Brigade of Turkish troops** began disembarking at the port of Pusan, Korea.

**Connie Mack**, 87, resigned as field manager of the Philadelphia Athletics baseball club after managing the team for 50 yr.

**19 Sir Stafford Cripps** resigned as chancellor of the exchequer in the British cabinet because of ill health; Hugh Gaitskell was named to succeed him.

**U.S. government** admitted that U.S. fighter planes had attacked a soviet airfield north of Korea and offered to make restitution.

**20 Pyongyang**, capital of North Korea, was captured by U.N. forces; U.S. paratroopers were dropped at Sunchon and Sukchon, 25 mi. to the north, to cut off the Communist retreat.

**21 French high command** in Indochina revealed the evacuation of Lang Son, key post on the Chinese border.

**Lobbying committee** of the house of representatives issued a report showing that 152 U.S. corporations spent \$32,124,835 on activities relating to attempts to influence legislation in the period Jan. 1, 1947–June 1, 1950.

**22 Mines** blocking entry to the North Korean port of Wonsan were reported by U.S. navy officers to be of soviet manufacture.

**23 Justice dept.** began a nation-wide roundup of 86 leading U.S. alien Communists for deportation under the Internal Security act.

**Pres. Truman** appointed a bipartisan subversive activities control board under the Internal Security act.

**Defense Secy. Marshall** ordered the armed forces to release all involuntarily activated reservists and national guardsmen after completion of training if replacements were available.

**24 Pres. Truman** in an address before the U.N. general assembly urged that fresh impetus be given to world disarmament by merging the U.N. commissions on atomic energy and conventional armaments into a disarmament commission.

**25 K. T. Keller**, president of Chrysler Corp., was named director of the armed forces guided missiles program by Defense Secy. Marshall.

**Chinese Communist government** revealed that one of its field armies had been ordered to invade Tibet.

**U.S. Atomic Energy commission** appointed Marion W. Boyer, an oil company official, to be its general manager.

**26 National Production authority** imposed an immediate ban on the construction of new buildings for amusement, recreational or entertainment purposes.

**Canada** and the U.S. signed a 6-point statement of principles designed to unify their full industrial potential in the interests of continental defense.

**1950 Nobel prize** for medicine was awarded to Philip S. Hench and Edward C. Kendall of Rochester, Minn., and Tadeusz Reichstein, of Basel, Switz., for their research on hormones.

**South Korean forces** drove to the Manchurian border near the town of Chosan.

**27 Strong Communist counterattacks** forced South Korean forces to withdraw southward from the Manchurian border.

**28 Far-reaching economic, fiscal and land reforms** were recommended to save the Philippines from total collapse by the report of the Bell commission made public by the White House.

**29 U.S. 7th division** made an amphibious landing at Iwon, 127 mi. N. of Wonsan, on the east coast of North Korea.

**King Gustav V** of Sweden died at the age of 92 and was succeeded by his eldest son, Gustav VI.

**30 Indian foreign office** reported that Chinese Communist troops had penetrated Tibet to a point within 200 mi. of Lhasa, the capital.

**Israeli Premier Ben-Gurion** resolved a cabinet crisis by forming a new 4-party coalition cabinet.

**Uprising** of Nationalist party members seeking immediate independence broke out in Puerto Rico.

**31 Justice dept.** revealed that aliens with only nominal membership in totalitarian parties would be admitted temporarily to the U.S. under the Internal Security act.

**New session** of the British parliament was opened by King George VI in a speech from the throne in which he forecast perpetuation of World War II economic controls.

**Communist forces** were reported to have launched a strong counterattack on South Korean forces on the east coast of Korea 50 mi. S. of the Manchurian border.

**NOVEMBER**

**2 assassins**, identified as Puerto Rican nationalists, made an abortive attempt to kill Pres. Truman in an attack upon Blair house, the president's temporary residence.

**U.N. general assembly** voted, 46 to 5, to extend Secy.-Gen. Trygve Lie's term for an additional 3 yr.

**Pope Pius XII** in a papal bull proclaimed the assumption of the Virgin Mary to be a dogma of the Roman Catholic Church.

**2 Pres. Truman** announced the appointment of E. Roland Harriman, New York banker, as president of the American Red Cross in succession to Gen. George C. Marshall.

**U.N. forces** in northwest Korea were reported to have made withdrawals in the face of Communist attacks.

**Pedro Albizu Campos**, leader of the Puerto Rican Nationalist party, was arrested in San Juan P.R., in a roundup of nationalist and Communist leaders.

**3 U.N. general assembly** approved, 52 to 5, a U.S.-sponsored plan permitting it to deal with any breach of world peace, if a veto prevented the Security council from acting.

**Soviet government** requested the U.S., the U.K. and France to confer on the so-called Prague plan for unification of Germany under a constitutional council.

**4 U.N. general assembly** voted, 38 to 10, to revoke its ban on the sending of diplomatic envoys to Spain and on Spanish participation in U.N. specialized agencies.

**5 Heavy attacks** by strong North Korean and Chinese forces compelled U.N. forces to make slight withdrawals in northwest Korea.

**6 Gen. MacArthur** charged in a special communique that alien Communist forces had moved from Manchuria into

North Korea; he described them as Chinese Communists in a detailed report to the U.N. Security council.

**Tribhuvana Bir Bikram Jung Bahadur** was deposed as king of the Himalayan kingdom of Nepal by the hereditary prime minister, Sir Mohan Shumsher Jung Bahadur Rana.

**7 Republican party** gained 30 seats in the house of representatives and 5 senate seats but failed to win control of congress; important Republican gains were scored throughout the U.S.

**Chinese Communist radio** at Peking reported that several thousand volunteers were already in Korea.

**8 U.N. Security council** voted, 8 to 2, to request Communist China to participate in its discussion of charges that Chinese Communist troops had intervened in North Korea.

**Sinuiju**, temporary North Korean capital, was reported to have been virtually destroyed by a U.S. bomber and fighter plane attack.

**9 Defense Secy. Marshall** announced the selection of Mrs. Anna M. Rosenberg of New York to be asst. defense secy. in charge of manpower and personnel policy.

**33,000 members** of the C.I.O. Communications Workers of America went on strike against 2 American Telephone and Telegraph subsidiaries in 42 states.

**10 U.N. Food and Agriculture organization** elected Spain and the German Federal Republic to full membership.

**Swedish academy** awarded the 1949 Nobel literary prize to U.S. novelist William Faulkner, the 1950 literary prize to British philosopher Bertrand Russell, the physics prize to Cecil Frank Powell of the U.K. and the chemistry prize to Otto Diels and Kurt Alder of Germany.

**John D. Small** of New York was named chairman of the defense dept.'s munitions board by Pres. Truman.

**U.S., British and French governments** formally protested soviet interference with Austrian federal police in the soviet zone of Austria.

**11 Communist China** rejected the U.N. Security council's invitation to take part in the discussion of charges that it had intervened in North Korea.

**12 Former Army Secy. Gordon Gray** recommended in a report to Pres. Truman that U.S. aid to Europe be continued for an additional 3 or 4 yr. but at a reduced rate.



## NOVEMBER—Continued

**13** State of siege was ordered in Venezuela after Lieut. Col. Carlos Delgado Chalbaud, president of the military junta, was assassinated.

**Communist China's** invasion of Tibet was denounced as a clear case of aggression in a Tibetan plea for aid received by the U.N.

**14** Pres. Truman requested congress to enact immediately an excess-profits tax retroactive to July 1, 1950, to yield an additional \$4,000,000,000 annually in federal revenue.

**U.S. marines** captured Hagaru at the southern end of the key Changjin reservoir in North Korea.

**15** Federal Communications commission order authorizing the Columbia Broadcasting system to begin commercial colour telecasts was temporarily suspended by a federal court in Chicago.

**Economic Cooperation administration** announced that Spain would be granted dollar loans through the Export-Import bank from the \$62,500,000 fund appropriated for that purpose by congress.

**U.S. army** reported that a special Canadian brigade of 10,000 men would be trained in the U.S. for service in Korea or with the North Atlantic defense forces.

**16** Pres. Truman issued a statement assuring the Chinese Communist government that the U.S. did not intend to invade China.

**U.N. general assembly** approved plans to set up a separate U.N. postal agency with its own postage stamps.

**Immediate** British withdrawal from the Suez canal zone and the Anglo-Egyptian Sudan was demanded by Egyptian Premier Mustafa el Nahas Pasha in a speech to parliament.

**Commerce Secy. Sawyer** cleared Michael E. Lee, suspended department economist, of disloyalty and then dismissed him on security grounds.

**17** Communist China rejected a second Indian protest against the Chinese Communist invasion of Tibet.

**Indian Prime Minister Nehru**

made public plans for reducing the size of India's 300,000-man army.

**18** Gen. MacArthur reported in reply to criticism that ample winter equipment was available in Korea but said its distribution had been delayed by rapid U.N. advances.

**19** Agreement between 3 television networks and 1 local station and the Television authority representing 5 A.F. of L. unions averted a nation-wide strike of television performers.

**20** Troops of the U.S. 7th division reached the Manchurian border on the Yalu river in northeast Korea.

**U.N. general assembly** approved, 51 to 5, Secy.-Gen. Lie's proposal for a 20-yr. world peace program.

**International Court of Justice** ruled that no country had the right to decide that a person was a political refugee without consulting the nation from which he fled.

**Chile** announced the purchase from the U.S. of 2 U.S. cruisers for \$8,000,000.

**21** British Foreign Secy. Ernest Bevin told the house of commons that British forces would remain in the Egyptian area until the 1936 Anglo-Egyptian treaty was terminated by mutual consent.

**Pres. Truman** signed an executive order permitting the appointment of persons of outstanding ability as unpaid government consultants.

**22** Atty. Gen. J. Howard McGrath in a petition to compel registration of the U.S. Communist party under the Internal Security act charged that the latter was dominated and controlled by the soviet government and Communist party.

**78 persons** were killed and more than 200 injured when a Long Island railroad express train ran into a local in New York city, N.Y.

**23** French forces in Indochina were accused by Communist China of making attacks on the Chinese border provinces of Yunan, Kwangsi and Kwangtung.

**24** U.N. forces launched a general offensive against Chi-

nese Communist and North Korean forces in northwestern Korea.

**Chinese Communist** delegation headed by Wu Hsiu-chuan arrived in the U.S. to participate in U.N. Security council discussions of alleged U.S. aggression in Formosa.

**25** U.N.-sponsored state of Libya established an appointed national constituent assembly in Tripoli.

**Hurricane winds** caused severe damage on the U.S. eastern seaboard, while a record blizzard paralyzed western Pennsylvania, Ohio and West Virginia.

**New steel plant** with annual capacity of 236,000 tons and costing \$87,425,000 was opened in Huachipato, Chile.

**26** U.N. forces driving toward the Manchurian border on the Yalu river were thrown back by strong Chinese Communist counterattacks.

**27** Congress reconvened and was requested by Pres. Truman to enact a 5-point program including supplemental defense and atomic energy appropriations, statehood for Hawaii and Alaska, an excess profits tax, rent control extension and aid to Yugoslavia.

**28** Gen. MacArthur charged that the U.N. faced an entirely new war by virtue of the presence of more than 200,000 Chinese Communist troops in North Korea.

**U.S. Delegate Warren Austin** accused Communist China in the U.N. Security council of open and notorious aggression in Korea.

**Chinese Communist forces** advanced 25 mi. S. of Tokchon through a break in South Korean lines.

**U.S. Atomic Energy commission** announced the selection of a 250,000 ac. tract in South Carolina as the site for hydrogen bomb plants.

**U.S. government** issued stricter regulations for the entry into the U.S. of foreign diplomats and U.N. personnel.

**29** U.N. forces in North Korea were reported to be retreating southward under heavy attack by Chinese Communist

forces who reached Sinchang, 30 mi. N.E. of Pyongyang.

**National Council of the Churches of Christ in the U.S.** was formally established in Cleveland, O., by delegates of 25 Protestant denominations and 4 Eastern Orthodox churches.

**U.S. bureau of labour statistics** announced that on Oct. 15, 1950, the cost of living index had risen to 174.8% of the 1935-39 average, a record high.

**Pres. Truman** in a special message to congress urged the immediate appropriation of \$38,000,000 for famine relief in Yugoslavia.

**30** Mayor Michael V. DiSalle of Toledo, O., was named price stabilization director by Pres. Truman.

**U.S.S.R.** vetoed a U.N. Security council resolution calling upon Communist China to withdraw its troops from Korea.

**Pres. Truman** stated at a press conference that, if necessary, the atomic bomb would be used to assure victory in Korea.

**United Steelworkers of America** signed agreements with U.S. Steel Corp. and Bethlehem Steel Co. providing for average wage increases of 10%.

## DECEMBER

**1** Pres. Truman announced the appointment of former Gov. Millard F. Caldwell, Jr., of Florida as U.S. civilian defense administrator.

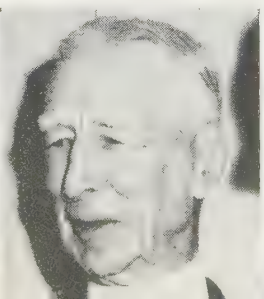
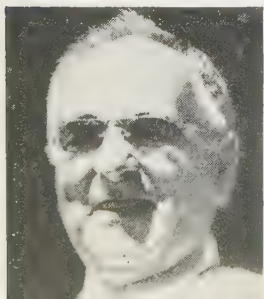
**Gen. MacArthur** stated that U.N. forces in Korea were being enormously handicapped by orders forbidding them to attack targets in Manchuria.

**Congress** was requested by Pres. Truman to appropriate an additional \$17,978,247,000 for U.S. defenses in fiscal year 1951.

**2** U.N. general assembly approved the federation with

The pictures on this page are, left to right:

VARGAS.....Oct. 3  
MACK.....Oct. 18  
GAITSKELL.....Oct. 19  
GUSTAV VI.....Oct. 29  
ROSENBERG.....Nov. 9





DECEMBER—Continued

Ethiopia of the former Italian colony of Eritrea.

**3 Mohammed Idris el Senussi**, leader of the Senussi tribe, was elected emir of Libya by the national constituent assembly.

**4 British Prime Minister Attlee** arrived in Washington, D.C., to confer with Pres. Truman on the situation in Korea.

**U.S. supreme court opinion** criticized the patent office for abusing its discretion by permitting "gadgets" to be patented.

**West German interior ministry** announced plans for the formation of a special frontier protection corps to prevent infiltration of undesirable elements.

**Pyeongyang**, capital of North Korea, was evacuated by U.N. forces in the face of heavy Chinese Communist pressure.

**5 Espionage conviction** of Judith Coplin was reversed by a U.S. court of appeals because of trial irregularities.

**House of representatives** approved, 378 to 20, a bill to place a 75% tax on excess profits retroactive to July 1, 1950.

**13 far eastern and middle eastern nations** issued an appeal calling upon Chinese Communist forces in Korea to halt at the 38th parallel pending peace negotiations.

**6 French cabinet** accepted a compromise proposal to incorporate west German combat teams into the North Atlantic defense forces.

**7 U.S. court of appeals** in New York city upheld the conviction of Alger Hiss on charges of perjury.

**Gen. Jean de Lattre de Tassigny**, commander of western European union ground forces, was named supreme military

and political commander in Indochina.

**8 Pres. Truman and Prime Minister Attlee** issued a communiqué saying they were agreed that there should be no appeasement in Korea but calling on China to negotiate a peaceful settlement.

**General Motors Corp.** and Ford Motor Co. rejected a request by Economic Stabilization Director Valentine to suspend price increases.

**Commerce dept.** issued an order prohibiting U.S. ships and planes from carrying strategic materials from foreign ports to China, the U.S.S.R., soviet satellites and Hong Kong and Macao.

**9 Harry Gold**, confessed soviet atomic spy, was sentenced to a maximum term of 30 yr. in prison by a federal court in Philadelphia, Pa.

**10 Generalissimo Francisco Franco** of Spain demanded the return to Spain of the British Mediterranean fortress of Gibraltar.

**25,000 marines** and other troops joined up with U.N. forces near Hungnam after a bloody 60-mi., 2 week retreat from the Changjin reservoir.

**11 House of representatives** passed and sent to Pres. Truman a bill to extend federal rent controls through March 31, 1951.

**U.S. supreme court** ruled that witnesses before grand juries could refuse to answer questions about Communist affiliations on the ground of self-incrimination.

**British colony** of Singapore was torn by widespread Moslem rioting touched off by the order of a British court returning the 13-yr.-old bride of a Moslem to her Dutch mother.

**12 West German spokesman** in Bonn criticized the plan for integration of German combat teams into North Atlantic defense forces and insisted upon the organization of full German divisions.

**Evacuation** of U.N. forces in northeastern Korea was begun through the port of Hungnam.

**13 Economic Cooperation administration** made pub-

lic an Anglo-U.S. agreement for the suspension of U.S. aid to the U.K. on Jan. 1, 1951.

**Members** of the Brotherhood of Railroad Trainmen started an unauthorized strike against 15 railroads in the Chicago area.

**North Atlantic council** of deputies and military committee endorsed the plan for integration of west German combat teams into North Atlantic defense forces.

**14 U.N. general assembly** voted, 52 to 5, to authorize a 3-man commission to attempt to arrange a cease-fire in Korea.

**Gov. Thomas E. Dewey** of New York demanded total mobilization of U.S. resources, including the creation of a 100-division army, to meet soviet aggression.

**Senate** armed services committee cleared Mrs. Anna M. Rosenberg of charges of association with Communists and approved her nomination as asst. defense secy.

**15 Pres. Truman** in a nationwide radio address called upon the American people to convert the U.S. into an arsenal of freedom.

**16 Pres. Truman** proclaimed a state of national emergency and made Charles E. Wilson, president of General Electric Co., director of defense mobilization.

**Economic Stabilization agency** ordered new automobile prices frozen at Dec. 1, 1950, levels.

**U.S. government** froze all Chinese Communist funds in U.S. territory and barred U.S. ships from Chinese Communist ports.

**17 Chinese Communist** forces made unsuccessful efforts to penetrate the U.N. defense perimeter around the port of Hungnam.

**18 General Motors Corp.** halted the sale by its dealers of 1951 Chevrolet, Pontiac and Cadillac automobiles.

**Foreign** and defense ministers of the North Atlantic treaty powers voted to establish an integrated armed force for the defense of western Europe in which western Germany would participate.

**19 Gen. of the Army Dwight D. Eisenhower** was named commander in chief of Allied forces in Europe by the North Atlantic council.

**Robert M. Hutchins** resigned as chancellor of the University of Chicago, effective June 30, 1951, to become associate director of the Ford foundation.

**Economic Stabilization agency** requested voluntary observation of price ceilings that would hold prices to the 1946-49 average and consumer prices to the level prevailing on Dec. 1, 1950.

**20 Bill** extending federal rent control to March 31, 1951, was signed by Pres. Truman.

**Former Pres. Herbert C. Hoover** urged the U.S. to concentrate on the preservation of the western hemisphere by holding the Atlantic and Pacific oceans with the islands of Britain, Japan, Formosa and the Philippines.

**1950-51 edition** of *Jane's Fighting Ships* published in London reported that the U.S.S.R. had 350 submarines in active service, 120 under construction and 1,000 in the planning stage.

**21 John R. Steelman** announced settlement of wage disputes of railroad operating unions by a 3-yr. no strike contract giving substantial wage increases and embodying a wage escalator clause.

**22 6 soviet-designed jet fighter planes** were shot down near the Manchurian border by U.S. jet fighters.

**Communist China** denounced the U.N. truce committee as illegal and said it would not negotiate with it.

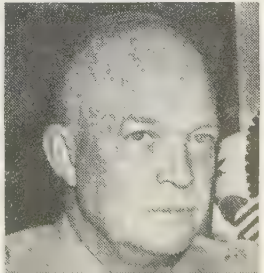
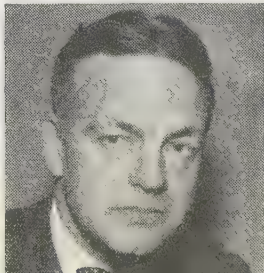
**Economic Stabilization agency** ordered all wages frozen in the new passenger car industry until March 1, 1951.

**U.S., the U.K. and France** rejected a soviet proposal for a joint conference on Germany in similar notes which stated that any conference should cover all disputes.

**23 Lieut. Gen. Walton H. Walker**, commander of U.S. 8th army, was killed in a jeep accident in Korea; Lieut. Gen. Matthew B. Ridgway, deputy chief of army staff in Washington, D.C., succeeded him.

The pictures on this page are, left to right:

FAULKNER.....Nov. 10  
RUSSELL.....Nov. 10  
HUTCHINS.....Dec. 19  
EISENHOWER.....Dec. 19  
RIDGWAY.....Dec. 23





## DECEMBER—Continued

**Pope Pius XII** confirmed that the tomb of St. Peter had been discovered beneath St. Peter's basilica in Rome.

**24 Defense dept.** announced in Washington, D.C., that evacuation of U.N. forces from the Hungnam beachhead in northeast Korea had been successfully completed.

**25 Tibet's ruler**, the dalai lama, was reported to be fleeing southward by caravan from Lhasa, the capital.

**Stone of Scone**, symbol of the union of the English and Scottish thrones, was stolen from Westminster abbey in London.

**26 U.N. forces** in Korea were unified under the command

of Lieut. Gen. Matthew B. Ridgway, theretofore commander of only the 8th army.

**27 Pres. Truman** announced the appointment of Stanton Griffis as the first U.S. ambassador to Spain since 1945.

**Gen. MacArthur's headquarters** in Tokyo estimated that a force of almost 450,000 Chinese and North Korean Communist troops had been built up in Korea.

**U.S. Steel Corp.** announced plans for construction of a huge integrated steel plant near Morrisville, Pa., to cost \$400,000,000 and with annual capacity of 1,800,000 tons of steel.

**French forces** in Indochina reported the recapture from Việt-Minh forces of Daphuc, a fortress 27 mi. N.W. of Hanoi.

**28 U.S. government** took over control of the importation and distribution of natural rubber.

**Chinese Communist government** decreed the seizure of all U.S. property and the freezing of all U.S. public and private bank deposits in China.

**U.N. forces** withdrew their left flank to a point about 28 mi. N. of Seoul, giving up the town of Kaesong.

**29 Communist forces** launched heavy attacks on the right flank of U.N. forces in Korea below the 38th parallel.

**General chairmen** of the Brotherhood of Locomotive Engineers rejected proposed 3-yr. pact for settlement of disputes between the railroads and 4 operating unions.

**30 Secy. of State Acheson** pledged that the U.S. would stand with its allies and redouble its efforts to strengthen the military defenses of the western powers.

**Counterattacking U.N. forces** made minor gains on their right flank in Korea.

**31 Premier René Plevin** of France received a vote of confidence of 314 to 223 in the national assembly on his rearmament and taxation program.

**Communist forces** were reported massing for attack all along the 140-mi. U.N. defense line at the 38th parallel in Korea.

**Gen. MacArthur** suggested in annual New Year's message to Japanese people that, if international lawlessness continued, it would be their duty to rearm.



**BUSHMAN**, the largest and most celebrated gorilla in captivity before his death of a heart attack on Jan. 1, 1951. The 22-year-old animal was more than six feet tall and weighed 550 lb. He is shown at his home in the Lincoln Park zoo, Chicago, Ill.





## BOOK OF THE YEAR

**Abyssinia:** *see* ETHIOPIA.

**Academy of Arts and Letters, American:** *see* SOCIETIES AND ASSOCIATIONS.

**Academy of Political and Social Science, American:** *see* SOCIETIES AND ASSOCIATIONS.

**Accident Insurance:** *see* INSURANCE.

**Accident Prevention.** Accidents caused 91,000 deaths in the United States in 1949. This total was exceeded only by deaths from heart disease, cancer and cerebral haemorrhage. Information available through Oct. 1950 indicated that the 1950 accidental death total would probably drop slightly below that of 1949. In addition to the deaths, accidents in 1950 also caused about 9,000,000 nonfatal injuries.

Organized efforts to reduce accidents in the United States are spearheaded by the National Safety council and affiliated local safety councils throughout the nation. Safety work is constantly carried on by industries and by a large number of organizations, both governmental and private, operating in their various spheres of activity, such as industry, traffic, the school, the home, the farm, etc.

Serving as a place for group planning and execution by all who take part in the safety movement, the National Safety council attempts to discover the facts of accident occurrence; to devise or help devise engineering, educational and enforcement measures for prevention; assists in determining engineering requirements for the safe design, construction and use of machines and equipment; helps formulate model safety legislation; participates in planning and executing training and educational programs; disseminates this information widely to interested groups and to the general public; and encourages and assists the estab-

lishment and functioning of community and state safety organizations.

**Industrial Safety.**—Building on about 40 years of experience in preventing work accidents, the country's progressive industries continued to pursue thoroughgoing safety measures in 1950, recognizing accident prevention as an important element in efficient operation.

Trade associations and other employer groups emphasized accident prevention programs in their meetings and publications. Labour organizations recognized accident prevention efforts as an important element in serving their members. Governmental agencies, such as state and national labour departments, also carried on safety programs as important parts of their operations.

An industrial safety highlight of 1950 was the president's conference on industrial safety, when 1,500 representatives of management, labour, government and the public met in Washington, D.C., in June to consider committee reports and to develop plans for the reduction of the industrial accident toll.

It appeared, late in 1950, that the year's toll of occupational accident fatalities might have been a little greater than the 1949 toll of 15,000.

**Traffic Safety.**—As 1950 drew to a close, it appeared that the number of traffic accident deaths would be close to 35,000—the largest annual total since 1941. This increase in deaths was apparently matched by the increase in miles travelled by motor vehicles.

In May 1950 key committee members of the president's highway safety conference met in Chicago, Ill., to appraise progress and plan goals for further achievement.

In the 1949 National Traffic Safety contest, which takes ac-



count of good traffic safety records as well as sound programs in all phases of traffic safety, Connecticut received the grand award among states, while Oklahoma City, Okla., and Lansing, Mich., shared the grand award among cities. Connecticut also received top place among states in the 1949 Pedestrian Protection contest; San Francisco, Calif., was the winner in cities of more than 100,000 population and Laurens, S.C., among cities of less than 100,000. Awards for outstanding performance in traffic law enforcement in 1949 were granted, among the states, to Delaware, Connecticut, Virginia, Oklahoma, Washington and Pennsylvania. City winners, in various population groups, were: Washington, D.C.; Los Angeles, Calif.; Minneapolis, Minn.; Oklahoma City, Okla.; Evansville, Ind.; Lansing, Mich.; Oak Ridge, Tenn.; Richland, Wash.; and Peru, Ind. Awards for outstanding traffic engineering were given to Connecticut, Virginia, Minnesota, Utah, Michigan and Massachusetts among states, and to Detroit, Mich., Washington, D.C., Pittsburgh, Pa., Syracuse, N.Y., Arlington, Va., Evanston, Ill., Burlington, Ia., Cleveland, O., Fresno, Calif., and Wilmette, Ill., among cities.

**Farm Safety.**—Recognition of the seriousness of the farm accident problem is indicated by the fact that in 1950, 24 states had state farm safety committees, and 12 states had a full-time farm safety specialist, working through many public and private agencies to spread information on the seriousness of the farm accident problem, and ways and means of meeting it.

The president of the United States, for the seventh successive year, proclaimed a National Farm Safety week in July 1950, which brought about unprecedented attention to the problem of rural accidents. More than 1,100,000 pieces of educational material were distributed, and radio, newspaper and magazine support were outstanding.

**School and Child Safety.**—Among children 1 to 14 years of age accidents are responsible for more deaths than the next six death causes combined. Even so, the accidental death rate among children under 14 had dropped nearly 50% in the last 45 years.

School authorities showed increasing recognition during 1950 of the importance of safety education, in the classroom, in shops and in other parts of the school program.

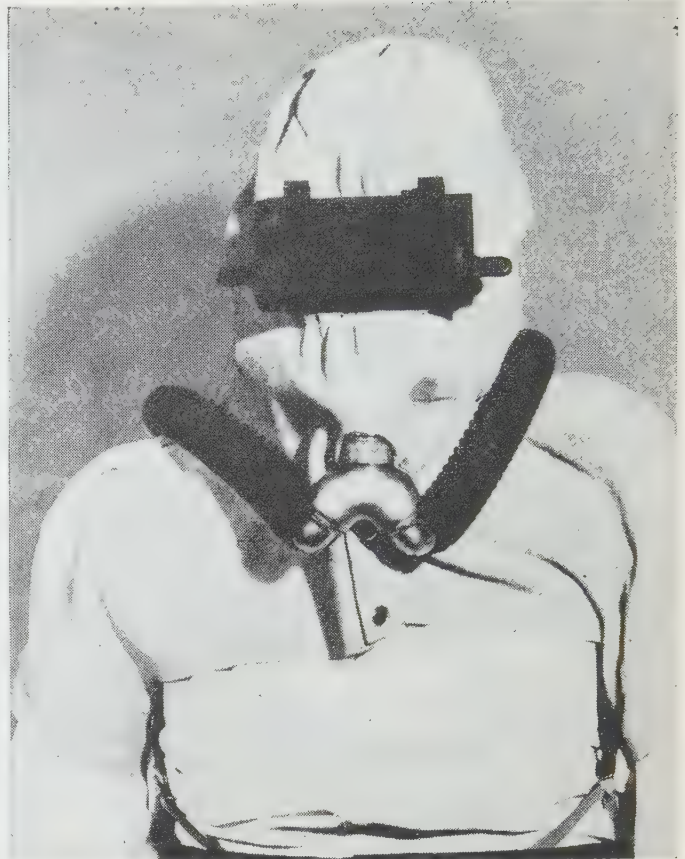
A specialized feature of school safety work had been the driver training programs instituted in many high schools throughout the nation. Studies had shown that students who had this training were involved in fewer accidents than those who had not.

**Home Safety.**—The 1949 toll of deaths in home accidents was 31,000, about the same as that for motor vehicles. Ten months' reports for 1950 indicated that home fatalities were less numerous than in 1949. It appeared that the year's total might have been less than 30,000.

Activity in home safety during 1950 consisted in large part of improved and expanded safety education of people generally, both through the general media of public information and specific instructional material. In the latter field, a special kit of home safety materials was produced and made available for use in many communities.

Local and state health departments gave increased attention to accident prevention work, concentrating on home safety. Women's clubs and other organizations and agencies attracting the support and interest of homemakers showed an increasing tendency to include safety in the home as a regular program activity.

**Community and State Safety Organizations.**—Community and state safety organizations serve in their respective areas to provide leadership in a co-operative effort among all groups and individuals working together for the conduct of safety activities. Control of accidents in any community involves the joint efforts of traffic enforcement and engineering authorities, public in-



WELDER'S FACE PIECE developed by the Mine Safety Appliances Co. of Pittsburgh, Pa., in 1950. It was designed to protect welders from asphyxiation and ultra-violet and infra-red radiation while doing repair work on tanks and other equipment in plants where toxic materials are stored

formation media of various kinds, industry, labour, service groups and many others. It is the function of the local safety council to harmonize and co-ordinate these and other safety activities.

During 1950 about 85 of the several hundred local and state safety organizations throughout the country qualified for acceptance as chapters of the National Safety council, this relationship signifying that these organizations fully represented the National Safety council in the communities in which they operated, although at the same time retaining their own autonomy.

**Safety Meetings.**—The 38th National Safety congress was held in Chicago in Oct. 1950, with an attendance of approximately 12,000. In addition, about 30 regional safety conferences were held during the year. These meetings brought about an exchange of information, plans and programs among leaders in all fields of safety.

(R. L. Fo.)

**Canada.**—The dominion bureau of statistics revealed that Canada's 1949 automobile accident rate reached the all-time high of 44 killed and 843 injured per week. The provincial department of highways in Ontario, Quebec and Manitoba distributed drivers' handbooks to make car owners safety conscious. Saskatchewan added written aptitude tests to oral examinations for drivers' licences and strengthened the careless driving clause in the vehicles act; Manitoba tightened up its drivers' tests and appointed a director of highway safety; Ontario increased penalties for drunken driving, gave special driving and sight tests to drivers involved in fatal accidents and encouraged intramural driving instruction for school children 15 years of age and over.

During the first half of 1950, there were 573 fatal industrial accidents, 55 more than for the same 1949 period. Manufactur-



ing and mining were responsible for most deaths.

Parliament amended the railway act to increase the annual grant to the grade-crossing fund from \$500,000 to \$1,000,000 for six consecutive years beginning April 1, 1951. (C. V.)

**Great Britain.—Road Safety.**—The year 1950 was dedicated to child safety. A campaign was launched on Holy Innocents' day, Dec. 28, 1949. The ministries of transport and education urged local authorities to co-operate in a National Children's Safety week in March. For the whole year, despite the increase in accidents which was bound to occur with the return of unrationed gasoline, the increase in child accidents was much smaller than in the case of adults.

About 250,000 commercial transport drivers were entered in the annual safe driving competition sponsored by the Royal Society for the Prevention of Accidents; 121,595 awards of silver and gold medals and diplomas were presented. Eight hundred London Transport drivers qualified for awards for 20 years or more of safe driving, totalling among them 16,000 "safe" years and 3,111,000,000 miles in safety.

The society's annual National Safety congress held in October in London was attended by more than 1,000 delegates. Proposals from accident-prevention federations all over the country were discussed.

The minister of transport said that 156,516 persons were killed in road accidents from Jan. 1, 1926 to June 30, 1950; excluding 1939-41, for which years figures were not available, 3,795,258 persons were injured.

**Industrial Safety.**—Two new volumes in the series "I.C.I. Engineering Codes and Regulations (Safety Series)" entitled *Portable and Transportable Plant and Equipment and Buildings and Structures (Design)*, were issued by the Royal Society for the Prevention of Accidents.

Accident prevention and working conditions in iron foundries were discussed in the house of commons in June. New requirements for seating in factories came into force on Oct. 1. Under these, all employees who have reasonable opportunities to sit without detriment to their work must be given facilities to do so: where they can do a substantial proportion of any work sitting, the employees must be given work seats and, where necessary, footrests.

In his annual report for 1948, published in 1950, the chief inspector of factories, G. P. Barnett, reported an increase in fatalities but a decrease in the total number of accidents. The number of accidents per 1,000 workers had also steadily declined, from 40 in 1944 to 28 in 1948. (See also DEATH STATISTICS; DISASTERS; INDUSTRIAL HEALTH.)

**FILMS OF 1950.**—*Accident Behavior* (Progressive Pictures); *America's Traffic Problem* (March of Time Forum Films); *Bicycle Safety* (Young America Films, Inc.); *Last Date* (Modern Talking Pictures Service, Inc.); *Safe as You Think* (The Jam Handy Organization). (H. I. S.)

**Acheson, Dean Gooderham** (1893— ), U.S. secretary of state, was born on April 11 in Middletown, Conn., attended the Groton school, was graduated from Yale in 1915 and from Harvard law school in 1918. After serving in the navy in World War I he was for two years private secretary to Louis Brandeis, associate justice of the U.S. supreme court. He then engaged in law practice, and in 1933 served for six months as undersecretary of the treasury. In 1941 he became assistant secretary of state and was undersecretary of state from Aug. 16, 1945, to June 30, 1947. On Jan. 7, 1949, Pres. Harry S. Truman appointed him secretary of state, and he was sworn in on Jan. 21, 1949.

During 1950 Secretary Acheson was perhaps the most controversial figure in U.S. public life, the target of repeated attacks in congress, and just as repeatedly won new affirmations from President Truman that he would not, as his critics were de-

manding, be asked to resign. When the North Koreans invaded South Korea in May, he was violently attacked on grounds that his far eastern policy had proved itself a failure. Sen. Joseph McCarthy (Republican, Wis.) especially demanded that Acheson be "fired" for abandoning the far east to communism. On July 18, he was awarded the Freedom house 1950 freedom award for his efforts "to mobilize the free world for peace."

After the conferences between President Truman and British Prime Minister Clement Attlee in Washington, D.C., in December, the violence of the attack on Acheson and his policies eased somewhat as certain Republican leaders, notably Thomas E. Dewey, urged that the nation should become unified in its policies toward communism, and that the attacks on the Truman-Acheson far eastern policy should end.

**ACTH:** see ALLERGY; ARTHRITIS; BIOCHEMISTRY; CHEMOTHERAPY; ENDOCRINOLOGY; HEART AND HEART DISEASES; INTOXICATION, ALCOHOLIC; MEDICINE; PHYSIOLOGY.

**Aden.** British colony and protectorates on the southern coast of Arabia (*q.v.*). Colony area: 80 sq.mi. Pop. (1949 est.) 82,000. Protectorate area: c. 112,000 sq.mi. Pop. (1949 est.) 650,000, almost entirely Moslem Arabs. Governor, 1950: Sir Reginald Stuart Champion.

**History.**—After recurrent border difficulties with the Yemeni a conference was held in London in Sept. 1950 with Yemeni representatives. Agreed proposals were submitted by the delegates to their respective governments.

Development plans made for the colony covered the extension of medical and educational services, including female education, an Aden college and a technical institute; the institute was opened toward the end of the year. Two-thirds of a scheme costing £250,000 to irrigate 60,000 ac. for rice growing in the Abyan district of the protectorates was completed.

**Finance.**—Budget estimates 1950-51: revenue Rs. 128,036,859; expenditure Rs. 173,028,572. Currency: Indian rupee (R. 1 = 21 cents U.S.).

**Trade.**—Imports (1949), Rs. 328,953,002; exports (1949), including re-exports, Rs. 203,961,079.

**BIBLIOGRAPHY.**—Doreen Ingrams, *A Survey of Social and Economic Conditions in the Aden Protectorate* (Asmara, 1950); The Master of Belhaven, *The Kingdom of Melchior* (London, 1950). (K. G. B.)

**Adenauer, Konrad** (1876— ), German government official, was born at Cologne, Jan. 5. Following a university education at Freiburg-in-Breisgau, Munich and Bonn, and three years as a lawyer, he was in 1906 elected town councillor in his native city. Eleven years later he was elected *Oberbürgermeister* (lord mayor) of Cologne, an office which he held uninterruptedly for 16 years. From 1917 to 1933 he was a member of the Prussian *landtag* and in 1928-33 was its speaker. During World War II he was detained for a time in Brauweiler concentration camp. In Feb. 1946 he was elected chairman of the Christian Democratic union in North Rhine-Westphalia, and on Sept. 1, 1948, was elected president of the parliamentary council drafting the West German constitution. On Sept. 15, 1949, after the elections to the *bundestag* of the new west German republic had given the C.D.U. the largest number of seats, Adenauer was appointed chancellor. In a speech at Dortmund on May 13, 1950, he described the Schuman plan for a European coal and steel pool as an act of historic significance and emphasized that Germany would co-operate with the aim of burying the hatchet for all time between France and Germany. Addressing the first annual congress of the Christian Democratic union at Goslar, on Oct. 20, he said that Germany belonged to the west and would never accept soviet slavery.

**Adjusted Compensation:** see VETERANS' ADMINISTRATION (U.S.).



**Adult Education:** see EDUCATION; LIBRARIES.

**Advertising.** The year 1950 in advertising was marked in the United States by greater total expenditures than in 1949, by the spectacular growth of television as an advertising medium, and by the effects of the mobilization economy into which the country was entering.

Total advertising expenditures were approximately \$5,700,000,000, an increase of \$500,000,000 over 1949. Expenditures among the various media were as shown in the table.

*Advertising Expenditures in the United States*

	(Millions of Dollars)	1950*	1949
Newspapers . . . . .		\$2,059.0	\$1,905.0
Radio . . . . .		658.0	633.8
Magazines . . . . .		517.0	492.5
Farm papers . . . . .		22.1	20.5
Direct mail . . . . .		838.7	755.6
Business papers . . . . .		248.0	248.1
Outdoor . . . . .		140.7	131.0
Television . . . . .		161.6	63.0
Miscellaneous . . . . .		1,039.6	952.7
<b>Total . . . . .</b>		<b>\$5,684.7</b>	<b>\$5,202.2</b>

\*Estimates by Robert Coen, McCann-Erickson, Inc.

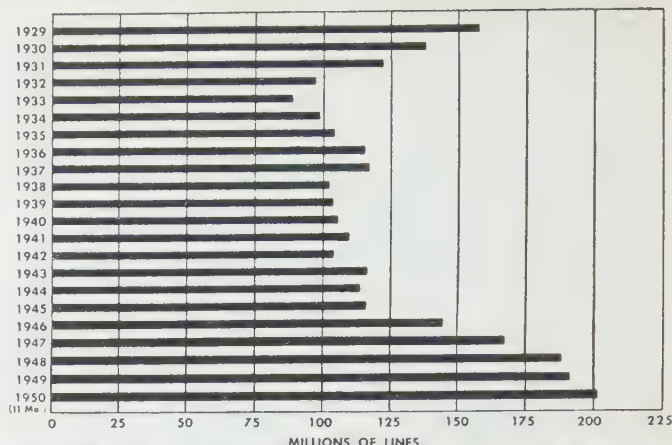
Advertising executives predicted at the year's end that appropriations during the first half of 1951, at least, would equal or exceed those for the same period of 1950. A survey taken by the Association of National Advertisers in the fall of 1950 showed that 35% of the 141 companies questioned planned larger appropriations in 1951, while most of the rest said they would maintain 1950 levels.

**Television.**—The outstanding development in advertising media in 1950 was the swift growth of television. In 1950 manufacturers made some 7,500,000 sets, compared with 3,000,000 in 1949, and at the end of the year there were close to 10,000,000 sets in operation in the United States, compared with 3,950,000 at the end of the previous year. There were 107 television stations operating in 65 markets as the year closed, only 11 having been added during the year because of the temporary prohibition placed by the Federal Communications commission on new construction.

This prohibition resulted from an original allocation plan that produced overcrowding of stations and intolerable interference. Some 351 applications for construction of new stations were pending. There were some 2,000,000 television sets in metropolitan New York city alone, viewed by approximately 8,000,000 persons. Coast-to-coast television transmission was expected to be ready late in 1951. Plans for extension of a radio-relay system from Omaha to San Francisco were well advanced.

Advertisers in 1950 were spending approximately \$100,000,000 for television time, or about four times their expenditure in 1949. However, both advertisers and advertising agencies were beset by soaring time and talent costs. Television network charges were running well above radio network charges, in spite of the fact that the total available television audience was only a fourth of that of radio. Rate cards of one network, as of Jan. 1, 1951, quoted \$20,630 per half-hour for television against \$16,600 for radio. Current prices set a base of approximately \$1,250,000 for a major effort in television.

The industry was disturbed during the year by a controversy over colour. The Federal Communications commission in September gave the Columbia Broadcasting system colour method its tentative approval and on Oct. 11 announced its final approval, with colour casts due to begin on Nov. 20. However, the Radio Corporation of America, developer of a rival system of colour television, secured a temporary restraining order from a federal court in Chicago. The court upheld the commission's decision, but continued the restraining order till April 1, 1951, to



**NEWSPAPER ADVERTISING** (total linage in 52 cities of the United States): average per month. Compiled by Media Records, Inc.

give Radio Corporation of America time to appeal.

The prospect of colour confused prospective buyers of sets capable of receiving only black-and-white transmissions. Sales slumped, but revived toward the end of the year as the public realized that colour would be some time in coming and black-and-white would be harder to get because of war restrictions.

As the year ended, both the television and radio industries were preparing to devote half their facilities to production of electronics equipment for the national defense. The television industry expected to have to cut back its production to 3,500,000 receivers or less in 1951 because of government restrictions on critical materials, such as cobalt and copper. It was thought that progress would be made during 1951 in improvement of colour television techniques, although comprehensive colour set production would be impossible. (See also **FEDERAL COMMUNICATIONS COMMISSION; TELEVISION.**)

**Radio.**—Total gross revenue of radio advertising in 1950 was approximately \$448,000,000, an increase of 5.4% over 1949. Network time sales declined 3.3%, but this loss was offset by gains in spot and local radio advertising.

Radio continued to grow, in spite of its competition from television. Radio manufacturers produced 14,000,000 sets during the year, the third largest output in the history of the industry, with a gross dollar volume of \$1,700,000,000, the highest in peacetime history. There were 2,230 stations on the air at the end of the year compared with 2,087 at the end of 1949. The number of FM broadcasters was 676, compared with 744 in 1949.

Radio was on the defensive from advertisers during the first half of the year, but the Korean war and its stimulus to radio listening, determined efforts to improve programs and aggressive selling helped to improve the industry's position. The Association of National Advertisers made a report on radio and television costs, and called for substantial reductions in night radio rates because of the losses of that audience to television. Late in the year the National Broadcasting company asked its stations in television areas to make cuts of some 10% in their rates in view of the altered values of network radio in cities where television viewing by families with radios had become an important factor.

(See also **RADIO.**)

**Newspapers.**—Newspapers in 1950 enjoyed record advertising volume and circulation. The Bureau of Advertising of the American Newspaper Publishers' association estimated that national advertising in 1950 would be larger than the \$445,000,000



for 1949 and would constitute the third record-breaking year in a row in this respect. Media Records estimates for the first ten months of the year showed that national advertising (general and automotive) was 9.9% greater than during the corresponding period of 1949. Circulation was also more than holding its own, stimulated by the Korean war news. Representative papers in large cities showed gains of from 6% to 15%.

Although the line rate for advertising in daily newspapers increased 50% in the period 1940-50, the milline rate, or the cost of reaching a reader, rose only slightly, according to a study by the Kelly-Smith company. The average milline rate for all newspapers, Sunday papers excepted, was given as \$3.32 in 1940 and \$3.41 in 1950.

The U.S. department of commerce estimated that consumption of newsprint would reach a new high of 5,700,000 tons in 1950, topping the previous year's record of 5,517,000 by nearly 4%. The Canadian mills, which supply 80% of the needs of the United States, produced 23,410 more tons for the first eight months of 1950 than for the same period of 1949. There was a general increase in the price of newsprint from \$100 to \$106 a ton.

There were general advertising rate increases among newspapers, as among other printed media. More than half of the newspapers raising their rates merely announced new schedules and gave no reasons. The volume of rate increases by media was characterized by the Standard Rate & Data service as the heaviest in 25 years.

The *New York Times* increased its daily newsstand price to 5 cents, its Sunday edition to 15 cents. The *New York Herald Tribune* brought out an 8 P.M. "early bird" edition. The *World-Telegram* and *The Sun* in New York missed publication for ten weeks beginning in June because of a strike, and a strike also closed down three daily newspapers in Pittsburgh for six weeks. In Birmingham, Ala., the *Post* and the *Herald* were merged into the *Post-Herald*, and in Atlanta, Ga., the *Constitution* and *Journal* were combined so that the editorial integrity of each was preserved, a combined paper being published on Sundays.

**Magazines.**—The Magazine Advertising bureau predicted a national advertising volume of between \$470,000,000 and \$475,000,000 for 1950, compared with \$445,000,000 in 1949 and \$463,000,000 in 1948. The first half of 1950 showed total circulation of 146,579,475 for all general and farm magazines reporting to the Audit Bureau of Circulations. This was 3,000,000 more than for the second half of 1949 and 4,000,000 more than for the first half of that year.

The committee on advertising of the United States Chamber of Commerce conducted late in the year a survey among advertising managers of 46 national publications. It found that 67% had raised advertising rates during the first three-quarters of the year by an average of 11%; that advertising lineage was up an average of 15% for 61% of the respondents, down an average of 8% for 39%; that no inroads from television were observed by 60%, but that 40% said that there were effects of television competition noted in securing new advertising accounts. Practically all reported circulation increases.

War and mobilization stimulated the circulation of news magazines. *Quick*, one of these, passed 1,000,000 in circulation and began to take advertising. *Flair*, also published by Cowles Magazines, Inc., suspended after less than a year of publication, giving as the reason a prospective increase of 35% in production costs and curtailment of paper supply. *Harper's* celebrated its rooth birthday and two new magazines to be distributed through supermarkets were announced, *Better Living* and *Everywoman's*. (See also NEWSPAPERS AND MAGAZINES.)

**Other Media.**—Circulation of 18,000,000,000 passengers was estimated for advertising in the 90,000 vehicles carrying car cards. There were 80 transportation companies, with about 75%

of the business being done by a dozen. Greater use of fluorescent inks was noted in travelling displays, a form of transportation advertising used on the outside of buses and trolley cars.

The volume of national outdoor advertising was somewhat more than \$80,000,000, according to Outdoor Advertising, Inc. The volume of local advertising was estimated at approximately a third of the national figure. It was estimated that national advertising was divided as follows: automotive (automobiles, gasoline and oil, tires and accessories) 38% of dollar volume; beverages (soft drinks, beer, wine, liquor) 29%; food of all kinds 19%; other products (cigarettes, appliances, etc.) 14%.

The dollar volume of direct mail advertising set a new peak for the year in October, according to estimates from the Direct Mail Advertising association. The total for October was \$80,223,785, an increase of 9% over the September volume and 0.5% above that of March, the previous high month. For the first ten months of 1950 the dollar volume was \$726,357,050.

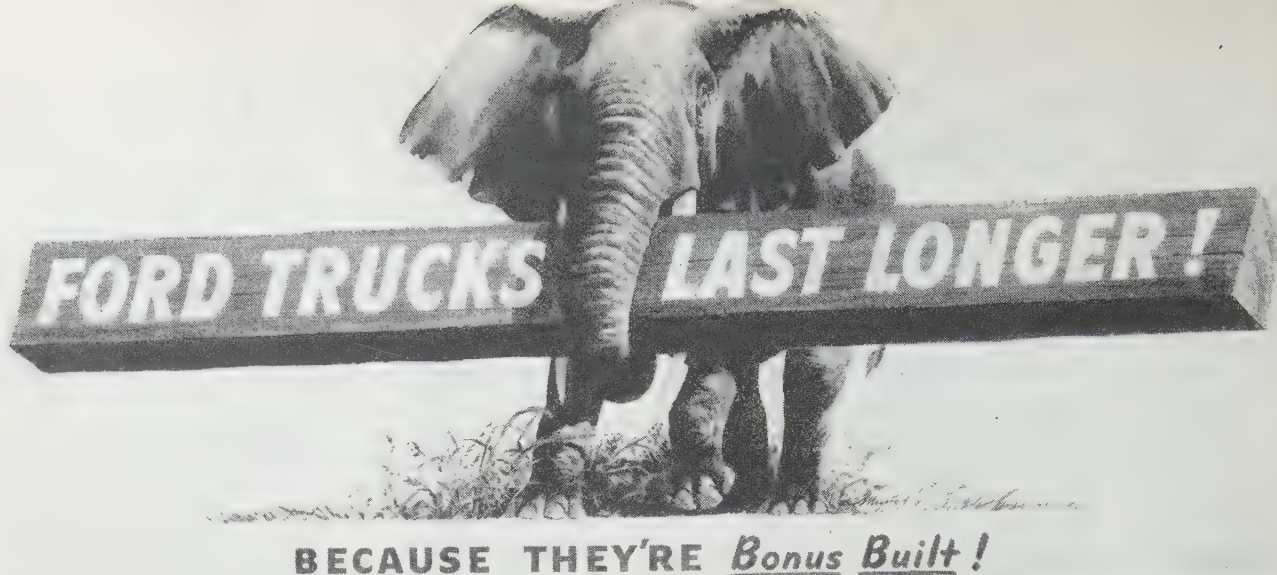
In the field of business publications there was no resolution of the debate between the publications with paid and those with free circulations, essentially over the question of whether both the free and the paid portions of the circulations of publications which were members of the Audit Bureau of Circulations should be audited by that body, as the paid portion had always been audited. The bureau decided that business publications could take up to three years in converting from 50% to 70% paid circulation in their quest for regular membership. A publication with paid circulation was defined to be "one of which 70% or more of the total distribution during a regular six-months' publisher's statement period qualified as net paid under the standards of the bureau."

Industrial advertisers and agencies were thrown into some

ROADSIDE BILLBOARD near the ruins of Cassino, Italy. Thousands of these outdoor signs dotted the Italian highways in 1950 where formerly they were very rare







OUTDOOR POSTER prepared by William Strasser of the J. Walter Thompson Co., advertising agency; it was awarded the Kerwin H. Fulton medal in 1950 by the Art Directors Club of New York

confusion by the Korean war. Many of them had just become organized for extensive advertising and selling campaigns following the mid-year recession in 1949, when the Korean crisis developed and with it a rush of orders for industrial goods. The National Industrial Advertisers association set in motion a project to evaluate inquiries and their proper follow-up and to make a thorough study of industrial catalogues. The National Machine Tool Builders association set up an advertising committee to promote the desirability of machine replacements.

Business publications raised advertising rates generally. A study of a group of 75 such increases showed that 12 were based upon gains in circulation, 31 upon higher publishing costs. The others gave no reasons for increases.

**Agencies.**—The year was marked by mergers among advertising agencies. In some cases these mergers occurred among agencies that needed new facilities and working capital and found them in such consolidations. Some agencies that were established immediately after World War II went out of business; on the other hand many agencies expanded their space and personnel. There was a tendency for large agencies to become larger.

There was no agitation in the United States for any revision in the standard 15% agency commission, but in Canada the Association of Canadian Advertisers rejected a request by the Canadian Association of Advertising Agencies for an increase in agency commissions to 17%, declaring that any such change would be a disservice to advertising generally.

**Advertising in Other Countries.**—British advertisers reported a lower cost per inquiry than before World War II largely because the circulation of printed media had risen more proportionately than advertising rates. Other factors that contributed to greater effectiveness were the lessened competition among advertisements because of the smaller number faced by restrictions on space, and the increased readership of newspaper and magazines. Some of the best women's magazines had a waiting list for subscribers, and there was widespread passing on of such magazines from family to family. Data released during the year showed the increase in circulations of the British press since before the war. The British public spent £64,000,000 on newspapers in 1949, compared with £36,000,000 in 1938, and £39,000,000 on magazines in 1949 compared with £18,000,000 in 1938. According to the *Advertiser's Weekly*, the increases were approximately in proportion to the increases in spending on consumer goods and services.

In France advertisers were making use of Radio Luxembourg and Radio Monte Carlo to reach the 10,000,000 radio sets in use

in France. No advertising is permitted on the government-controlled radio in that country. There were 3,000 to 3,500 newspapers and magazines published in France, but 150 of the Paris and provincial dailies and 80 consumer magazines carried the bulk of the advertising.

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(D. ST.; R. A. BN.)

**Aeronautics:** see AVIATION, CIVIL; AVIATION, MILITARY.

**Afghanistan.** An independent kingdom in the centre of Asia, Afghanistan is bounded N. by the U.S.S.R., W. by Iran, S. and S.E. by Pakistan and E. by China (Sinkiang). Area: c. 270,000 sq.mi. Pop. (no census ever taken; 1949 est.): 12,000,000. Language: Pashtu and Persian. Religion: Moslem. Chief towns (pop. 1946 est.): Kabul (cap., 206,200); Kandahar (77,200); Herat (75,600); Mazar-i-Sharif (41,900). King, Mohammed Zahir Shah; prime minister, Shah Mahmud Khan, the king's uncle.

**History.**—The year 1950 began auspiciously by the signature on Jan. 4 at New Delhi, India, of a treaty of friendship with India. The treaty provided that each signatory should be able to establish trade agencies in the other's territory. It would last for five years in the first instance, and at the end of that period it would be terminable at six months' notice.

This friendship with India did not find reflection in Afghanistan's relations with Pakistan. Pakistan felt that Afghanistan was too tolerant of the so-called independent "Pashtunistan" movement, which had for its aim the creation of a Pashtu-speaking enclave and therefore a new state to be carved out of what was Pakistan territory. In September disturbances were caused by an apparent invasion of Pakistan near the Bogra pass. The Afghan government promptly denied that the invaders had comprised Afghan troops. The prime minister of Pakistan, Liaquat Ali Khan (q.v.), in disclosing that a protest had been sent to Kabul on what he described as the culminating incident in a number of minor frontier violations, declared that Pakistan was willing to discuss economic and cultural questions of common concern to the two countries. He nevertheless deprecated any action which might disturb the peace of the strategic frontier area.

With Egypt, Saudi Arabia and Iran, Afghanistan developed closer relations during the year. Relations with the U.S.S.R. were naturally of much importance to Afghanistan. The conclusion



in Moscow in July of a four-year trade agreement was taken as a favourable sign in that regard. (E. Hd.)

**Education.**—(1948) Schools: primary 400, secondary 25, higher (*lycees*) 7, teachers' training colleges 2, a university at Kabul with four faculties.

**Finance and Banking.**—Revenue estimated at 220,000,000 afghanis. Note circulation (April 1950) 800,000,000 afghanis. Monetary unit: afghani, which under exchange rates existing in Nov. 1950 was worth 5.96 cents U.S.

**Foreign Trade.**—Principal imports (1949): textiles, china, gasoline (4,500,000 gal.), cement (18,100 metric tons), machinery, tea, coffee and cocoa. Principal exports (1949–50): opium, karakul skins (\$8,700,000) and carpets.

**Communications.**—Roads (1949): 2,265 mi. Licensed motor vehicles (Dec. 1949): cars 630, commercial 3,650. Telephone subscribers (Jan. 1949): 3,899.

**Agriculture.**—Production (metric tons): cotton (1949) 13,600; sugar beets (1949–50) 32,000; wool (1949) 8,000. Livestock (Jan. 1948): cattle 3,000,000; sheep 14,000,000; goats 6,000,000; camels 350,000; horses 700,000.

**Industry.**—Coal (metric tons, 1949) 5,500. Raw materials (1949): chrome ore (metric tons) 907; salt (metric tons) 5,443; skins and hides 7,250,000.

**A. F. of L.:** see LABOUR UNIONS.

**Africa:** see BRITISH EAST AFRICA; BRITISH SOUTH AFRICAN PROTECTORATES; BRITISH WEST AFRICA; ERITREA; FRENCH UNION; LIBYA; PORTUGUESE COLONIAL EMPIRE; SOMALILAND, FRENCH; SOMALILAND, ITALIAN; SOUTH AFRICA, THE UNION OF; SPANISH COLONIAL EMPIRE; TRUST TERRITORIES; etc.

**Agricultural and Industrial Chemistry, Bureau of:** see AGRICULTURAL RESEARCH ADMINISTRATION.

## Agricultural Research Administration.

The Agricultural Research administration, established in 1942, supervises and directs most of the scientific research in the U.S. department of agriculture. The research administrator also administers the Research and Marketing act, which provides for a greatly expanded program of agricultural research and services in which the U.S. department of agriculture, state experiment stations, extension services and departments of agriculture, and other public and private agencies co-operate.

Some examples of the results of ARA research in 1950 follow:

Three new pieces of cotton-processing equipment were developed by the bureau of agricultural and industrial chemistry that were of interest to the textile industry. One was a simple and efficient loom attachment for weaving fabrics of greater density; the second was an entirely new type of slasher, a machine used to apply sizing to cotton yarns to strengthen them for weaving; and the third was a machine for opening cotton in a textile mill to aid in cleaning.

A laboratory method was devised for the detection of poor milling qualities of wheat that required only six grams of grain for the test, as compared with five pounds for conventional milling tests.

A new process was developed for giving maple syrup intensified maple flavour and colour. One part of this high-flavoured syrup diluted with three parts of cane-sugar syrup made a maple-syrup blend with a flavour hardly distinguishable from that of commercial maple syrup.

A simple treatment that made cotton clothes harder to soil and easier to launder was developed by the Institute of Textile Technology under contract with the bureau. The treatment consisted of adding a small amount of a commercial compound (carboxymethyl cellulose), having the trade name CMC, to the final rinse water each time cotton goods were washed. The effect on the finish was much like that of ordinary starch, but CMC could be applied in quantities that later prevented soiling and made the cloth clean easily without making the fabric noticeably stiff.

In poultry feeding studies, the bureau of animal industry found that aureomycin, a by-product in the manufacture of vita-

min B<sub>12</sub>, stimulated more rapid growth in chickens than did vitamin B<sub>12</sub> alone. The tests also showed that the effect of a combination of vitamin B<sub>12</sub>, aureomycin and an organic arsenic compound was greater than the effect of any two.

A portable pen 5 ft. by 10 ft. by 3 ft. in size was found to be of value in controlling coccidiosis and other diseases in dairy calves. Dairymen using the pens reported calf losses of less than 10% on farms where the losses had been as much as 75% prior to their use.

Two new inbred strains of swine at Beltsville, Md.—the Landrace X Chester White and the Landrace X Poland China—continued to show improvement in their yield of preferred cuts. For the former the yield was 49.7% of the total slaughter weight, and for the latter, 49.5%.

Meat studies at the bureau's field station at Miles City, Mont., showed that important carcass and meat characteristics of cattle are considerably influenced by breeding. For example, relatively wide variations in dressing percentage, commercial grade, fatness and muscling were found among the steer progeny groups representing 13 Hereford sires. These cattle had all been produced under the same conditions of feeding and management, yet the average dressing percentages ranged from 56.7% to 58.7%; and as slaughter cattle one group was low good in grade, five were good and seven were high good. As dressed carcasses, six groups were low good, seven were good and none were high good.

Preliminary experiments showed pellets made of artificially dried alfalfa hay to be a better means of providing good roughage and an adequate amount of carotene (provitamin A) for young calves than average field-cured hay. The pelleted hay was consumed at earlier ages and in greater quantities, produced greater gains in live weight and maintained higher levels of carotene and vitamin A in the blood plasma.

Scientists in the bureau of entomology and plant quarantine found a potent new insecticidal chemical in the roots of a common native perennial weed. The new chemical, an amide called scabrin, was derived by extracting the active principal from plants of the genus *Heliopsis* (commonly known as oxeye). Early trials showed it to be appreciably more toxic to houseflies than pyrethrum, the standard of comparison in laboratory tests.

A new method of insect control appeared promising from experiments with new chemicals that make plants toxic to insects for short periods and then break down into harmless substances. The chemicals, known to entomologists as systemic poisons, were applied to the soil, the seed or to the foliage of plants. The treated plants absorbed the insecticides and distributed them to all parts through the sap.

The leaf hopper *Colladonus geminatus* (Van D.) was found to carry the virus that causes western X disease of peach. One leaf hopper, a greenish-yellow insect about one-fifth of an inch long, was enough to infect a healthy tree. It was found to feed on many different kinds of plants and was found frequently on peach and other fruit trees and on native shrubs. Federal-state co-operative experiments were started to see if the diseases caused by the western X virus could be prevented or retarded through the use of insecticides to kill the leaf hopper carriers.

A new method was announced for controlling green bugs, a major insect pest of small grains. Sprays or dusts containing parathion applied from aeroplanes or ground equipment were found to give excellent control in both cool and warm weather. Tetraethyl pyrophosphate sprays also were effective when the temperature was 75° F. or above. It was pointed out that these insecticides are highly poisonous to man and animals and must be handled with great care and only by persons experienced in handling and applying dangerous chemicals.

A publication, *Family Fare*, was issued by the bureau of hu-



man nutrition and home economics, which brought together up-to-date information for homemakers on nutrition, meal planning and food buying, storing and cooking. This 100-page bulletin, in addition to more than 200 recipes, included much information such as ways to substitute one ingredient for another, servings per pound of different foods and guidance on their nutritive value.

Nutritionally adequate food plans for institutional use were developed to help food managers of institutions maintain high standards. Plans were made at both low- and moderate-cost levels and were based on an analysis of the kinds and quantities of food which were being used by institutions of various types and modified for nutritional requirements, nutritive value of food and food prices. The plans were suitable for children's homes, dormitories and other institutions where the resident population is fairly constant and food needs are normal.

Spinning tests of cotton from new strains were providing the bureau of plant industry, soils and agricultural engineering with information that was revolutionizing cotton breeding. These tests had demonstrated that highest quality yarns came from fibres with unusual strength. Devices and techniques developed for measuring fibre strength promised to permit breeders to make selections of strong-fibred strains much earlier in the breeding program than had ever been possible before. The findings gave conclusive evidence that cottons with strong fibres can be substituted for long fibres in making strong yarns.

Tests with second-generation Johnson grass plants showed them to be twice as resistant to 2,4-D weed killer as those of the previous generation grown in soil treated with the chemical. As a result of these findings, it appeared that chemical weed control was another field in which agricultural science must always look for something new, just as it had to do in meeting the attacks of fungi and bacteria and in its fight on houseflies and mosquitoes showing resistance to DDT.

First information was reported on a blue pigment that holds the key to the mechanism which controls flowering and other phases of plant development. This important evidence was basic to further inquiry into the question of why some plants form flower buds only when the days are long and the nights short, and why others require short days and long nights to come into flower. The new findings were based on research in which a spectroscope was used to isolate narrow wave bands of light of high energy. The pigment was found to be present in extremely low concentrations—below the limit to impart colour.

A specially designed greenhouse was established for research in plants and soils with radioactive isotopes. Studies using radioactive phosphorus had already established basic facts showing how different crop plants make use of this element in varied types of soils. Among the first projects to be taken up were chemical analysis, phosphate fixation in soils and fundamental research on the soil biochemistry and plant physiology involved in lime-induced chlorosis (yellowing) of plants.

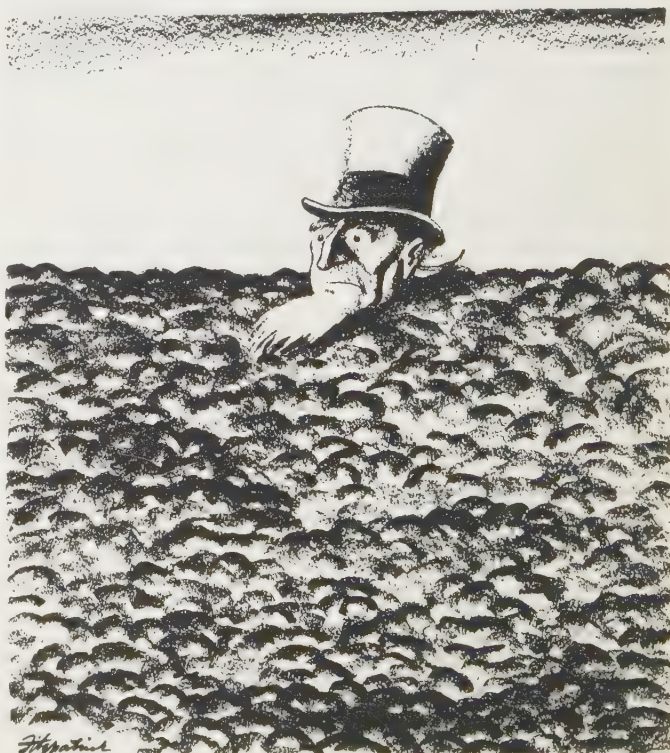
The office of experiment stations, as in former years, administered federal-grant research funds appropriated to state agricultural experiment stations. The chief also served as assistant administrator in charge of state relations. During the year a grand total of \$12,256,207 was distributed to the states, Alaska, Hawaii and Puerto Rico. The office reviewed and approved 910 new and revised research proposals; reviewed activities under 4,445 specific lines of research; reviewed all station expenditures of federal-grant funds; and approved the annual programs and budgets of proposed expenditures of these funds. The administration of the federal experiment station at Mayagüez, Puerto Rico, remained a further responsibility.

FILMS OF 1950.—*Yours Is the Land* (Encyclopædia Britannica Films Inc.). (P. V. C.)

**Agriculture.** For U.S. agriculture, 1950 was a bountiful year which differed from 1949 primarily in respect to reversed price trends and a sharply reoriented attitude toward production and supplies. Crop production was perhaps the third largest on record and exceeded the average for the most productive period in American agriculture. New record production was achieved in 1950 only in soybeans, sorghum grain, sugar beets and red clover seed, but several other crops were near record and rather uniformly large production gave an over-all result only 3% less than that of the previous year. Livestock numbers, particularly hogs and cattle, increased with the result that a 5% increased volume of production in the livestock sector did much to balance smaller crop production.

The price situation was the most favourable since the post-World War II peaks of 1948. There was no sharp break in February as in 1948 and 1949. A higher price trend, which began in the late winter, hesitated only slightly as bountiful crop and large livestock production came to market, then speeded up late in the year as the Korean situation worsened. By December the parity ratio (ratio of prices received by farmers to prices paid, interest, labour and taxes) had risen to 108, as compared with 95 a year earlier and an all-time record of 122 in Oct. 1946. The index of prices received by farmers stood at 286 in Dec. 1950, compared with 233 in Dec. 1949 and a record high of 306 in Jan. 1948; but the index of prices paid by farmers, including interest, labour and taxes, stood at a record 265, compared with 246 in Dec. 1949. On this last point the farmers' major worries were founded—necessary expenses of production were setting new record levels.

The volume of agricultural marketings, particularly of crops, was less than in 1949, but nevertheless was such as to provide a gross income to farmers of about \$31,800,000,000, compared with about \$32,000,000,000 in 1949 and \$35,300,000,000 in 1948. However, because of higher costs of production, the realized net income, which had been declining since 1947, in 1950 was estimated at only \$13,300,000,000, compared with \$14,000,000,000



"YES, WE HAVE NO POTATOES," cartoon comment by Fitzpatrick of the St. Louis Post-Dispatch on the huge surplus of U.S.-grown potatoes owned by the government in 1950 as a result of its price-support program



in 1949. Agricultural assets at the beginning of the year were estimated at \$127,096,000,000, almost the same as a year earlier and compared with \$53,805,000,000 in 1940. It was anticipated that assets at the end of 1950 stood at a new record high, partly because of increased value of real estate.

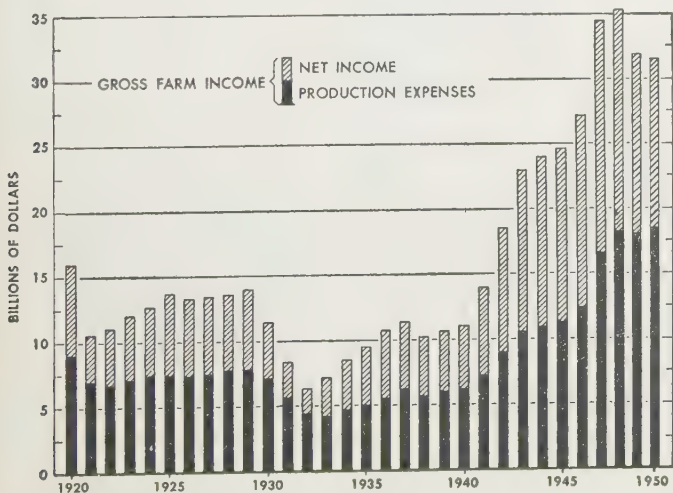
The world food situation continued to improve in 1950 as world crops continued favourable, war-damaged areas came back to something like pre-World War II production and surplus stocks of some major foods accumulated in exporting countries. Drought and famine were not prevalent in any large portion of the world, though the Danube basin, especially Yugoslavia, and some parts of China and India were having trouble. (See FOOD SUPPLY OF THE WORLD.)

Table I.—Index Numbers of the Volume of U.S. Agricultural Production through Two War Periods\*

	(1935-39 = 100)										
Crops	1915	1920	1925	1930	1935	1940	1945	1947	1948	1949	1950
Food grains . . . .	147	126	95	109	81	110	155	197	189	166	144
Feed grains and hay . . . .	126	149	128	83	91	114	144	131	207	185	177
Cotton . . . . .	86	100	122	105	81	95	68	91	115	125	77
Tobacco . . . . .	80	104	95	113	89	101	137	145	136	136	134
Truck crops (vegetables) . . . .	35	51	74	91	92	110	142	140	143	143	147
Fruits and nuts . . . .	73	76	74	89	95	110	112	126	115	121	122
Sugar crops . . . .	73	98	73	85	89	104	94	110	91	96	115
Total crops . . . .	95	102	99	96	89	107	122	135	152	146	132
Livestock											
Meat animals . . . .	92	99	107	100	90	118	147	145	134	139	144
Poultry and eggs . . . .	78	78	93	106	92	109	170	157	153	169	180
Dairy products . . . .	70	72	85	94	98	105	119	117	114	117	119
Total livestock . . . .	81	85	96	99	93	112	141	137	130	136	141
Grand total . . . .	86	92	97	98	91	110	134	136	138	140	137

\*Estimates by the U.S. department of agriculture; 1950 figures are preliminary.

**Crop Production.**—The aggregate volume of all 1950 crops in the U.S. declined to perhaps 132% of the 1935-39 base, compared with 146% in 1949 and with a record high volume of 152% in 1948. Food grains declined substantially to 144% of the base, compared with 166% in 1949 and the very high levels of 1947 and 1948; feed also declined relative to the record of 1949 but exceeded the levels of years prior to 1948. Cotton was the near failure of the year, dropping to 77% of the base as compared with 125% in 1949. Peaches were also very short. Soybeans were the prize crop of the year at 287,010,000 bu., about 56,000,000 bu. more than the previous (1949) record. Many other agricultural crops were near record levels of production. The total harvested acreage for the 52 principal crops amounted to only 341,036,000 ac. compared with 356,868,000 ac. in 1949. Yields per acre were above average for most crops; the composite yield index of 142% was second only to 151% in 1948 and approximately the same as in 1949. New high yield marks were set for rice, tobacco, potatoes and sweet potatoes.



GROSS FARM INCOME: net income and production expenses of U.S. farm operators, 1920-50, including government payments beginning in 1933. Compiled by the U.S. bureau of agricultural economics. Data on 1950 are tentative estimates

The eight major grains in 1949 produced a total tonnage of 158,400,000 or the fourth largest on record. The record was 180,500,000 tons in 1948. The food grains constituted 33,500,000 tons of the total, the smallest in seven years but larger than any total before 1944. The 1950 tonnage included an average wheat crop, the third largest rice crop, two-thirds of an average rye crop and the smallest buckwheat crop on record. The feed grain total of 125,000,000 tons represented the third largest on record, slightly less than in 1949 and a significant decline from the 138,000,000 tons of 1948; included were a large corn crop, the largest grain sorghum crop on record, the fourth largest oat crop and a less than average barley crop. In addition, a large 1950 hay crop, plus average carry-over, provided the most abundant hay supply per animal unit on record.

The oilseed crop of 1950 amounted to 14,700,000 tons, the third largest, only 6% below the record of 1949. Soybeans, a record crop, made up considerably more than half the total; peanuts were more abundant than in 1949 or average; flaxseed was 11% below 1949 but 13% above average; cottonseed was only two-thirds as abundant as in 1949 and one of the smaller crops on record.

A large sugar crop was harvested, including a record sugar beet tonnage; fruits and nuts produced a bountiful crop; the truck crops were the second largest on record and the tobacco crop the third largest.

Corn was planted later than usual, as a result of a late, cool, wet spring in the main commercial area, on an acreage which was reduced, largely because of official acreage allocation, to a level which gave the lowest harvested acreage since 1894. The late start, a cool summer, considerable but not extraordinary corn-borer damage and local frosts as early as August resulted in a yield of 37.6 bu. per acre (38.8 in 1949) and more use for ensilage than usual.

Table II.—Production of Principal U.S. Crops

Year	(In thousands)							
	Corn bu.	Oats bu.	Wheat bu.	Cotton bales	Time hay tons	Rice bu.	Tobacco lb.	Potatoes bu.
1933	2,399,632	733,166	551,683	13,049	66,530	37,651	1,371,131	342,306
1934	1,461,123	542,306	526,393	9,636	55,270	39,047	1,081,629	406,105
1935	2,303,747	1,194,902	626,344	10,638	78,138	38,784	1,297,155	386,380
1936	1,507,089	785,506	626,766	12,399	63,536	49,002	1,154,131	331,918
1937	2,644,995	1,146,258	873,993	18,946	73,785	53,364	1,553,405	393,289
1938	2,542,238	1,053,839	930,801	11,943	80,299	52,303	1,378,534	371,617
1939	2,619,137	937,215	754,971	11,817	75,726	52,306	1,848,654	364,016
1940	2,449,200	1,235,628	816,698	12,566	86,312	52,754	1,451,966	397,722
1941	2,672,541	1,176,107	945,937	10,744	82,358	54,028	1,261,364	357,783
1942	3,175,154	1,358,730	981,327	12,824	92,245	66,363	1,412,437	371,150
1943	3,034,354	1,137,504	841,023	11,427	87,244	64,843	1,402,988	464,999
1944	3,203,310	1,154,666	1,072,177	12,230	84,076	68,161	1,956,022	383,134
1945	2,880,933	1,535,676	1,108,224	9,015	95,289	68,150	1,993,837	418,020
1946	3,249,950	1,497,904	1,153,046	8,640	89,195	72,216	2,319,409	484,174
1947	3,283,970	1,199,422	1,367,186	11,857	89,286	78,259	2,109,581	389,048
1948	3,681,793	1,493,304	1,313,534	14,877	86,793	85,056	1,980,325	454,654
1949	3,379,436	1,329,473	1,141,188	16,128	87,240	90,549	1,972,359	411,565
1950	3,131,009	1,465,134	1,026,755	9,884	94,310	84,380	2,035,915	439,500

The 1950 wheat crop overcame many obstacles to stay in the billion-bushel class. In accordance with official acreage allocations, planted acreage was reduced by about 16% compared with 1949; seeding conditions were generally favourable in the southern plains, but later drought and green-bug damage led to the abandonment of more than 9,000,000 ac.—in Texas 53% of the seeded acreage was not harvested. The cold wet spring of the northern plains was followed by nearly ideal conditions except for some early frost. As a result, storage was abundantly available for the crop. It was indicated that total domestic consumption, of the crop and large carry-over, would not be much more than 725,000,000 bu. Exports, which in 1948-49 reached the unprecedented level of 503,000,000 bu., were expected to be about 265,000,000 bu. Thus, the carry-over at the end of the crop year, July 1, 1951, was expected to be about 450,000,000 bu. The war situation was such that acreage allocations were set for the 1951 crop at about the same level as for 1950. The preliminary survey in December of the 1951 winter wheat crop suggested that sown acreage was about 6% more than had been requested.





TEXAS FARM LAND illustrating strip cropping and terracing as methods of keeping top soil from blowing or washing away

and that the crop was in good condition except for need of surface moisture and snow cover, especially in the southern plains, and might produce 150,000,000 bu. more than in 1950. At the year's end all restrictions on the 1951 crop were removed.

The cotton crop of 9,884,000 bales was one of the smallest since 1900, grown on the smallest harvested acreage since 1884. Allocation of about 21,000,000 ac., as compared with 27,230,000 ac. harvested in 1949, together with unfavourable weather and heavy boll-weevil damage, combined to relieve the Commodity Credit corporation of its large surplus stocks, push prices to new all-time high levels and institute export controls, and caused the government to remove all restrictions on cotton acreage in 1951 and to hope for a 16,000,000-bale crop.

A crop of 439,500,000 bu. of white or Irish potatoes was produced, compared with the record 454,654,000 bu. in 1948, even though the harvested acreage was the smallest since 1874 and

the support price was set at 60% of parity instead of 90% as in 1949. Nevertheless, the crop was about 100,000,000 bu. more than national requirements. The average yield of 237.9 bu. per acre was a new record, and Maine again had a new record yield of 475 bu. per acre. It was probable that there would be no support program for the 1951 crop.

Such bountiful U.S. harvests, even with large year-end carry-over stocks, instead of being regarded as undesirable and calling for more severe restriction of production in 1951, were increasingly regarded in a new light, as an essential strategic stock pile. Most remaining stocks in government hands were restricted at the year's end and all-out production in 1951, particularly of cotton and feed grains, was the order of the day.

**Livestock Production.**—The somewhat regular variation over the decades in livestock numbers, sometimes referred to as the livestock cycle, having changed from a declining trend to an increase in numbers in 1949 for most kinds (excepting sheep and particularly horses and mules), continued in 1950 in an expanding phase. The reasons apparently differed somewhat for each type of animal, but the abundance of feedstuffs and the existing and potentially strong demand for meat and livestock products were recognized as major factors. The expansion of five points in production of livestock and its products during 1950 was not sufficient to counterbalance the moderate decline in over-all crop production, giving a total agricultural production volume for 1950 3% below the record 1949 production.

All cattle at the beginning of the year totalled 80,277,000 head, compared with 78,298,000 head a year earlier and 85,600,000 head at the peak in 1945, but approximately 12,000,000 head more than before World War II. Of that total, 24,625,000 head were milk cows, against 24,416,000 a year before. Slaughter of a slightly larger number of beef animals at heavier weights than in 1949 provided an estimated 10,873,000,000 lb. of beef and veal, compared with 10,770,000,000 lb. in 1949 and about 8,000,000,000 lb. prewar. It was anticipated that the number of beeves

Table III.—U.S. Production and Yield Per Acre

	1950		1949	
	Yield	Production in thousands	Yield	Production in thousands
<b>Field Crops</b>				
Corn, bu. . . . .	37.6	3,131,009	38.8	3,379,436
Wheat, bu. . . . .	16.6	1,026,755	14.9	1,141,188
Oats, bu. . . . .	34.9	1,465,134	32.9	1,329,473
Barley, bu. . . . .	26.9	301,009	24.0	236,737
Rye, bu. . . . .	12.6	22,977	12.0	18,739
Flaxseed, bu. . . . .	10.1	39,263	18.6	43,946
Rice, bags (yield in lb.) . . . .	2,361.0	37,971	2,215.0	40,747
Hay, all, tons . . . . .	1.41	106,819	1.36	99,536
Beans, bags (yield in lb.) . . . .	1,128.0	16,843	1,163.0	21,377
Soybeans, bu. . . . .	21.6	287,010	22.7	230,897
Peanuts, lb. . . . .	881.0	2,038,425	804.0	1,875,825
Potatoes, bu. . . . .	237.9	439,500	215.2	411,565
Sweet potatoes, bu. . . . .	104.4	58,729	100.5	55,368
Tobacco, lb. . . . .	1,277.0	2,035,915	1,209.0	1,972,359
Sugar beets, tons . . . . .	14.3	13,383	14.8	10,197
Cotton, bales (yield in lb.) . . . .	265.4	9,884	284.0	16,128
<b>Fruit Crops</b>				
Apples, bu. . . . .	...	120,499	...	133,742
Peaches, bu. . . . .	...	52,573	...	74,818
Pears, bu. . . . .	...	31,263	...	36,404
Grapes, tons . . . . .	...	2,641	...	2,662
Oranges, boxes . . . . .	...	111,290	...	108,535
Grapefruit, boxes . . . . .	...	48,520	...	36,500



slaughtered in 1951 would be somewhat larger even though fewer feeder cattle were placed in corn beef feed lots in the fall of 1950 than in 1949.

There were 60,424,000 head of hogs on U.S. farms at the beginning of the year, an increase from 57,128,000 head in 1949 but much less than the 83,700,000 head at the peak in 1944. The major spring pig crop was 59,997,000 head, much more than the 55,191,000 head of a year earlier, and the fall pig crop was indicated at 40,657,000 head, compared with 37,175,000 head a year before. Slaughter during the year produced an outturn of 10,939,000,000 lb. of pork, against 10,333,000,000 lb. in the previous year. At the year's end it was estimated that pork production in 1951 might approximate 11,700,000,000 lb., a result of the increased fall pig crop of 1950 plus an indicated expansion to 63,500,000 head in the spring crop of 1951. This was a prospective increase of 6% in the spring pig crop as compared with that of 1950 and was the basis of some emerging concern about the adequacy of feed supplies. The corn-hog ratio late in 1950 had declined to a level only a little above the average of about 12 to 1, as compared with a more favourable rate of about 15 to 1 a year earlier.

Livestock prices in 1950 followed divergent trends. Hog prices averaged at least \$2 or \$3 per hundredweight higher than in 1949 and ended the year at more than \$20 per hundredweight. Beef cattle of the fat sort were generally lower in price than in 1949, whereas feeder animals were considerably higher, thus narrowing the spread and increasing the risk of those farmers engaged in finishing high-grade beef. Late in the year the best grade of fat beeves was nearing \$40 per hundredweight. Grain-fed lambs, late in the year, set a new all-time high record price of just under \$33 per hundredweight. Hog prices were not supported by the government after March, and 1950 chickens and turkeys were not supported.

Sheep on U.S. farms at the beginning of 1950, 30,797,000 head, were the smallest number from the time records had been kept, having declined from 31,654,000 head the previous year and more than 50,000,000 head pre-World War II. Consequently, the lamb crop of 1950 was a record small one of 18,431,000 head; the indicated slaughter during 1950 provided only 608,000,000 lb. of lamb and mutton, about the same as in 1949. It was anticipated that the decline in sheep numbers would probably halt in 1950.

The 24,625,000 milk cows on U.S. farms at the beginning of 1950 represented an increase from 24,416,000 head in 1949 and a further increase took place during 1950, though leaving the total far short of the previous peak of 27,770,000 head in Jan. 1945. As a result of very heavy feeding and the uncommonly fine pastures of 1950, milk production per cow reached new record high levels, and total production for the year was about 120,500,000,000 lb., more than the 119,136,000,000 lb. of 1949. Prices of most dairy products increased after June and by the year's end government-held supplies of butter and cheese, accumulated under the price support program, were sufficiently cleared to be removed from the surplus list.

Poultry provided a large outturn during 1950, the volume amounting to 180% of 1935-39, whereas 1949 was 169%. Hens on farms at the beginning of the year were 481,190,000, compared with 448,676,000 head a year before. Chickens raised on farms in 1950 were only 670,000,000 head, as compared with 744,000,000 head the year previous. Commercial broilers at 540,000,000 head were 10% more numerous than in 1949. Turkey production was at a record high level.

No recent year, not even 1950, showed an interruption in the fast pace of the U.S. horse toward rarity, if not oblivion. There were 5,310,000 head on farms, compared with 5,898,000 head in 1949. Mules were 2,153,000 head, compared with 2,348,000 head in 1949.

World livestock numbers were restored rapidly. Cattle were

DUST STORM near Topeka, Kan., in March 1950, which brought damage to local crops and swept away much of the rich topsoil





estimated at a record 771,300,000 head, 28,000,000 more than pre-World War II; hogs at 279,000,000 head were up 7% compared with a year earlier; and sheep at 730,000,000 head had increased for the second consecutive year.

The wool situation received particular attention during 1950, especially pricewise. World wool production was estimated at approximately 4,000,000,000 lb., an increase of 140,000,000 lb. over the 1949 crop and 2% above the prewar average. Of the total, 1,350,000,000 lb. were Merino and 1,790,000,000 lb. cross-bred; Australia and New Zealand set a new record of 1,557,000,000 lb. But demand, especially after June, was so insatiable that carry-over stocks previously considered burdensome were essentially used up and price trends were sharply upward to new record levels; there were reports of forward contracts to purchase some of the 1951 U.S. wool clip at more than \$1 per pound in the grease. Negotiations for a strategic stock pile of at least 100,000,000 lb. were going forward with Australia.

**Food Stocks and Exports.**—Food stocks continued to increase in 1950 in the major exporting countries, more because of further recovery in importing countries than because of increased production in the surplus areas. For example, on July 1 carry-over stocks of wheat in the four major exporting countries stood at 783,000,000 bu., as compared with 663,000,000 bu. a year earlier. But world exports of wheat in the year ending July 1, 1950, were only 820,000,000 bu., compared with nearly 1,000,000,000 bu. in the preceding year. Feed grains, however, were in slightly smaller supply, in spite of the record carry-over of corn in the U.S., largely because of small Argentine crops in early 1950.

Food exports by the U.S. in 1949-50, mostly to Economic Cooperation administration countries or occupied areas, amounted to only 34,863,000,000 lb., as compared with 49,072,000,000 lb. in 1948-49. This export accounted for 11.7% of the total U.S. food supply in 1949-50. Wheat in some form made up more than one-half the total. Other grains accounted for about one-fourth. In any case, the demand from abroad was less imperative than in the previous year, and after June the emphasis shifted from that of somehow disposing of surpluses to that of urging the desirability of maintaining larger stocks for emergency needs.

**Farm Prices.**—Farm prices in 1950 experienced a moderate upturn until June, when inflation speeded the rise, and many products reached their highest levels of the year in its closing days. The index of prices received moved up 10 points (from 276 to 286) between Nov. 15 and mid-December. Some farm products made new record highs; but, in general, carry-over supplies were so substantial and current production so abundant that most products continued to be priced at levels well below their post-World War II peaks. In December the index of prices received for all farm products stood at 286 (1909-14=100), as compared with 233 a year earlier and a record high of 306 in Jan. 1948. Crop prices in general were 258% of the base, compared with 210% a year earlier, whereas livestock and its products

were at 311% of the base, as compared with 255% in Dec. 1949.

**Farm Income.**—Late in the year it was estimated that the total gross farm income for 1950 would be about \$31,800,000,000, as compared with \$32,000,000,000 in 1949 and a record of \$35,300,000,000 in 1948. This gross income included not only cash income from marketings, but government payments, value of home consumption, rental value of dwellings and expenses of agricultural production. Total farm production expenses amounted to about \$18,500,000,000, nearly 3% more than the \$18,000,000,000 of the previous year. The parity index of prices paid, interest, taxes and wage rates rose to a record high of 265 in Dec. 1950, compared with 246 a year earlier. Much of the increase in costs was the result of increased cost of purchased feeds; expenditures for stock and labour were also higher as were operating costs for motor vehicles and taxes. Realized net income was estimated at \$13,300,000,000, compared with about \$14,000,000,000 in 1949. Nevertheless, in the prewar year of 1938, realized net income was only \$4,327,000,000. Farmers' cash receipts from marketings in 1950 were estimated at about \$27,600,000,000, only slightly less than receipts in 1949. A larger volume of sales of livestock and livestock products at prices which averaged near the 1949 level gave about \$15,800,000,000, or 3% higher than in 1949. The estimated total of \$11,800,000,000 for crops was 8% lower than in 1949, a result of a 15% decline in volume at prices averaging 5% higher than in the previous year.

**Farm Land Values.**—Farm real estate in the U.S. in 1950 participated strongly in the inflation spiral, particularly after June. The national index of land values stood at 179 (1912-14=100) in November, 7% higher than a year before and 1% above the previous high reached in Nov. 1948. The increase was led by states in the north central and west south central areas, with values there averaging as much as 10% higher. Although the national index was 5% higher than the March 1920 peak, values in only 33 states had exceeded the 1920 level. The rate of farm real-estate sales reached the lowest level for some years in the first half of the year, then increased. There was a sharp increase in farm mortgage recordings.

**Farm Population.**—Although the farm population data from the 1950 census were not yet available at the end of the year, it was estimated that they would include approximately 18.7% of the total U.S. population of more than 150,000,000. In 1940 there were 30,269,000 included in the farm population, or 23% of the U.S. total, and in 1920 there were 31,614,000 on U.S. farms, or 29.9% of the total population.

**Farm Labour.**—Farm employment averaged 10,676,000 workers during Jan. through Nov. 1950, about 3% to 4% fewer as compared with 11,084,000 in the previous year. Family workers were 8,238,000, compared with 8,519,000 in 1949, and hired workers dropped to 2,438,000, compared with 2,565,000 (1949).

Farm wage rates in Oct. 1950 stood at 428% (1909-14=100), compared with 417% a year earlier. The average hired worker received \$102 per month plus board and room, or, if hired by the day, \$4.50. A tight farm labour situation and higher wages were anticipated in 1951.

**Farm Machinery.**—The farm machinery supply situation eased significantly during early 1950 in relation to demand, then tightened somewhat later in the year, partly as a result of the war scare on farmer demand and somewhat tighter supply resulting from material shortages and labour difficulties. Prices were at record levels. Mechanization of U.S. agriculture continued. The number of tractors on farms at the beginning of the year was 3,550,000 (exclusive of 275,000 garden tractors), 307% of the pre-World War II level and 50,000 more than a year earlier. Automobiles and motor trucks on farms were at peak levels in 1950. Exports of farm machinery were high.

**Commodity Credit Corporation.**—This financing organiza-

Table IV.—Farmers' Average Prices, Certain U.S. Crops, on Selected Dates  
(In cents per unit)

	Wheat per bu.	Corn per bu.	Oats per bu.	Barley per bu.	Rye per bu.	Buck- wheat per bu.	Pota- toes per bu.	Eggs per doz.	Cot- ton per lb.
Oct. average, 1909-13	88.1	64.8	38.4	60.5	72.0	71.1	65.6	23.8	12.10
Oct. 15, 1936	106.8	97.9	43.1	84.2	80.4	78.3	97.9	27.6	12.23
Oct. 15, 1937	88.7	58.9	28.8	52.0	63.8	62.4	48.5	25.2	8.10
Oct. 15, 1938	52.2	41.9	22.1	36.1	32.9	54.9	51.0	27.1	8.53
Oct. 15, 1939	70.3	47.6	30.3	42.2	45.1	62.7	66.4	22.9	8.73
Oct. 15, 1940	68.2	59.4	28.3	38.2	40.5	54.4	52.0	23.7	9.35
Oct. 15, 1941	91.0	64.9	38.9	49.1	51.3	64.3	67.2	31.8	16.55
Oct. 15, 1942	103.5	77.5	43.2	57.6	52.9	77.0	102.5	37.4	18.87
Oct. 15, 1943	135.0	107.0	77.4	103.0	101.0	110.0	128.0	45.2	20.28
Oct. 15, 1944	142.0	113.0	65.9	95.4	108.0	102.0	142.0	38.8	21.25
Oct. 15, 1945	151.0	113.0	62.8	101.0	138.0	106.0	126.0	42.6	22.30
Oct. 15, 1946	188.0	171.0	79.9	135.0	199.0	144.0	122.0	51.5	37.69
Oct. 15, 1947	266.0	223.0	109.0	177.0	249.0	197.0	150.0	55.3	30.65
Oct. 15, 1948	198.0	138.0	70.0	110.0	143.0	117.0	142.0	54.7	31.07
Oct. 15, 1949	189.0	109.0	62.3	107.0	128.0	97.9	130.0	51.4	28.70
Oct. 15, 1950	191.0	137.0	73.5	112.0	127.0	106.0	85.8	43.2	38.90



tion of the department of agriculture carried on three major programs during the year 1949-50: (1) The price support program; (2) the supply program; (3) the foreign purchase program.

Under the farm price support operations, there was less call upon the government price support program than in 1949, largely because prices were near or above the loan level for most supported commodities. For some commodities, notably cotton, butter and cheese, it was possible for the CCC to move most of its large inventory into commercial or relief channels. Nevertheless, the CCC at the end of October had \$2,898,405,000 of its authorized \$6,750,000,000 borrowing authority tied up in commodity inventories or contracts to purchase or lend. This was about \$250,000,000 less than a year before.

The inventory in October included as major items not yet largely disposed of by the year's end: dried milk, 383,510,481 lb. costing \$49,409,956; linseed oil, 496,147,080 lb. costing \$141,850,271; barley 31,398,552 bu. costing \$45,747,078; dry beans, 9,028,571 cwt. costing \$73,743,838; corn, 357,505,925 bu. costing \$552,513,586; grain sorghums, 30,587,796 cwt. costing \$80,952,459; wheat, 297,085,735 bu. costing \$707,186,713; and dried eggs, 108,648,358 lb. costing \$114,986,624. A large potato program was yet to be met. It was indicated that funds tied up in inventory were not realized losses but would be recovered in part or in total when inventory was liquidated. The realized net loss for the year 1949-50 was \$246,583,888, of which potatoes accounted for about \$75,000,000.

**Marketing Research.**—Activities under the Research and Marketing act of 1946 included nearly 50 new projects, bearing on the efficient processing and distribution of agricultural commodities and new and expanded uses for agricultural products. Meanwhile, the farmer's share of the market-basket dollar stood at approximately 49%, as compared with 48% in 1949, 53% in 1948 and 40% in 1940.

**Commodity Trading.**—Activity in commodity future markets during 1950 was generally of substantial volume and on the whole orderly, excepting for a sharp speculative run-up in soybean prices resulting in an investigation which revealed some unusual Chinese activity in the market. The Commodity Exchange authority continued to request legislation to extend its supervision to future trading in 11 additional commodities, for authority to fix minimum margin requirements on speculative transactions and to require the registration of commodity trading advisory services.

**Agricultural Legislation.**—The year 1950 was moderately quiet in respect to legislation for agriculture. The Brannan proposal (by Charles Brannan, secretary of agriculture) of April 1949 continued to be very widely debated, particularly before events in Korea diverted attention.

A report on coffee, prepared by the staff of a subcommittee of the senate committee on agriculture and forestry investigating

the spread in prices between the producer and the consumer, received widespread attention, particularly in coffee-producing Latin-American countries, but resulted in no legislation.

The Defense Production act provided that minimum ceilings on farm and food products should not be set lower than either the full parity price of the product or the highest price to producers reached during the period May 24 to June 24, 1950, whichever was the higher. Thus, at the year's end, as over-all ceilings seemed to be approaching, there was considerable discussion as to how price stability could be achieved under the above provisions, except at a higher level, inasmuch as only a few products had reached the minimum levels specified.

Federal taxes on oleomargarine were repealed and it was required that coloured oleomargarine, if sold in packages of one pound or less or as individual servings in restaurants, be specifically labelled.

Price supports were prohibited on 1950 crop Irish potatoes if marketing orders made under the Agricultural Marketing Agreement act were disapproved. Price supports on Irish potatoes in 1951 and thereafter were prohibited unless marketing quotas were in effect.

The Commodity Credit Corporation Charter act was amended to increase by \$2,000,000,000 the borrowing authority of the corporation.

(J. K. R.)

**Other Countries.**—In western Europe during 1950, agricultural policies continued to be determined largely by difficulties in balancing international payments, and all countries planned that their farms as well as their mines and factories should continue to increase production.

The year was memorable for the changes it witnessed in attitudes toward the agricultural development of Africa and Asia. The enthusiastic launching of the United Nations Food and Agriculture organization, the East African peanut scheme and plans for India and southeast Asia had given way during 1948 and 1949 to many doubts and substantial criticisms. In Asia, these were largely removed during 1950 in consequence of the expansion of the Communist-controlled area and the growing menace to Indochina, Thailand and Burma, the major rice-exporting countries of the world.

A British Commonwealth conference at Colombo, Ceylon, resulted in a realistic study of six-year development programs for the countries of southern Asia, but not including Burma or Indonesia. The conference arranged priorities within a program which, up to 1957, would cost about £1,900,000,000. Of that sum the major portion would directly benefit agriculture. Part of it was to be contributed within the Asian countries themselves as loans and tax revenues, and part was to be loans from the International Bank for Reconstruction and Development, the Export-Import Bank of Washington, D.C., and the United States technical assistance program, originally known as Pres. Harry S. Truman's Point Four program. In addition, loans, interest-free

CATTLE THRESHING RICE by ancient method in Indochina in 1950





credits and gifts from western governments, particularly from the U.S., were to be sought. The underlying aim was to prevent the continuing upsurge of human populations from further undermining living standards and curtailing economic progress.

In some parts of British tropical African territories the need for the rapid expansion of agricultural production was re-emphasized. Growing human populations, changing political ideas and demands for higher standards of living despite financial difficulties were the basic reasons. The costs and failures of the East African peanut scheme also drew public attention to African problems. The post-World War II shortage of vegetable oils and the balance-of-payment problems of the sterling area were the initial reasons for this scheme, and at first it gained wide support. But the large capital investment required and the high overhead costs of production in sparsely populated areas of Tanganyika with unreliable rainfall and many unsolved scientific problems soon became apparent. By Sept. 1950 a drastic curtailment and alteration of production plans had to be decided on. In place of the 450,000 ac. of crops first projected at Kongwa, only 12,000 ac. were to be cropped in 1951, 1952 and 1953. The remaining 80,000 ac. of the cleared area were to be used for cattle ranching.

In eastern Europe the principal development in agricultural policy was an acceleration of the collectivization of holdings in Poland and Czechoslovakia. Ambitious five-year plans were announced to increase livestock production by 66% in Poland and 86% in Czechoslovakia, the increase in Poland to make possible considerable exports. In the U.S.S.R. increases in the size of collective farms and further attempts to increase labour and machine efficiencies were planned. But in Yugoslavia the resistance

of peasant farmers brought a promise from Marshal Tito that they would no longer be placed under duress to join collective farms and that their needs would be as well attended to as were those of the existing collectives.

The most noteworthy development in Australia, New Zealand and the Union of South Africa was toward substantial further expansion of meat production. In Australia meat production would have to increase 34% by 1970 to keep pace with the expected increase in population and to maintain exports. Transport facilities costing £5,500,000 were projected to help the flow of cattle from northern Australia and further trials were made of the air transport of fresh carcasses from outlying areas.

Despite some reduction of wheat and rye acreages in favour of crops for feeding to livestock, and despite severe drought in some areas, European production of wheat and rye was about 4,400,000 metric tons greater in 1949 than in 1948. The reduction in the world total exports of wheat and flour was equal to 4,100,000 metric tons but, taking into account the increase in domestic harvests, the net reduction in the total supplies of Europe was only about 1,300,000 metric tons (2%). This caused no difficulty, in part because stocks were adequate, and in part because with increasing supplies of milk, meat and eggs the consumption of bread grains was tending to decline.

Thus flour consumption in the United Kingdom, which averaged 100,800 metric tons a week during 1948, fell to 92,000 metric tons a week by spring 1950. The minister of food was able on Aug. 27, 1950, to lower the rate of flour extraction from wheat from 85% to 80%.

Progress was made in Ireland with a land reclamation project, the biggest of its kind in Europe. (See also AGRICULTURAL RESEARCH ADMINISTRATION; CENSUS DATA, U.S.; CHEMURGY; FERTILIZERS; FRUIT; HORTICULTURE; IRRIGATION; LIVESTOCK; METEOROLOGY; PRICES; RURAL ELECTRIFICATION; SOIL EROSION AND SOIL CONSERVATION; VEGETABLES; etc.; also under principal crops.)

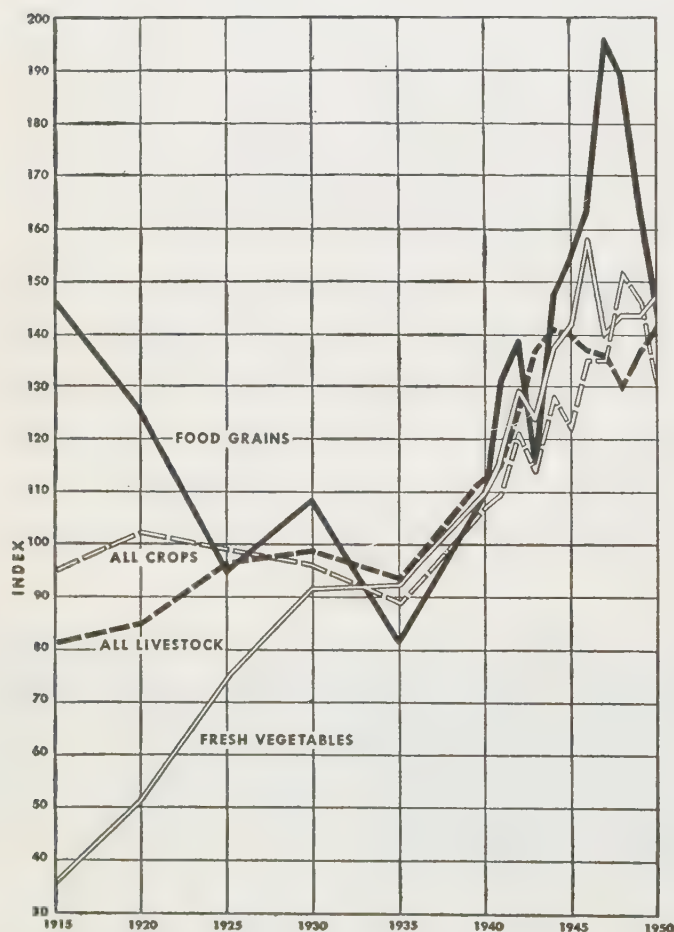
(J. R. RA.)

**Agriculture, U.S. Department of:** see GOVERNMENT DEPARTMENTS AND BUREAUS.

**Aircraft Manufacture.** In the report published by the President's Air Policy commission early in 1948 a strong aircraft industry in the U.S. was recognized as an essential element in the nation's air power. "Our air establishment would be useless," said the commission, "unless backed by a manufacturing industry skillful in technological application, efficient in production, capable of rapid expansion and strong in basic financial structure." It was then estimated that the maintenance of an air force of 70 combat groups would not only meet the normal strategic and tactical requirements of the national defense but would also create sufficient demand to automatically keep the aircraft industry in a strong and healthy condition.

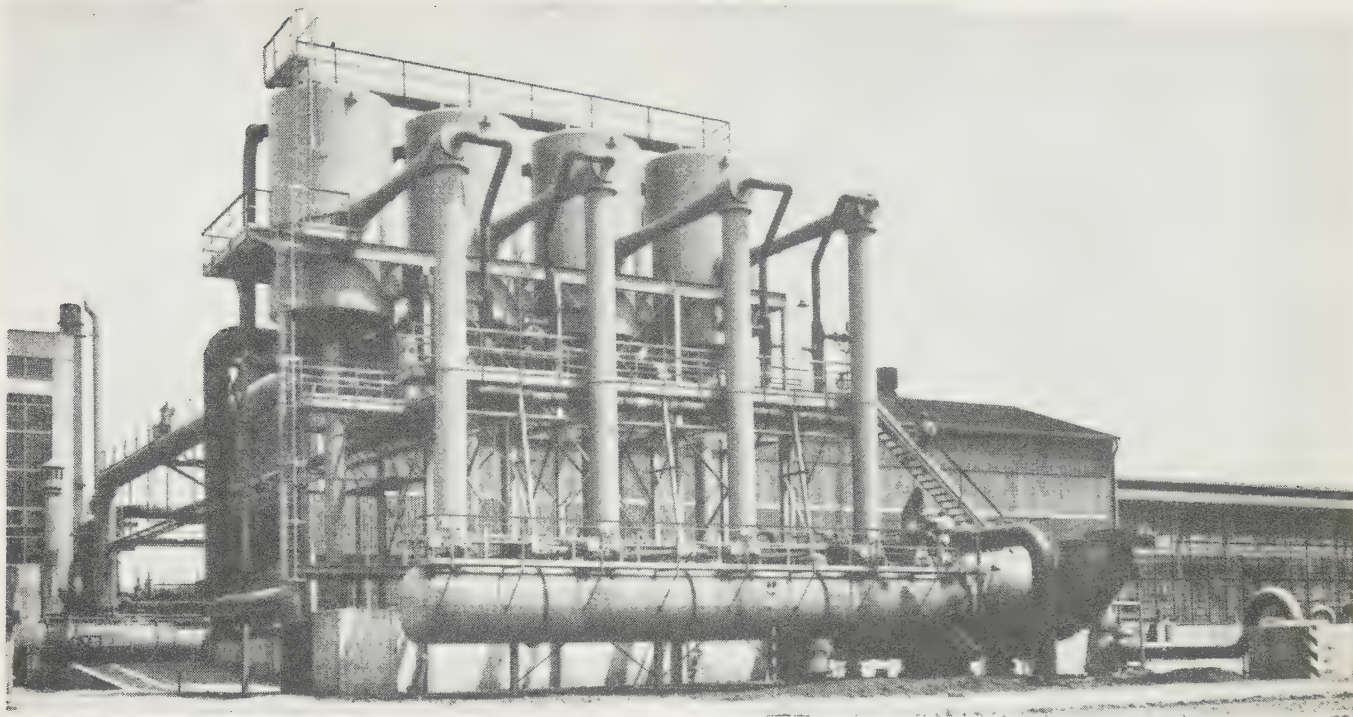
Unfortunately, the congress failed to implement the recommendation of the commission and of its own Aviation Policy board. During the following two and one-half years under the program of economy promulgated by the secretary of defense, the air force was permitted to shrink rather than to expand. As a result, when the crisis of the Korean war came in the summer of 1950, the aircraft industry's position was one of low productive efficiency, with little capability for immediate rapid expansion. Drains on its capital reserves had weakened its basic financial structure. Only in skill in technological application could it meet the requirements which were considered minimal by the president's advisers.

Fortunately a certain amount of research and development money had been made available from government sources during



FOOD PRODUCTION in the United States, as measured by index numbers (1935-39=100). Estimates by the department of agriculture; 1950 is preliminary





AEROPHYSICS TEST LABORATORY opened at Daingerfield, Tex., in May 1950. It was operated for the navy bureau of ordnance by Consolidated Vultee Aircraft Corp. to test large-scale ramjet engines at simulated altitudes of approximately 20 mi. above the earth and at four times the speed of sound

the first few years following World War II. This permitted aircraft designers to produce a number of experimental prototypes of performance vastly superior to the machines in use at the end of World War II. During that period a fundamental revolution in aircraft design had taken place, touched off by the introduction of jet and rocket type engines which far and away exceeded the power-producing capabilities of the older engine and propeller combinations.

Backed by research and development funds, many new military aircraft went through "paper" and test stages, but few rolled out of factory doors. Construction was held to a strictly jobbing basis. Expansion to mass-production levels required for a modern war was still a matter of two to three years, even though prototypes were standing by, tested and ready to go.

The production build-up period (as contrasted with that of 1942-43) was lengthened because comparable aircraft had not only doubled in performance but had more than doubled in size (in terms of weight). For example, a fighter plane of the early 1940s was fitted with a 1,200 h.p. engine, had a speed of 300 m.p.h., a range of 1,000 mi. and a service ceiling of about 20,000 ft. Its gross weight was 8,000 to 10,000 lb. Its counterpart of 1950 was powered by an equivalent of 12,000 h.p. (in jet-type engines), had a service ceiling of 50,000 ft., a range of about 2,000 mi. and a top speed in the neighbourhood of 700 m.p.h. Its gross weight was in the neighbourhood of 20,000 lb. All classes of military aircraft underwent changes of the same order of magnitude in the same period.

As a corollary of increased performance, all types of aircraft had become tremendously more complicated.

A modern military aircraft is little more than a metal shell surrounding an astonishing maze of electronic devices for automatic control, for aiming and firing its guns, for navigation and communication, and for generally keeping its crew out of trouble. Although total air frame weight had about doubled that of its predecessors, the man-hours of labour required to manufacture it had been multiplied by at least four.

In addition, labour and material costs had gone up tremen-

dously. The aggregate effect of cost increases all along the line (for research, design, materials and final manufacture) was to multiply the unit cost of all types of aircraft by a factor of five or six. A single-seat fighter plane in 1942 cost the government \$50,000 to \$60,000. Machines for similar missions in 1950 cost as much as \$250,000 each. During World War II, B-17 bombers cost about \$275,000 complete. Light medium bombers of 1950 cost approximately \$1,000,000 each, and a B-36 heavy bomber cost more than \$3,000,000. Obviously, far fewer aircraft could be purchased in 1950 for a given amount appropriated than could be purchased ten years before.

Because of complication and high costs, it was far more difficult to effect rapid expansion of production in the aircraft industry in 1950 than during World War II. As a result there was relatively little gain in production during the last six months of 1950. The exact figures were not released, but it was estimated that approximately 3,000 aircraft were delivered to the armed services during the entire year, compared with 96,000 aircraft produced in 1944. During the latter year, about 1,750,000 people were employed in the aircraft industry. The average for 1950 was 228,000.

It was thought that the industry might have grave difficulty in meeting the fivefold increase in aircraft production asked for 1951 by the president in his speech announcing the national emergency in December. Such a rate of increase was never achieved under the most pressing conditions of World War II.

The problem was not in terms of money immediately available. There were more dollars earmarked than could be spent effectively in the year. During the fall of 1950, the 81st congress appropriated more than \$10,000,000,000 for new aircraft procurement for fiscal year 1951. If a percentage of such funds had been put into the aircraft industry two or three years before (as was recommended by the President's Air Policy commission) the industry would have been in a far better position to meet immediate requirements. The budgetary stringencies of 1946-49 created a condition that precluded any real capability for rapid expansion in an emergency.

The aircraft industry thus had little "fat" on which to live during a period of slack military buying. It suffered crippling losses in developing and marketing new transport aircraft for a



relatively thin market. Post-World War II commercial purchases (by air lines and by private owners) were not sufficient to maintain the degree of financial stability required for national security. Thus, on the financial side also the U.S. aircraft industry of 1950 was far below the minimum strength for safety as defined by the commission in 1947.

Some improvement in fiscal position took place in 1950. It was estimated that the total dollar volume for aircraft, engines and propellers would reach more than \$2,000,000,000 as compared with \$1,500,000,000 in 1949. Profitwise, the picture was not clear because of uncertainties created by effects of contract renegotiations and retroactive excess profits taxes, but it seemed probable that the major U.S. companies operated at a profit in 1950.

During 1950, as military buying started its upward trend, production of aircraft for nonmilitary usage continued to decline. As the country's air lines completed their postwar fleet modernization programs, sales of transport and executive types of aircraft declined from 263 in 1948 and 166 in 1949 to 97 in 1950. For most companies, such a volume of sales was insufficient to cover development costs, or to offset rising production costs.

The next move among air line operators at the end of 1950 was to replace existing piston-engined aircraft of the 300 m.p.h. class with larger and faster (400 m.p.h.) jet transports. This was a long-range project that could not, under ordinary conditions, be completed in less than three to five years. The greatest obstacle was the extremely high cost of development of such aircraft. No private operator (or group of operators) or no single manufacturer could afford to underwrite the program.

A law providing for a transport aeroplane prototype testing program, involving an expenditure of \$12,500,000 over a period of five years, was signed by President Truman in September. No actual funds had been appropriated for this program at the end of 1950, but a prototype aircraft advisory committee headed by the Civil Aeronautics administrator was being formed, to have wide representation from civil, research and military government agencies as well as from the industry. The lack of jet transports in the U.S. and the continued progress of such aircraft as the British de Havilland Comet, and the Canadian Avro C.102, in which some U.S. air lines had shown interest, were matters for concern in both civil and military circles.

For personal and industrial use the industry produced an estimated 3,450 light planes in 1950. Total sales were about \$18,500,000. These figures represented increases of less than 100 planes and more than \$4,000,000 over 1949. The continuing demand for executive planes of four or more places accounted for the large increase in sales value over 1949, when a higher proportion of two-place planes was produced.

The outlook for 1951 was not certain in view of military production expansion. Priorities for the continued production of civil aircraft were expected to receive action at the end of the year, on a level of production to be recommended by the Civil Aeronautics administration.

The manufacture of helicopters became of increasing importance, as these direct-lift machines proved their capabilities in the Korean war and also showed great promise for antisubmarine defense. Estimates indicated a production of more than 100 commercial and military helicopters in 1950 with a substantial increase scheduled for 1951.

The Mutual Defense Assistance program, which was authorized late in 1949, began to have some helpful effect on the aircraft industry in 1950. Shipments of aircraft and other aeronautical equipment abroad amounted to \$81,000,000, and electronic and communications equipment to \$23,000,000. Altogether, 228 aircraft went overseas, of which 170 went to North Atlantic treaty nations and the rest to Pacific and far east nations. Most

of the aircraft, however, came out of mothballed U.S. surplus.

Appropriations requested to implement the program during 1951 totalled \$5,200,000,000, of which \$1,262,000,000 was earmarked for aviation. Of this, \$1,148,000,000 was for aircraft, spares and other aeronautical equipment and supplies, and the greater part of the remainder for electronic and communications equipment.

FILMS OF 1950.—*Airplanes and How They Fly* (Young America Films, Inc.). (S. P. J.; M. H. SM.)

**Air Forces of the World:** see AVIATION, MILITARY.

**Air Mail:** see POST OFFICE.

**Airports and Flying Fields.** The 1947 National Airport plan and the 1948 and 1949 revisions were based on a three-year forecast of the needs of civil aviation in the United States. The 1950 National Airport plan, accordingly, was assembled as revision and refinement of the preceding plans and showed a projected three-year forecast of aviation needs. The 1950 plan reflected an up-to-date appraisal of the way airports were serving the nation and what was required to round out safely and effectively the National Airport system.

The fiscal summary of the 1947-50 federal airport program indicated that the federal government had expended or committed the sum of \$130,731,802 for airport development, and that the sponsors' contributions (state or territory) amounted to \$140,741,656 for a total program of \$271,473,458.

*Civil Airports by Class as of Jan. 1950*

Class 1 and Sub 1	4,100
Class 2	1,027
Class 3	576
Class 4	447
Class 5	185
Class 6 and over	149
Total	6,484

*Civil Airports by Type as of Jan. 1950*

Commercial	2,585
Municipal	2,200
CAA Intermediate Landing Fields	139
Military	350
All other types	1,210
Total	6,484

**Explanation of Terms.**—*Airport.*—Any area of land or water which is used, or intended to be used, for the landing and take-off of aircraft, and any appurtenant areas which are used, or intended to be used, for airport buildings or other airport facilities or rights of way, together with all airport buildings and facilities located thereon.

*Classes of Airports.*—For statistical purposes airports are divided into numerical classes based on the longest usable landing strip.

Class	Length*
Sub 1	Less than 1,800 ft.
1	1,800-2,700†
2	2,700-3,700†
3	3,700-4,700†
4	4,500-5,500‡
5	5,500-6,500
6	6,500-7,500
7	7,500-8,500
8	8,500-9,500
9	9,500 and more

\*Sea level lengths—increased for elevations above sea level.

†Lengths are decreased 200 ft. if paved.

‡Class 4 and up must have at least one paved runway of the length required for its class

*Present Class.*—The present status of an airport, indicated in accordance with classifications given above for class of airport.

*Proposed Class.*—Class of airport as defined above, required to meet the anticipated aeronautical needs of the community or locality within the succeeding three years.

*Types of Airports for Scheduled Air Service.*—Airports for scheduled air service are assigned service types as defined in



the Civil Aeronautics administration's technical standard order N6a.

Service Type	Length*	Definition
Feeder . . . . .	Up to 3,500 ft.	For feeder-type service
Trunk . . . . .	3,500 to 4,200	To serve on air-line trunk routes
Express . . . . .	4,200 to 5,000	At large cities or important junction points on trunk routes
Continental . . . . .	5,000 to 5,900	Serving long nonstop continental flights
Intercontinental . . . . .	5,900 to 7,000	Serving long intercontinental or transoceanic flights
Intercontinental Express . . . . .	7,000 to 8,400	Serving transoceanic flights of largest types of aircraft

\*Lengths must be increased for elevation, temperature and gradient.

**Present Type.**—Service indicated as warranted now or within the immediate future.

**Ultimate Type.**—Service indicated as warranted within the foreseeable future.

**Air Cargo Terminal Freight Bridge.**—A three-year study of what is required to develop a high-efficiency air freight terminal had reached a stage late in 1950 where specifications for such a terminal and related components were nearly complete.

In devising a terminal for efficient freight flow, a basic functioning part of the plan for an air freight depot is a flexible, portable ramp device designed to eliminate, by bridging the aeroplane door to a terminal dock, the high hoist that makes aeroplane cargo loading a time-consuming and expensive operation.

Briefly, this self-powered appliance consists of a main span supported by two towers mounted on powered carts or dollies having pneumatic-tired wheels, a cantilever extensible and retractable section, a hinged inboard dock board, a removable weather canopy and a dock board to span the gap between the outboard end of the extensible section and the area immediately inside the aeroplane door.

The maximum extended length of the ramp bridge is 85 ft.; the length with the cantilever extension retracted is 70 ft. This allows a total of 15 ft. in extension, making it relatively simple to park an aeroplane so that the bridge is within reach. There is no need of precise spotting of aircraft. (E. M. E.)

**International.**—Sir Robert Watson-Watt, the British radar scientist, commented during 1950 on the backward state of air traffic control equipment as established at airports and on airways throughout the world: much of the existing radio and radar used in civil aviation was out-of-date as applied to conditions at that moment; and most of the control sets had been adapted from former military stock.

This opinion was shared by those in official administration of airports and was particularly significant in view of the approaching era of jet air liners with operational speeds of 500 m.p.h. Jet aircraft came into the civil aviation picture in 1950, but for operating economy had to fly at great heights. Any time spent in the air at low altitudes, as was the practice for piston-engined types in approach procedures to airports, would have introduced costly and sometimes impractical conditions for the new class of high-speed air liners. Consequently, much of the progress in airport design and construction in 1950 was rather toward improving air traffic control equipment, passenger- and freight-handling facilities and buildings than in establishing new airports. In a number of instances this policy of improvement extended to the lengthening and strengthening of runways and other hard pavings so as to bring existing airports up to current international standards. This trend was especially noticeable in Europe, where, for example, a rejuvenated Ciampino airport near Rome carried the greatly increased air traffic for the Holy Year celebrations.

**Great Britain.**—Probably of great importance to the air traffic control systems of the future was the installation of long-range radar search equipment at London airport. By this means



PROMENADE DECK (right) of the Friendship International airport, one of the largest in the world, which was dedicated at Baltimore, Md., on June 24, 1950. The 32,000-ac. field has an instrument landing runway which is 9,450 ft. long and is 200 ft. wide throughout

controllers were able to direct approaching and departing aircraft on scheduled flights within their area by reference to a radar picture showing the whole sky in azimuth up to a maximum of 150 mi.

A decision, moreover, was reached on Stage 3 development of London airport. The original duplicate "triangular" runway scheme north of the Bath road was abandoned in favour of a new plan on that site to construct two runways placed end to end and running east-west but slightly divergent from one another. The object of this offset arrangement was to provide lateral separation for aircraft making simultaneous landing and take-off.

**Africa.**—A new airport of considerable potentiality was opened to traffic on Aug. 12 at Livingstone, Northern Rhodesia. This airport, class 2 under the specifications of the International Civil Aviation organization, was thought to have possibilities as a crossroads of air routes in central and southern Africa; its proximity to the Victoria falls on the Zambezi river was judged to be a great tourist attraction.

Similarly the new main Egyptian air terminal established at Farouk airport near Cairo was said to have possibilities as the crossroads for North Africa and the middle east.

**Argentina.**—The new airport near Buenos Aires at Ezeiza became fully operational during 1950, with three runways capable of taking the largest and heaviest air liners and with adequate means for passenger- and freight-handling. (See also AVIATION, CIVIL; AVIATION, MILITARY; CIVIL AERONAUTICS ADMINISTRATION.) (C. F. As.)

**Air Races and Records.** With the cancellation in 1950 of the National Air races at Cleveland, O., and other major trophy events, chief interest fell to the minor meets, all of which made civil air defense their theme. Plans were well under way for the National manoeuvres, with "souped-up" military surplus planes barred following the accidents of 1949, when Louis Johnson, secretary of defense, announced that air force planes were barred from competing in



scattered events through the year. Then, on June 22, Frederick Crawford made known the postponement of the National Air races until Armed Forces day of 1951, to assure complete co-operation of the three branches of the service.

Thus no racing was held for the Thompson, Bendix or Goodyear trophies. The Goodyear Company previously had notified the national meet management that it would not sponsor an event for its famous award, having fulfilled a promised three-year sponsorship of the 190-cu.in. class.

S. J. Wittman, professional racing pilot of Oshkosh, Wis., won the Continental Motors trophy in the feature event for midget planes at the All-American manoeuvres in Miami, Fla. Averaging 185.4 m.p.h. in the final heat, he captured the prize for the second straight year and won \$1,800 to add to money he had won in the previous heats. Keith Sorenson of La Crescenta, Calif., was second at 182.044 m.p.h.

Thirteen feminine fliers competed in the Powder Puff Derby of 1,400 mi. from Montreal to West Palm Beach, a feature of the all-women's manoeuvres in Florida. Betty Haas of Scarsdale, N.Y., an air-line hostess and flight instructor, won the Cessna trophy for the all-daylight event with an elapsed time of 10 hr. 43 min. 42 sec. Peggy Lennox of Hollywood, Fla., was second. Janet Russell of St. Petersburg, Fla., captured the 65-h.p. closed-course race and Barbara Shoemaker of Hackensack, N.J., triumphed in the class from 75 to 125 h.p.

The fourth annual women's transcontinental race from San Diego, Calif., to Greenville, S.C., was annexed by Jean Parker and Boots Seymour of Arcadia, Calif. Their elapsed time of 20 hr. 1 min. for 2,460 mi. beat the handicap allowed their Taylorcraft plane by more than 5 hr. Elizabeth Lambert and Claire Hale of San Diego were second.

The big prize in the international jet meet held in England was won by Lieut. Comdr. M. Lithgow, piloting a Vickers Submarine Attacker. With 50,000 persons looking on, Lithgow flew over the 124-mi. course at an average speed of 570 m.p.h.

The Michigan Wing of the Civil Air patrol again sponsored the Michigan State Amateur Flying championships. Lieut. Vernon Sharpe, C.A.P. pilot from Berkeley, was high scorer with 30 points and captured the Governor's trophy. Sharpe won the spot landing events from a free glide and from a controlled approach. First in cross-wind landing and take-off was Howard Hale of Lansing, while Elving McCarthy of Pontiac led in target dropping and Lyle Bradford of Eaton Rapids was first in precision spins.

(T. V. H.)

**A.L.A.:** see AMERICAN LIBRARY ASSOCIATION.

**Alabama.** Located in the heart of the "deep south," Alabama became the 22nd state of the United States Dec. 14, 1819. It is popularly called the "Cotton state," or the "Yellow-hammer state." Area: 51,609 sq.mi. (51,078 sq.mi. of land and 531 sq.mi. of water). In 1950 the total population of the state was 3,061,743, or 8.1% more than the 1940 population of 2,832,961.

Montgomery, the capital city, in 1950 had a population of 105,098; Birmingham, the state's largest city, 298,720; Mobile, 127,151; Gadsden, 55,528; Tuscaloosa, 46,364 (preliminary census figures).

**History.**—The principal elective officials of the state in 1950 were: James E. Folsom, governor; J. C. Inzer, lieutenant governor; Albert A. Carmichael, attorney general; Dan Thomas, state auditor; Haygood Paterson, commissioner of agriculture and industries; Sibyl Pool, secretary of state; John Brandon, state treasurer; Austin R. Meadows, state superintendent of education. Governor Folsom called five special sessions of the state legislature in an effort to get a law passed to reapportion



GORDON PERSONS, Democrat, elected governor of Alabama, Nov. 7, 1950

the state legislature. During the fifth special session, the legislature set up a 12-man committee which devoted four weeks of intensive study to the question of reapportionment. However, the committee's proposals were voted down when the legislature adjourned sine die, Oct. 25, 1950. Governor Folsom favoured reapportioning the senate by giving each of the 67 counties one senator. The state supreme court ruled this unconstitutional since the Alabama constitution stipulates that reapportionment shall be based upon population and not geographical areas.

This being defeated, the governor then attempted to get a constitutional convention called for rewriting the entire constitution, but it was not favoured by a majority of the legislature. Thus, antiadministration forces succeeded in blocking every move made by Governor Folsom to reapportion the legislature.

The antiadministration bloc tried vainly in the special sessions to get a bill, known as the Boswell amendment substitute, passed; this would have put voting restrictions on the electorate, particularly the Negroes. The administration forces succeeded in killing each of those proposed bills. The original Boswell amendment was declared unconstitutional by the supreme court in 1948. The governor's salary was raised from \$6,000 to \$12,000, effective Jan. 15, 1951. The gubernatorial primary election was held May 2, 1950. Gordon Persons was elected Democratic party nominee, and was elected governor in the general election, Nov. 7, 1950.

**Education.**—During the academic year 1949-50 (ending June 30), the total number of public schools in the state was 3,356. Total enrolment for these schools was 684,908. Of this number 454,171 were enrolled in elementary schools and 230,737 in high schools. There were 13,093 elementary school teachers and 8,483 high school teachers. There were 11 state-supported institutions of higher learning with 26,271 students enrolled on campus and a teaching staff of 1,464, plus 136 part-time teachers. Of this enrolment, 3,616 were Negroes, with teachers numbering 158. The total on- and off-campus enrolment, including the attendance at the five university centres, was 36,807, with 1,995 teachers, plus 335 part-time teachers and 184 part-time doctors and dentists serving at the Medical College of Alabama at Birmingham. Of this enrolment 4,756 were Negroes, 158 teachers being employed. There were also 11 denominational and private colleges with an approximate enrolment of 11,500.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Amounts spent for public assistance categories in Alabama during the fiscal year 1949-50 (ending Sept. 30) and average number of recipients (in parentheses) during 1949-50 were as follows: old-age assistance \$19,399,350.57 (79,472); aid to the blind \$388,359.60 (1,429); aid to dependent children \$6,347,846.46 (16,627); aid to children in foster care \$164,019.45 (508); aid to handicapped \$1,234,966.36 (8,369); temporary aid \$25,863.18 (101). During the fiscal year 1949-50 approximately 97,000 beneficiaries were paid \$17,098,594 under the unemployment compensation program. Approximately 5,500 unemployed persons received \$1,199,479 under the readjustment allowance program; 425 self-employed received \$192,332 under the same program. Prison population as of Oct. 1, 1950, totalled 4,604—318 less than one year previous. Total expenditures for the department of corrections and institutions for the fiscal year 1949-50 was \$3,387,348.28.

**Communications.**—The state highway system consisted of 7,774 mi. of road, the county system had 52,360 mi. of road, and there were approximately 4,100 mi. of municipal streets. For the fiscal year 1949-50 state expenditures for highways by the state highway department were \$32,115,269.78. Estimated railroad mileage within the state was 5,206. There were

Table 1.—Leading Agricultural Products of Alabama

	1950	1949	Average 1939-48
Cotton, bales . . . . .	570,000	852,000	912,000
Corn, bu. . . . .	64,012,000	57,456,000	44,408,000
Peanuts, lb. . . . .	335,400,000	290,500,000	295,360,000
Hay, tons . . . . .	616,000	650,000	754,000
Sweet potatoes, bu. . . . .	4,929,000	4,565,000	5,519,000
Irish potatoes, bu. . . . .	3,955,000	3,432,000	4,318,000
Oats, bu. . . . .	4,108,000	4,230,000	4,840,000
Soybeans, bu. . . . .	1,620,000	1,037,000	371,000
Sorghum grain, bu. . . . .	946,000	946,000	569,000
Peaches, bu. . . . .	440,000	792,000	1,400,000
Sugar cane syrup, gal. . . . .	1,380,000	1,820,000	2,478,000



1,075 mi. of controlled civil airways, 60 mi. of noncontrolled and 2,420 mi. of off-airway direct air carrier routes. The number of active airports was 126, including 16 service type fields. The tonnage of water-borne commerce in the state was estimated at 4,750,000. The approximate number of telephones was 415,400.

Table II.—Principal Mineral Products of Alabama

Mineral	1949	1948	Value, 1949
Coal, tons	15,725,732	17,371,000	\$96,455,000
Iron ore, tons	8,433,807	7,914,000	25,265,000
Cement, bbl.	10,876,000	9,912,000	18,233,000
Stone, tons	3,164,000	2,944,000	6,922,000

**Banking and Finance.**—On June 30, 1950, there were in Alabama 155 state banks and 1 branch, which had total deposits of \$272,603,946.38 and total resources of \$298,204,084.82; 70 national banks and 23 branches which had total deposits of \$892,394,000 and total resources of \$964,725,000; 28 savings and loan associations with total resources of \$57,948,349; 84 credit unions with resources of \$9,085,173. According to budgetary figures the state government receipts for the fiscal year 1949–50 were \$94,091,926. Expenditures totalled \$90,235,675 and \$3,856,251 was transferred to surpluses; the gross state bonded indebtedness Sept. 30, 1950, was \$45,464,000 and sinking funds totalled \$16,234,000 with a net state indebtedness of \$29,230,000. Net receipts for the fiscal year 1949–50 were \$193,106,153; net disbursements, \$190,952,491.

**Agriculture.**—The total value of agricultural production in Alabama during 1949 was estimated at \$511,932,000. This includes the value of crops produced in 1949, regardless of when they were used or sold, plus the value of livestock and livestock products marketed during the calendar year. During 1949 crops were harvested from 5,884,000 ac. excluding duplications. Cash income from sale of crops was \$219,693,000; sale of livestock and livestock products amounted to \$119,063,000; income from government payments was \$5,482,000.

**Manufacturing.**—The 1949 total estimated value of manufactures in Alabama was \$2,966,500,000. Persons employed totalled 252,540 and the yearly pay roll was \$596,000,000. The primary metals industry employed 55,750 and the value of the product was \$790,500,000; textiles employed 59,600 and the product value was \$533,000,000; the lumber industry employed 47,550 and the product was valued at \$355,000,000; food product industries employed 16,500 and the total value of products was \$315,400,000.

**Minerals.**—The total value of Alabama mineral production in 1949 was \$172,655,000; in 1947 the value was \$117,764,000. No major fields were opened during 1949.

(R. C. HA.)

**Åland Islands:** see FINLAND.

**Alaska.** Alaska, the northernmost territory of the United States is separated from Siberian U.S.S.R. by the Bering strait. The boundary line runs between the Big Diomed Island, which is soviet soil, and the Little Diomed Island, which is on the U.S. side. These islands are about 4 mi. apart. Alaska has an area of 586,400 sq.mi. Its population according to the 1950 census was 128,643, compared with 72,524 in 1940. The gain of 77.4% in the ten-year period did not include the military, naval or coast guard personnel stationed in the territory. The Aleutian Islands, a chain of small islands extending about 1,200 mi. westward from the extremity of the Alaskan peninsula, constitute part of the territory of Alaska. The largest town is Anchorage, with a 1950 population of 11,060, compared with 3,495 in 1940. Other towns and their preliminary 1950 populations are as follows: Juneau (5,818); Ketchikan (5,202); Petersburg (2,291); Sitka (2,080); Wrangell (1,227); Kodiak (1,625); Seward (2,063); Nome (1,852); Fairbanks (5,625); Seldovia-Homer district (1,526). Chief officers of the territory: Ernest Gruening, governor since 1939; Llewellyn M. Williams, secretary of Alaska; E. L. Bartlett, delegate in congress; Henry Roden, territorial treasurer; Frank A. Metcalf, highway engineer; J. Gerald Williams, attorney general; James C. Ryan, commissioner of education; Neil F. Moore, auditor.

**History.**—An epidemic of infantile paralysis broke out in Alaska during 1950 and at the end of the year 70 cases were reported in the territory, the majority of them in the interior area around Fairbanks. Advances were made during the year in improving the hospital system. A new 400-bed sanitarium was completed at Anchorage; a 40-bed wing was added to St. Joseph's hospital; a new 34-bed hospital was finished at Nome and 125 beds were added at Mt. Edgecumbe sanitarium near Sitka. The latter institution previously had 200 beds.

Millions of dollars went into building up the defenses in Alaska during the year. The army and navy were spending more



SKI TROOPERS resting for a moment during joint U.S.-Canadian war manoeuvres held under arctic conditions in Alaska and the Yukon during 1950. Some 5,200 troops were involved in the war games identified as Exercise "Sweetbriar"

than \$120,000,000 for construction, and more than \$4,000,000 more was earmarked for improving the Alaska communication system, a branch of the army. Another \$1,500,000 was being spent to repair the Alaska railroad, a government-owned line which operates through interior Alaska from Seward to Fairbanks and to Whittier, a port, like Seward, on the southwest coast.

**Education.**—Alaska in 1950 had 32 high schools with 2,169 pupils and 182 teachers. The elementary schools, 94 in number, had an enrolment of 10,727 and 471 teachers. For native children the Alaska native service, a division of the department of the interior, maintained 85 day schools and three boarding schools with an enrolment of 5,000.

**Banking and Finance.**—The territory had a net cash balance of \$2,728,117.83 at the end of 1950. Alaska has no bonded indebtedness and operates on a cash basis. Funds of the territory were deposited in the 17 territorial banks and 4 national banks located within Alaska.

**Fisheries.**—Alaska's salmon pack, considered the largest in the world, totalled 3,177,003 cases in 1950 with a value of \$85,000,000. The halibut, shrimp, crab and cod fishery brought the total value of the sea-food pack of the territory up to more than \$100,000,000 for the year.

**Mining.**—Total value of mineral production for the year was slightly more than \$15,000,000. Of this production, gold accounted for \$8,000,000 while the balance represented coal, silver, copper, lead, zinc and platinum. The gold strike of 1949 in the Yukon river area northeast of Fairbanks failed to develop in 1950. The few claims which revealed possible bonanza production could show no colour worthy of production on large-scale operation.

**FILMS OF 1950.**—*Eskimos—Winter in Western Alaska* (Encyclopædia Britannica Films Inc.); *Invisible Rampart* (United World Films, Inc.) (L. M. W.)

**Alaska Highway:** see ROADS AND HIGHWAYS.

**Albania.** A people's republic in the western part of the Balkan peninsula. Albania is bounded north and east by Yugoslavia and south by Greece, and has an Adriatic coast of 200 mi. Area: 10,629 sq.mi.; population: (1930 census) 1,003,097; (mid-1950 est.), 1,300,000. Language: literary Albanian and two spoken dialects, the Gheg north of the river Shkumbi and the Tosk in the south. Religion (1949 est.): Moslem 820,000, Greek Orthodox 280,000, Roman Catholic 115,000. Chief



towns (1949 est.): Tiranë (cap., 40,000), Scutari or Shkodër (30,000), Koritsa or Korçë (28,000), Elbasan (18,000). Chairman of the presidium of the People's assembly, Omer Nishani; prime minister, minister of foreign affairs and of national defense, Gen. Enver Hoxha.

**History.**—The Communist government remained subservient to soviet policy during 1950, and there was no change in the hostile attitude toward Greece and Yugoslavia. Hunger, approaching famine in winter, and widespread disease were the results of a year of political and economic isolation. This situation was only partially relieved at the end of the year by shipments of consumer goods and light industrial equipment from the Soviet Union and its satellites. Repeated government claims of success in industry through the employment of stakhanovite (Russian speed-up) methods and in agriculture by the development of the soviet collective system were exaggerated.

A realistic picture of the situation was given in March when four senior government officials, including the minister of industry, Abedin Shehu, were expelled from the central committee of the Communist party for what was termed "serious errors and mistakes in state and party work." On April 10 the prime minister, Enver Hoxha, addressing the second national conference of the party at Tiranë, stated that more than 5,000 "enemies of the people" had been chased by the defense corps over the border into Yugoslavia. The prime minister also condemned the minister of industry for the failure of the economic plan.

Two espionage trials, at which six Albanians were accused of spying on behalf of the western powers, preceded the general election on May 28. Full publicity given to the death sentences provided the electorate with a timely reminder of their expected loyalty to the regime. There were the usual single lists of Communist candidates, and official results claimed an outstanding victory. Out of 99.43% of the electorate who voted, 98.99% of the votes were cast for the Democratic front (Communist) candidates.

On May 30 Yugoslavia closed its legation in Tiranë after protesting against numerous frontier incidents and maltreatment of its diplomatic officials. During the year western diplomatic representation remained restricted to the French and Italian legations. Great Britain's attempts to obtain compensation, awarded by the International Court of Justice (*q.v.*), for the damage caused to its two destroyers by mines in the Corfu channel in 1946 were unsuccessful.

The United Nations Special Committee on the Balkans established that the government had actively interfered in Greek affairs by providing both the arms and the means for Greek Communists to return to Greece after they had received a period of political and sabotage training in Poland under soviet instruction. It was learned that the majority of Greek guerrillas who had escaped to Albania in 1948 had been removed by ship to Rumania and Poland.

In September there was a soviet month of culture and a Korean friendship week, during which funds were collected for the North Koreans. Delegations of technicians, workers, Greek Orthodox and Moslem clergy and peasants visited the U.S.S.R. to learn soviet methods. A soviet mission, composed of more than 3,000 technicians, directed the construction of a railway line from Durrës (Durazzo) to Tiranë and the erection of port installations at Vlorë (Valona). Despite the faithful allegiance of the government to Moscow, Albania was not granted membership in the Cominform, nor was it brought into the network of mutual aid treaties which bind all the other satellites to the Soviet Union.

The National Committee for Free Albania, composed of anti-Communist leaders in exile, continued its activity in Rome, and a New York, N.Y., office was opened. Hasan Dosti was appointed chairman, and Ihsan Toptani became the Albanian representative

on the eastern section of the European movement. (S. E. Ws.)

**Education.**—Schools (1949): elementary 1,909, pupils 162,000; higher elementary 145 and secondary 20, total pupils 19,140. A teachers' college was opened at Tiranë in 1946.

**Finance.**—Monetary unit: lek, until mid-1948 at par with the Yugoslav dinar, with an official exchange rate of 49.6 lek to the U.S. dollar.

**Transport and Communication.**—Roads (1949): 1,766 mi. Licensed motor vehicles (Dec. 1949): cars 500; commercial 1,200. Railways (1949): 62 mi. Shipping (1949): number of merchant vessels 6. Post and telegraph offices 53. Radio receiving sets (1949): 40,000.

**Agriculture.**—Main crops (metric tons): maize (1947) 140,000; wheat (1947) 54,000; tobacco (1945) 1,500; olives (prewar) 17,000; grapes (prewar) 14,000. Livestock: cattle and buffaloes (1945-46) 371,000; sheep (1946) 1,700,000; horses (1946 est.) 50,000; pigs (1946 est.) 35,000; goats (1946 est.) 854,000; asses (1946 est.) 40,000; mules (1946 est.) 10,000; chickens (1938) 2,000,000.

**Industry.**—Crude oil production (1949) 325,000 metric tons.

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**Alberta.** Most westerly of the three prairie provinces of Canada, Alberta was created by parliament in 1905. Area: 255,285 sq.mi., of which 6,485 sq.mi. are water; pop.: (1941) 796,169, (1950 est.) 895,000; largest city: the provincial capital, Edmonton, (1950 est.) 150,000.

**History.**—A number of significant new laws were made at the 1950 session of the legislature. The government established power to participate in any demarcation of the boundary line between Alberta and the Northwest Territories or any adjoining province; broadened the dairymen's act to make all dairies, regardless of the smallness of their operations, purchase farmers' milk or cream on a butterfat basis; brought drugless practitioners and optometrists under boards of examiners appointed by the crown rather than boards elected by those associations, with licences directly under government control; gave the council of any city power to establish a \$1-per-day hospitalization scheme, with balance to be raised by a mill rate tax; empowered the provincial minister of health to enter into agreements with municipalities to provide nursing service of a preventive or urgent nature; extended safety inspection to quarries; authorized advances to municipalities for self-liquidating projects (water works, gas plants, lighting systems, etc.); and set up a rental control board to take over federal rental controls upon their expiry on April 1, 1951.

The 35-sq.mi. Leduc oil field reached a peak of 313 producing wells and showed proved reserves of 250,000,000 bbl.; other active fields brought Alberta's proved oil reserves to 1,000,000,000 bbl. (with estimates running to a maximum of 20,000,000,000 bbl.). John James Bowlen replaced J. C. Bowen as lieutenant governor.

**Education.**—Latest available revised statistics for provincially controlled schools were for the year ending 1947: total enrolment, 155,517; average daily attendance, 131,011; teachers, 5,308; total revenues, \$18,931,352.

**Finance.**—The provincial budget for the 1950-51 fiscal year was: revenue, \$77,213,000; operating expenses, \$51,018,000; capital expenses, \$23,658,000; surplus, \$2,537,000. The sum of \$19,000,000 was set aside from capital revenue reserves for the retirement of bonded debt. Total provincial debt on June 1, 1950, stood at \$110,000,000 (1936: \$167,000,000).

**Agriculture.**—Although 1950 wheat acreages declined, coarse-grain acreages increased. There were declines in poultry, egg and pork production caused by unfavourable developments in the United Kingdom market. Nevertheless, in general, farm economy stood at a high level. On Jan. 1, 1950, outstanding farm mortgages totalled \$8,500,000 (1937: \$39,700,000), and farm property was valued at \$1,350,000,000 (1937: \$685,000,000). Major agricultural statistics for 1949 included: field crops, \$244,000,000; livestock, \$233,400,000; dairy products, \$52,000,000.

**Industries.**—In 1950, 43 new industries were established, 25 of them in Edmonton and related to the booming oil trade (tanks, pipe, bits, perforating guns, etc.). A \$10,000,000 pulp and paper mill was started on the Saskatchewan river near Edmonton. Estimated total value of 1950 manufactured goods was \$500,000,000 (1949: \$450,000,000; 1948: \$400,000,000).

**Minerals.**—During 1950, 300 oil companies spent \$150,000,000 on exploratory drilling for oil, with an average of two wells per day brought into production. By Sept. 1, 1950, production capacity was 170,000 bbl. per day, but actual production was restricted to 81,000 bbl. per day (stepped up to 99,269 bbl. by Nov. 20) because of limited market. The province made natural gas wastage (by burning in flares at wells) illegal. The \$90,000,000, 1,150-mi. pipe line connecting Edmonton with Regina, Sask., and Superior, Wis., was begun May 1 and completed Oct. 31, and oil began moving. Total daily initial capacity was 90,000 bbl. with 140,000 bbl. daily peak capacity. (See also CANADA.)

(C. Cy.)



**Alcohol, Industrial.** United States production during the year 1949-50 of ethyl alcohol at plants principally for industrial use was 313,535,129 proof gallons, compared with 351,015,364 gal. in 1948-49. However, production speeded up after June, the period July through Oct. 1950 giving 143,126,449 proof gal., as compared with 95,869,414 gal. during the same period of 1949.

Stocks were drawn down some as the synthetic rubber program expanded.

The Reconstruction Finance corporation contracted with France for the purchase and delivery (mostly in 1951) of 120,000,000 gal. at 63 cents per gallon. One undecided problem at the end of the year was whether surplus potatoes would be converted into alcohol—one major distillery was reported as offering to produce potato alcohol from government surplus potatoes at 95 cents per gallon, the price already being paid for alcohol from grain.

(J. K. R.)

**Alcoholic Foundation, Inc. (Alcoholics Anonymous):** see SOCIETIES AND ASSOCIATIONS.

**Alcoholic Intoxication:** see INTOXICATION, ALCOHOLIC.

**Alcoholic Liquor:** see BREWING AND BEER; LIQUORS, ALCOHOLIC; WINES.

**Alder, Kurt** (1902- ), German chemist, obtained the degree of doctor of philosophy from the University of Kiel, where he was a pupil of Otto Diels (*q.v.*). He was appointed extraordinary professor of chemistry at Kiel in 1934 but later went to occupy the chair of chemistry and chemical technology at Cologne. In 1950 the Nobel prize for chemistry was awarded jointly to Diels and Alder for their work on diene synthesis (the Diels-Alder reaction). Diene synthesis is concerned with the formation of complex organic compounds such as plastics and is of great practical as well as theoretical importance. The discovery was regarded as an outstanding achievement of organic chemistry. Their first paper on the reaction was published in 1928. Alder, who was still working on the diene synthesis in 1950, made important contributions to the stereochemistry and the energetics of the process.

(W. J. BP.)

**Alemán, Miguel** (1903- ), president of Mexico, was born on Sept 29 in Sayula, Veracruz, Mexico. He studied at the National Preparatory school in Mexico City and later at the National University of Mexico, where he received his law degree in 1928. He was successively consulting attorney for the Mexican ministry of agriculture; judge of the federal court; senator from Veracruz; governor of that state (1936-40); and minister of the interior under Pres. Manuel Avila Camacho. Alemán was elected president of Mexico in 1946. Throughout his presidency he was a champion of inter-American unity, and he worked closely with U.S. officials in promoting political and economic solidarity throughout the hemisphere. Domestically his program emphasized education, especially the end of illiteracy; industrialization; irrigation and modernization of the practices of agriculture, source of income for 70% of the population; and encouragement of the tourist trade. His police quickly ended a leftist-led strike demonstration in Jan. 1950, by jailing 800 striking taxi drivers. In pursuit of his emphasis on rural improvement, he approved in April the granting to women in Mexico of the same rights to own land and obtain credit which men enjoyed. Plans were disclosed to train farm women in farming and homemaking, and to improve medical services.

**Aleutian Islands:** see ALASKA.

**Alfalfa:** see HAY.

**Algeria.** A French territory of North Africa, Algeria is situated between Morocco (west) and Tunisia (east), with a status of government-general of the French union. Total area: 846,124 sq.mi., administered in two parts: northern Algeria (80,966 sq.mi.), comprising the overseas *départements* of Algiers, Oran and Constantine, and the four territories of southern Algeria (765,158 sq.mi.). Pop.: (1948 census) 8,681,785, including 816,993 (9.4%) in the southern territories; (1949 est.) 8,751,000. Arabs and Berbers constitute 86.7% of the population; they are Moslem and speak Arabic, though the countryfolk of Kabylia still use the Berber tongue. There was a flourishing Jewish community estimated in 1949 at 130,000. Chief towns (1948 census): Algiers (cap., 315,210); Oran (256,661); Constantine (118,774); Bône (102,823); Tlemçen (69,668). Governor general: Marcel Edmond Naegelen (appointed in 1948).

**History.**—Despite constant bitter attacks by the Nationalist Democratic Union of the Algerian Manifesto (U.D.M.A. or Union Démocratique du Manifeste Algérien, led by Ferhat Abbas) in its organ *La République algérienne*, and notwithstanding violent pan-Arab opposition by the Movement for the Triumph of Democratic Liberties (M.T.L.D. or Mouvement pour le Triomphe des Libertés Démocratiques, led by Messali Hajj), conditions remained calm during 1950. Public opinion appeared little disturbed by the plot engineered by the paramilitary organization of the M.T.L.D., which in April led to many arrests. Of greater importance was the action taken by the ulemas to ensure the independence of the Moslem faith in relation to the state and to develop the teaching of Arabic. The president and vice-president of their association in December visited Paris to petition the government for full religious liberty. Under the education scheme 500 new classes with capacity of 25,000 pupils were opened for instruction in French. The extension by special enactment of the term of office of Governor General Naegelen, which by a statute of the national assembly (of which he is a member) was due to expire in August, gave rise to discussion.

**Finance.**—Budget (1950-51 est., the fiscal year beginning April 1): revenue 72,530,100,000 fr., expenditure 72,508,900,000 fr. Monetary unit: Algerian franc=metropolitan franc, with an exchange rate of 349.9 fr. to the U.S. dollar (free rate) in Nov. 1950.

**Foreign Trade.**—(1949) Imports 127,521,000,000 fr.; exports 88,709,000,000 fr.

**Transport and Communications.**—Railways (1947): 4,338 km. Metalled roads (1947): northern Algeria 52,519 km., southern Algeria 282 km.; nonmetalled roads: 15,046 km.; tracks: 20,575 km. Motor vehicles licensed (Jan. 1948): cars 26,165; trucks 19,895. Ships entered (1949): Algiers 3,041, Oran 2,437; cargo unloaded (in all ports) 2,910,200 metric tons, loaded 5,811,800 metric tons. Air transport (1949): aircraft landed 10,916; passengers flown: arrivals 118,700, departures 147,000; freight carried (metric tons) 19,324, mail 860. Telephone subscribers (1949): 56,000.

**Agriculture.**—Main crops (metric tons, 1949): wheat 946,400; barley 890,400; oats 142,300; citrus fruits 223,000; olives 125,000; figs 80,000; dates 105,000; tobacco 20,000; vegetables 544,000; wine 14,467,000 hl. Livestock (1949): cattle 747,000; sheep 3,839,000; goats 2,596,000; pigs 160,000; horses 204,000; asses 255,000; mules 230,000; camels 138,000.

**Industry.**—Mineral production (metric tons, 1949): phosphate rock 644,800; coal 258,000; iron ore 2,536,900; zinc ore 17,400. Industrial production (metric tons, 1949): pig iron 6,418,000; steel 893,000; copper 3,721,000; cement 128,000,000; superphosphates 87,888,000; telephonic cables 4,193,000; matches 128,000,000 boxes.

(C. A. J.)

**Alien Property, Office of:** see FOREIGN INVESTMENTS.

**Aliens.** United States.—By using the true figures for immigration and naturalization and estimating alien mortality for the period of registration, it is possible to arrive at the approximate alien population. On such a basis it is estimated that there were approximately 3,000,000 resident aliens in the continental United States on June 30, 1946. This estimate does not take into account persons there temporarily, that is, non-immigrants, border crossers and imported labourers.

**Naturalizations.**—There were 66,346 petitions for naturalization granted to noncitizens during the year ended June 30, 1950. Thus the number of persons naturalized continued to re-



main at the low level that had been maintained for the several years following World War II, when in the five years from July 1, 1940, through June 30, 1945, there were 1,500,000 naturalizations, or an average per year of 300,000.

The following table shows the principal countries of former allegiance of persons naturalized.

Former nationality	Years ended June 30			
	1950	1949	1948	1947
British . . . . .	12,697	13,284	12,361	20,328
Canadian . . . . .	5,882	5,347	3,860	*
German . . . . .	6,065	5,777	7,486	10,703
Italian . . . . .	8,743	8,301	9,452	11,516
Polish . . . . .	3,793	4,371	5,136	6,495
U.S.S.R. . . . .	2,122	2,752	3,143	3,562
Filipino . . . . .	3,257	3,478	5,768	10,764
Other . . . . .	23,787	23,284	22,944	30,536
Total . . . . .	66,346	66,594	70,150	93,904

\*Included with British.

There were 2,276 petitions for naturalization denied by the courts during 1950. Included in this number were 1,537 cases denied for want of prosecution. In most of these cases, however, the petitioner for naturalization failed to prosecute the petition after notice that the petition would be recommended for denial on the merits of the case. The petitioner failed to establish good moral character in 139 cases. In 151 cases he failed to establish sufficient knowledge and understanding of the principles of the constitution. Only 40 petitions for naturalization were denied on the ground that the petitioner had failed to establish attachment to the principles of the constitution of the United States and favourable disposition to the good order and happiness of the United States.

Of the 415 judgments of naturalization revoked, 392 were cases in which the foreign service of the department of state initiated action because naturalized citizens became residents of foreign states within five years of naturalization. In 23 cases action was initiated by the immigration and naturalization service because naturalization was fraudulently or illegally procured.

In addition to those persons whose United States citizenship was revoked, there were 5,792 persons who expatriated themselves by affirmative action; 1,693 by voting in a foreign political election or plebiscite; 1,096 through naturalization in a

foreign state; 1,424 by taking up residence in a foreign state; 721 by serving in the armed forces of a foreign state; 109 by departing from the United States to avoid military service and for other reasons.

**New Legislation.**—On April 20, 1950, S. 3455—an omnibus bill having as its objective the complete revision of immigration and nationality laws—was introduced in the senate. Possibly because of this measure, which would include changes embodied in other independent bills, there were few public laws relating to immigration and nationality passed in the fiscal year.

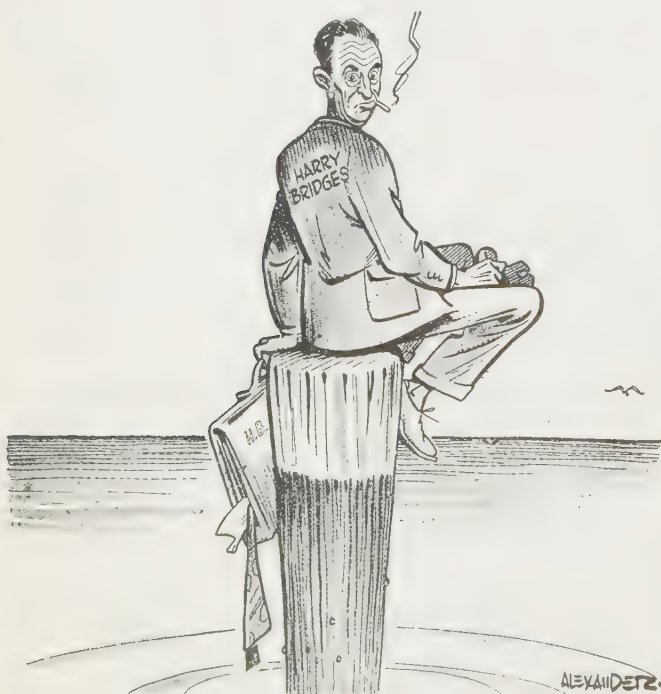
One of the more important legislative enactments of the year affecting the work of the immigration and naturalization service was public law no. 555, approved June 16, 1950, which amended the Displaced Persons act of June 25, 1948. Under the amending act the number of refugees and displaced persons who might be admitted to the United States was enlarged to a grand total of 415,744. Provisions of the 1948 act which were challenged as discriminating against racial and religious groups were eliminated. Additional safeguards were provided against the entry of those whose admission to the United States would be against the national interest. Primary responsibility for administering the statute remained in the Displaced Persons commission. However, the department of state was given authority to determine eligibility for certain groups outside Germany and Austria. While the Displaced Persons commission generally was empowered to determine the eligibility for benefits under the statute, its determinations were subject to veto power entrusted to the foreign service of the department of state and the immigration and naturalization service. The service also had continuing responsibility arising from section 4 of the act, as amended, relating to adjustment of status of displaced persons residing in the United States, and to the general requirements of the act concerning admissions under the immigration laws and deportation actions. The date for issuance of visas under the Displaced Persons act generally was extended to June 30, 1951, although in some instances (such as applicants who were orphans or German expellees), visas might be issued until June 30, 1952.

The amendment of the act added provisions which increased the responsibilities of the service. No visa may be issued to any alien whose admission must be based upon the submission of an assurance of suitable employment unless and until he executes a signed statement accepting and agreeing in good faith to abide by the terms of employment provided in the assurance. Upon a finding that the statement was falsely made, the alien is to be deported.

Every displaced person admitted on the basis of an assurance of employment must report, on Jan. 1 and July 1 of each year until four reports have been made, respecting the nature and place of his employment and the place of residence of himself and members of his family. Wilful violation of this requirement, enforcement of which lies with the service, renders the alien subject to a fine of up to \$500 or imprisonment up to six months.

No visa may be issued to any displaced person whose admission would be against the national interest. Upon arrival at a port of entry the displaced person must take and subscribe an oath of affirmation that he is not and has never been a member of any organization or movement contrary to the United States and its form of government. If the oath is wilfully false, the alien may be prosecuted for perjury. If one not entitled to a visa under these provisions nevertheless gains admission he is to be taken into custody and deported.

Public law 587, approved June 30, 1950, was another law making quota provisions for a special group of immigrants. It provided relief for the sheep-raising industry by making 250 special quota immigration visas available to certain alien sheepherders



"EXPORTABLE SURPLUS," a cartoon by Alexander published in the *Philadel. Evening Bulletin*, in 1950



for a period of one year. (See also IMMIGRATION AND EMIGRATION; LAW.)

(A. R. MY.)

**Great Britain.**—The number of aliens of more than 16 years of age registered in the United Kingdom on Oct. 1, 1950, was 426,437 (males 261,915; females 164,522). The principal nationalities represented and the numbers of each compared with similar figures at the same date in 1949 were: Austrian 10,037 (11,034); Belgian 5,520 (6,467); Chinese 9,725 (9,367); Czechoslovak 6,017 (7,207); Dutch 9,117 (9,158); Estonian 5,599 (5,816); French 14,901 (14,087); German 47,762 (44,249); Hungarian 4,996 (5,536); Italian 21,672 (18,667); Latvian 13,794 (13,855); Lithuanian 6,860 (7,165); Norwegian 5,966 (5,868); Polish 145,524 (150,378); Russian 38,172 (40,785); Swiss 12,878 (13,107); U.S. 18,283 (16,656). The figures included 11,000 aliens to whom no nationality could be attributed.

The flow of foreign passenger traffic through United Kingdom ports continued to be heavy, and the number of incoming travelers remained at nearly 650,000. In July 1950, 114,738 foreigners landed at United Kingdom ports and 97,062 embarked. Similar figures in July 1949 were 101,768, and 84,076. As a result of individual visa agreements, nationals of the following countries were not required to obtain visas for travel to the United Kingdom: Belgium, Denmark, France, Iceland, Italy, Liechtenstein, Luxembourg, Monaco, the Netherlands, Norway, San Marino, Sweden, Switzerland and the United States.

By Oct. 1, 1950, about 77,000 aliens, mostly of Polish or Baltic origin, who had been temporarily accommodated in displaced persons camps on the continent, had been admitted for employment in the United Kingdom with a view to settlement. With them came nearly 4,000 dependents. These foreigners were restricted to employment in undermanned industries but from Jan. 1, 1951, those with three years' residence would be free to take any work they could obtain.

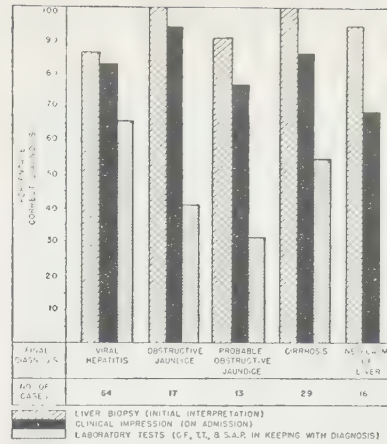
Out of the 174,000 Polish servicemen brought to the United Kingdom after mid-1945, 61,500 were repatriated and 17,000 assisted to emigrate. The remainder settled in civilian life in Great Britain and 31,000 persons dependent on them were brought from abroad to join them. During 1950 about 2,000 more Polish refugees were admitted from the Lebanon and east Africa.

Between Jan. 1 and Oct. 1, 1950, 5,702 new applications for naturalization were lodged, compared with a yearly average of 1,708 before World War II and 5,610 for the same period in 1949. Certificates granted during the same period numbered 5,197, an annual rate of approximately 6,950 as compared with 9,066 in 1949.

(T. G. W.)

**Alimentary System, Disorders of.** **Oesophagus.**—Rupture and bleeding from oesophageal varices are the primary cause of death in a high percentage of patients with cirrhosis of the liver, hence the use of sclerosing solutions in their treatment, or extensive surgical procedures such as splenectomy, splenorenal or portacaval shunting operations to reduce portal hypertension, and even transthoracic oesophagogastric resection. C. B. Barnett and Sidney Cohen treated a small series of patients with oesophageal tamponade, gavage and thrombin. A Miller-Abbott tube or its modification was used.

The importance of the psychosomatic or emotogenic factor in patients with irritable colon, cardiospasm, pylorospasm, anorexia nervosa, possibly peptic ulcer and chronic ulcerative colitis is generally conceded. Stewart Wolf, T. P. Almy and Catherine R. Lee reported their experimental observations on cardiospasm in 14 human subjects. Their studies indicated that the dilated, elongated and obstructed oesophagus of cardiospasm may be the end stage of a process which in early stages is re-



**ACCURACY OF INITIAL DIAGNOSIS** of the cause of jaundice made by (1) the liver biopsy, (2) clinical examination and (3) laboratory tests

versible, and which is never entirely static. In all patients it was possible to correlate episodes of symptomatic exacerbation and remission with variations in life situation, feeling state and attitude.

**Stomach and Duodenum.**—Numerous articles as well as an increasing number of texts on peptic ulcer continued to dominate the gastro-enterologic literature in 1950. The prevalence of this disease, especially duodenal ulcer

in adults and the important role it plays in the cause of disability and death were matters of much concern to physician and layman alike. Hence arises the interest displayed in aetiology in differentiation of small ulcerating gastric carcinoma from benign gastric ulcer, and in more effective methods of medical treatment. Of great interest to clinicians was the revelation by A. C. Ivy, M. I. Grossman and W. H. Bachrach of the multiplicity and interdependence of factors in the production of experimental ulcer in the rabbit and dog, and the superimposition of one factor on another. These observers also looked forward to the day when mutilating operations for ulcer would be unnecessary. The parasympatholytic chemical agent, bethanechol, is usually an effective one in the treatment of uncomplicated ulcer, especially if the drug is well tolerated. The results of vagotomy after a five-year follow-up of thousands of cases are almost identical with those of gastro-enterostomy.

Prolonged and excessive intake of milk (containing large amounts of calcium and phosphorus) and alkali in the treatment of peptic ulcer may cause damage to the kidneys, tendency to fixation in urinary calcium secretion, excessive calcium in the blood, tendency to supersaturation with calcium phosphate and deposition of calcium salts in body tissues, according to the observations of C. H. Burnett, R. R. Commons, Fuller Albright and J. E. Howard. Clinical improvement followed intake low in milk and alkali.

Does hypersecretion of gastric juice exist prior to the development of ulcer, duodenal ulcer in particular? Follow-up study on 100 normal medical students subjected to histamine test meals 15 years earlier was undertaken by R. Doll, F. A. Jones and N. F. MacLagan (London). Subsequent medical histories were obtained on 85 of the original group. The results indicated that hypersecretion is a cause rather than an effect of ulcer.

R. C. Batterman and I. Ehrenfeld concluded, after investigation, that tobacco smoking is detrimental to the peptic ulcer patient.

**Hepatobiliary and Pancreatic Systems.**—Experiences in differential diagnosis of jaundice by needle biopsy of the liver were reported by F. G. Weisbrod, L. Schiff, E. A. Gall, F. P. Cleveland and J. R. Berman. From 157 patients with jaundice, 181 adequate liver biopsies were obtained. The chart shows that diagnosis based on biopsy was much more reliable than that based on the combined results of certain tests of liver function, namely cephalin flocculation, thymol turbidity and serum alkaline phosphatase determinations in the various forms of jaundice studied. Errors in differentiating virus hepatitis from obstructive jaundice on the basis of needle biopsy under certain circumstances were pointed out. Diagnostic efficiency improved as the



person performing the biopsies and the pathologist interpreting them became more experienced.

The detection of chronic pancreatitis in its earlier stages had been exceedingly difficult. The familiar symptoms and signs characterize the advanced stage of the disease. Further progress apparently depends on results of tests of pancreatic function. Norms were established for total secretory volume, concentration of bicarbonate and total bicarbonate and amylase responses to a standard commercially available preparation of secretin. A study of the data by D. A. Dreiling and Franklin Hollander yielded evidence making necessary the use of an 80-min. collection period, and the inclusion of enzyme determinations in the clinical application of the procedure. Body weight adjustment of the values for total volume of secretion and total quantity of amylase results in a marked decrease in a scatter of the data, and therefore narrowing of the range of normalcy. For this reason volume and enzyme data should be reduced to a per kilogram basis.

As early as 1923, B. B. V. Lyon reported finding cancer cells in the duodenal secretions, but this aspect of cytologic diagnosis was not pursued. G. McNeer and J. H. Ewing diagnosed pancreatic carcinoma in two cases from the presence of exfoliated cancer cells in the duodenal secretions. Several months later H. M. Lemon and W. W. Byrnes reported observations on 16 cases.

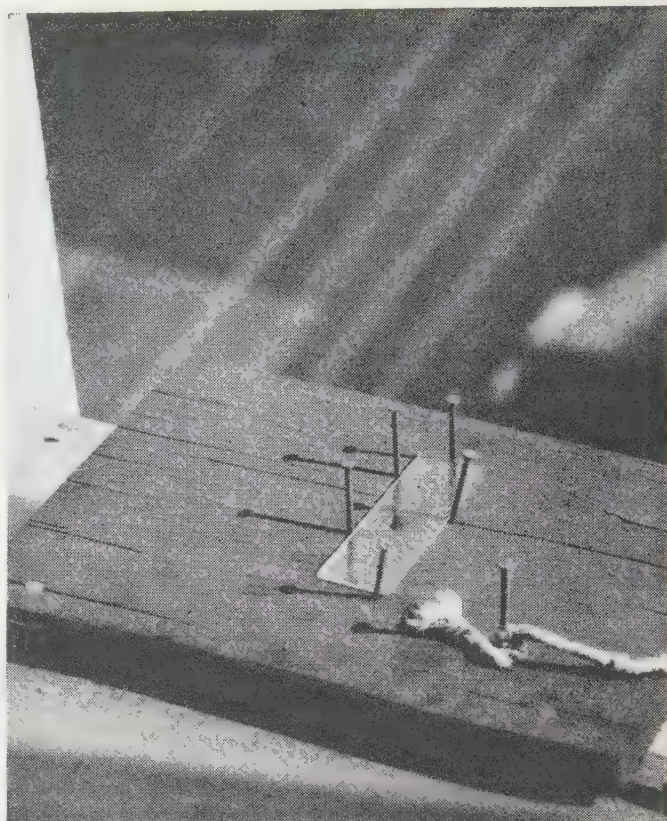
**Intestines.**—Sulfonamides reduce the carrier rate following the acute phase of bacillary dysentery, but reports were contradictory as to their efficacy in other respects during this phase. Streptomycin is uniformly effective in relieving the symptoms of tuberculous enteritis. H. H. Anderson and his associates found the thioarsenates highly effective and superior to all other arsenical amoebicides. Aureomycin in the treatment of patients with refractory amoebiasis was followed by encouraging results. The potency of chloroquine in the treatment of hepatic amoebiasis was amply confirmed by various authorities.

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**FILMS OF 1950.**—*Human Digestion* (Athena Films, Inc.). (G. B. EN.)

**Allergy.** Numerous workers in the field of allergy studied the effects resulting from the use of ACTH (adrenocorticotrophic hormone) and cortisone in hay fever, asthma, hives and eczema. M. Samter used ACTH in six asthma patients and reported good relief. H. M. Caryer, G. A. Koelsche, L. E. Prickman, C. K. Maytum, C. F. Lake and H. L. Williams used cortisone in three patients with asthma and hay fever and reported relief within three days after treatment began. The symptoms of asthma were helped more readily than those of hay fever. R. A. Carey, A. McGehee Harvey, J. E. Howard and W. L. Winkenwerder treated 23 asthma patients with either ACTH or cortisone. With the former, 15 of 19 patients were completely relieved while under treatment. After cessation of treatment the period of relief varied from three days to as long as ten months in one patient. Cortisone, used on only five patients, was less effective than ACTH.

The fundamental nature of the allergic state was not changed by the use of either ACTH or cortisone. M. Zeller and T. G. Randolph found no change in the skin reactions or in the sensitizing properties of the blood serum in pollen-sensitive patients who received ACTH. J. Leger, W. Leith and B. Rose found that ACTH, even in massive doses, did not prevent anaphylaxis in guinea pigs. E. F. Fischel found no effect on antibody formation or on the reaction between antigen and antibody in animals treated with ACTH.



GLASS MICROSCOPE SLIDE shown anchored to a window ledge 12 stories above street level in St. Louis, Mo., where it provided the city's daily pollen count during 1950. After 24 hours' exposure, pollen grains and plant spores adhering to the glass made sticky with glycerine jelly were stained and counted at 9 A.M. six days a week, and the figures relayed to the local office of the U.S. weather bureau

The basis for the relief of allergy symptoms by these substances was not clarified in any of the publications. B. Rose found a marked decrease in the excretion of histamine in the urine when ACTH was used in patients with asthma. This seemed to indicate a decrease in histamine release in the tissue. M. Samter suggested that the mesenchymal tissues of the bronchi were altered by ACTH so that they were refractory to the effect of substances released during the allergic reaction.

The need for caution in the use of other drugs in allergic cases was emphasized in a number of reports. A. W. Hilker reported the development of a marked reduction in white blood cells (agranulocytosis) following the use of pyribenzamine. J. J. Crumbley, Jr. reported a serious haemolytic type of anaemia which developed in three patients following the use of other antihistamines. R. J. Burleson described an anaphylactoid shock resulting from the administration of penicillin.

An interesting new cause of typical hay fever symptoms during the summer was described by G. E. Gaillard. The aphid (plant louse) was found to be the cause of symptoms in 75 out of 121 patients who had summer and late fall hay fever symptoms not explained by pollen sensitivity. The patients, who lived in the vicinity of White Plains, N.Y., had positive skin reactions to extracts of aphid, and their blood contained skin-sensitizing antibodies to this substance.

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**Allied Council for Japan:** see JAPAN.



**Alloys:** see CHEMISTRY; METALLURGY; NICKEL.

**Almonds:** see NUTS.

**Aluminum.** World production of aluminum showed little improvement in 1949, and in many countries the output declined. The outputs of the major producing countries and the world totals during recent years are shown in Table I.

Table I.—World Production of Aluminum

(In thousands of short tons)

	1943	1944	1945	1946	1947	1948	1949
Austria . . .	48.6	44.3	5.8	1.1	5.0	14.7	18.9
Canada . . .	495.8	462.1	215.7	193.4	299.0	367.1	366.8
France . . .	51.2	28.8	41.0	52.9	58.6	71.4	65.0
Germany . . .	223.8	210.5	229	...	...	8.0	26.5
Great Britain . . .	62.3	39.7	35.7	35.4	32.4	33.6	34.0
Italy . . .	50.8	18.5	4.8	12.2	27.6	36.5	27.9
Japan . . .	119.0	120.7	18.1	3.5	3.0	7.7	23.4
Norway . . .	25.9	22.1	5.1	18.4	23.9	34.2	38.6
Switzerland . . .	20.4	10.7	5.5	14.4	20.3	20.9	24.3
U.S.S.R. . . .	68.7	78.3	95.1	115.7	132.3	154.3	?
United States . . .	920.2	776.4	495.1	409.6	571.8	623.5	603.5
Others . . .	58.2	54.3	13.6	12.7	15.8	25.7	?
Total . . .	2,145.0	1,866.0	958.0	870.0	1,189.0	1,398.0	1,442.0

**United States.**—The salient statistics of the aluminum industry in the United States, as reported by the U.S. bureau of mines, are shown in Table II.

Table II.—Data of Aluminum Industry In U.S.

(In thousands of short tons)

	1944	1945	1946	1947	1948	1949
Production, primary . . .	776.4	495.1	409.6	571.8	623.5	603.5
Imports . . .	100.9	334.1	42.6	15.6	89.1	77.3
Exports . . .	188.1	5.7	16.7	62.3	49.1	36.8
Producers' stocks . . .	—55.3	+26.2	—26.3	+0.8	+2.4	+15.9
Available new supply . . .	744.6	794.7	461.9	524.2	661.9	628.1
Secondary recovery . . .	325.6	298.4	278.1	344.8	286.8	180.8
From old scrap . . .	22.9	27.3	90.5	163.8	95.6	44.6
Secondary imports . . .	1.8	5.2	14.5	15.7	71.7	40.1
Total supply . . .	769.3	837.2	566.9	703.7	829.2	712.8
Consumption, primary . . .	671.1	696.8	575.7	571.8	684.6	636.0

Following a sharp decline in the last quarter of 1949, production was stepped up in 1950 to the highest level since 1944, with a total of 527,764 tons in the first three quarters.

**Canada.**—Production increased from 367,079 tons in 1948 to 369,466 tons in 1949, but exports declined from 328,551 tons to 288,364 tons. (G. A. Ro.)

**Ambassadors and Envoys.** The following is a list of ambassadors and envoys to and from the United States, Jan. 1, 1951.

To the United States	Country	From the United States
*Naim, H.R.H. Sarder Mohammad . . .	Afghanistan	*Dreyfus, Louis G., Jr.
*Remorino, Jerónimo . . .	Argentina	*(Vacancy)
*Makin, Norman J. O. . . .	Australia	*Jorman, Pete
Kleinwachter, Ludwig . . .	Austria	Donnelly, Walter J.†
*Silvercrucis, Baron . . .	Belgium	*Murphy, Robert D.
*Martinez Vargas, Don Ricardo . . .	Bolivia	*Florman, Irving
*Nabuso, Mauricio . . .	Brazil	*Johnson, Herschel V.
*Barrington, James . . .	Bulgaria <sup>2</sup>	
	Burma	*Key, David McK.
*Wrong, Hume . . .	Cambodia	Heath, Donald R. <sup>3</sup>
*Corea, G. C. S. . . .	Canada	*Woodward, Stanley
*Nieta del Rio, Félix . . .	Ceylon	*Satterthwaite, Joseph C.
*Koo, V. K. Wellington . . .	Chile	*Bowers, Claude G.
*Zuleta-Angel, Don Eduardo . . .	China	Rankin, Karl L. <sup>4</sup>
*Oreamuno, J. Rafael . . .	Colombia	*Beaulac, Willard L.
*Machado, Luis . . .	Costa Rica	*(Vacancy)
*Ouatra, Vladimir . . .	Cuba	*Butler, Robert
*Kauffmann, Henrik de . . .	Czechoslovakia	*Briggs, Ellis O.
*Thomen, Luis Francisco . . .	Denmark	*Anderson, Eugene
*Pañaherrera, Don Luis Antonio . . .	Dominican Rep.	*Ackerman, Ralph H.
*Abdul Rahim, Mohamed Kamil Bey . . .	Ecuador	*(Vacancy)
*Castro, Don Héctor David . . .	El Salvador	*Caffery, Jefferson
	Egypt	*Shaw, George P.
Kaiv, Johannes <sup>5</sup> . . .	Finland	(Legation at Tallinn closed)
*Imru, Ras H. S. . . .	France	*Merrell, George R.
*Julita, K. T. . . .	Germany	Cabot, John M.
*Bonnet, Henri . . .	Greece	*Bruce, David K. E.
	Guatemala	McCloy, John J. <sup>6</sup>
*Franks, Sir Oliver Shewell . . .	Haiti	*Gifford, Walter S.
*Politis, Athanas G. . . .	Honduras	*Peurifoy, John E.
*Goubaud-Carrera, Don Antonio . . .	Hungary	*Patterson, Richard C., Jr.
*Laraque, Gustave . . .	Iceland	*DeCourcy, William E.
*Valle, Don Rafael Heliodoro . . .	India	*(Vacancy)
Horváth, Imre . . .		Davis, Nathaniel P.
Thors, Thor . . .		Lawson, Edward B.
*Pandit, Mme. Vijaya Lakshmi . . .		*Henderson, Loy W.

To the United States	Country	From the United States
*Sastroamidjojo, Ali . . .	Indonesia	*Cochran, H. Merle
*Entezam, Nasrollah . . .	Iran	*Grady, Henry F.
Bakr, Abdullah Ibrahim <sup>7</sup> . . .	Iraq	*Crockett, Edward S., 2nd
*Hearne, John Joseph . . .	Ireland	*Garrett, George A.
*Eban, Abba . . .	Israel	*McDonald, James Grover
*Tarchioni, Alberto . . .	Italy	*Dunn, James Clement
	Japan	Sebold, William J. <sup>8</sup>
Haikal, Yusuf . . .	Jordan	Drew, Gerald A.
*Chang, John Myun . . .	Korea	*Muccio, John J.
	Laos	Heath, Donald R. <sup>3</sup>
Feldmans, Jules . . .	Latvia	(Legation at Riga closed)
Malik, Charles . . .	Lebanon	Pinkerton, Lowell C.
*King, Charles D. B. . . .	Liberia	*Dudley, Edward R.
Zadeikis, Povilas . . .	Lithuania	(Legation at Kaunas closed)
Le Gallois, Hugues . . .	Luxembourg	Mesta, Perle
*Colina, Don Rafael de la . . .	Mexico	*O'Dwyer, William
	Morocco	Plitt, Edwin A. <sup>9</sup>
Shanker, Shum Shere Jung Bahadur . . .	Nepal	Henderson, Loy W. <sup>11</sup>
Rana, Gen. <sup>10</sup> . . .	Netherlands	*Chapin, Selden
*Rajien, J. H. van . . .	New Zealand	*Scotten, Robert M.
*Berendsen, Sir Carl . . .	Nicaragua	*Waynick, Capus M.
*Sevilla-Sacosa, Don Guillermo . . .	Nicaragua	*Bay, Charles Ulrick
*Munthe de Morgenstjerne, Wilhelm . . .	Norway	*Warren, Avra M.
*Ispahani, M. A. H. . . .	Pakistan	*Gibson, Raleigh A. <sup>12</sup>
	Palestine	*Davis, Monnett B.
*Herbruger, Don Rodolfo . . .	Panamá	*Tewksbury, Howard H.
*Boettner, Don Luis Oscar . . .	Paraguay	*O'Dwyer, Harold H., Jr.
*Berkemeyer, Don Fernando . . .	Peru	
*Elizalde, Joaquin M. . . .	Philippines, Re-	
	public of the	*Cowan, Myron Melvin
*Winiewicz, Jozef . . .	Poland	*Flack, Joseph
*Fernandes, Luis Esteves . . .	Portugal	*MacVeagh, Lincoln
Magheru, Mihai . . .	Rumania	Schoenfeld, Rudolf E.
*Al-Faqih, Sheikh Asad . . .	Saudi Arabia	*Hare, Raymond A.
*Jooste, G. P. . . .	South Africa,	
	Union of	*Erhardt, John G.
*Lequerica (de) y Arquiza, José Felix . . .	Spain	*(Vacancy)
*Bohemian, Erik . . .	Sweden	*Butterworth, W. Walton
Bruggmann, Charles . . .	Switzerland	Vincent, John Carter
El-Khoury, Faiz . . .	Syria	Cannon, Cavendish W.
*Waihayakon, H.R.H. Prince Wan . . .	Thailand	*Stanton, Edwin F.
*Erkin, Feridun C. . . .	Turkey	*Wadsworth, George
*Panyushkin, Alexander S. . . .	U.S.S.R.	*Kirk, Adm. Alan G.
Mora, Jose A. <sup>7</sup> . . .	Uruguay	*Ravndal, Christian M.
Otañez, Aureliano <sup>13</sup> . . .	Venezuela	*Armour, Norman
	Viêt-Nam	Heath, Donald R.
Abu-Taleb, Sayed Abdurrahman Ibn . . .	Yemen	
Abdussamed . . .	Yugoslavia	Hare, Raymond A. <sup>14</sup>
*Popovic, Vladimir . . .		*Allen, George V.

\*Ambassador. Unstarred—Minister.

<sup>1</sup>U.S. high commissioner and minister.

<sup>2</sup>Diplomatic relations severed, Feb. 24, 1950.

<sup>3</sup>Resident in Saigon.

<sup>4</sup>Chargé d'affaires ad interim; minister and consul general; embassy at Nanking closed, March 5, 1950.

<sup>5</sup>Acting consul general.

<sup>6</sup>U.S. high commissioner and chief of mission.

<sup>7</sup>Minister plenipotentiary, chargé d'affaires ad interim.

<sup>8</sup>U.S. political adviser with personal rank of ambassador.

<sup>9</sup>Diplomatic agent and consul general with personal rank of minister.

<sup>10</sup>Resident in London.

<sup>11</sup>Resident in New Delhi.

<sup>12</sup>Consul general.

<sup>13</sup>Minister counsellor, chargé d'affaires ad interim.

<sup>14</sup>Resident in Jidda.

**American Academy of Arts and Letters:** see SOCIETIES AND ASSOCIATIONS.

**American Academy of Political and Social Science:** see SOCIETIES AND ASSOCIATIONS.

**American Association for the Advancement of Science:** see SOCIETIES AND ASSOCIATIONS.

**American Association of Law Libraries:** see SOCIETIES AND ASSOCIATIONS.

**American Association of University Professors:** see SOCIETIES AND ASSOCIATIONS.

**American Association of University Women:** see SOCIETIES AND ASSOCIATIONS.

**American Bankers Association:** see SOCIETIES AND ASSOCIATIONS.

**American Bar Association:** see SOCIETIES AND ASSOCIATIONS.

**American Bible Society:** see SOCIETIES AND ASSOCIATIONS.

**American Chemical Society:** see SOCIETIES AND ASSOCIATIONS.

**American Citizens Abroad.** On Jan. 1, 1950 the number of U.S. citizens residing abroad had increased 50,744 over the number of similar residents on Jan. 1, 1949. The increase of resident U.S. citizens in South America was more than 2,000, and in Central America and Mexico was approximately 8,000. Canada, Newfoundland and Iceland received an increase of more than 10,000 and the





West Indies and Bermuda 6,000. Outside the western hemisphere the greatest gain, 8,500, was in Europe. The increase in the Philippines was more than 7,500 and in Asia generally about 7,000. Australia and New Zealand gained about 1,000, while the continent of Africa, the only large area to register a diminution in U.S. residents, lost 112. The total increase represented a variety of the usual occupations and professions, no single one registering any remarkable gain. It represented a normal increase in the number of U.S. citizens residing abroad for longer vacations, for improvement in health, for reasons of business and for educational, philanthropic and missionary activities. During the year other U.S. citizens proceeded abroad temporarily for the same reasons and in addition many thousands made Holy Year pilgrimages. The number of passports granted to U.S. citizens in the calendar year 1950 exceeded any previous year by more than 30,000.

Detailed figures on U.S. citizens residing abroad in 1950 are as follows:

<b>South America</b>		
Argentina . . . . .	4,600	
British Guiana . . . . .	201	
Bolivia . . . . .	841	
Brazil . . . . .	7,825	
Chile . . . . .	2,377	
Colombia . . . . .	4,033	
Ecuador . . . . .	999	
Paraguay . . . . .	270	
Peru . . . . .	3,720	
Surinam . . . . .	66	
Uruguay . . . . .	697	
Venezuela . . . . .	12,893	
<b>Total . . . . .</b>		<b>38,522</b>
<b>Mexico and Central America</b>		
British Honduras . . . . .	133	
Costa Rica . . . . .	1,030	
El Salvador . . . . .	610	
Guatemala . . . . .	1,464	
Honduras . . . . .	603	
Mexico . . . . .	35,372	
Nicaragua . . . . .	810	
Panamá . . . . .	4,173	
<b>Total . . . . .</b>		<b>44,195</b>
<b>West Indies and Bermuda</b>		
Aruba . . . . .	1,956	
Barbados . . . . .	436	
Bermuda . . . . .	5,104	
Cuba . . . . .	3,596	
Curaçao . . . . .	133	
Dominican Republic . . . . .	6,574	
Haiti . . . . .	789	
Jamaica . . . . .	772	
Martinique . . . . .	24	
Nassau . . . . .	396	
Trinidad . . . . .	618	
<b>Total . . . . .</b>		<b>20,398</b>
<b>Canada, Newfoundland and Iceland</b>		
Canada . . . . .	130,488	
Iceland . . . . .	926	
Newfoundland . . . . .	574	
<b>Total . . . . .</b>		<b>131,988</b>
<b>Europe</b>		
Austria . . . . .	5,243	
Belgium . . . . .	1,801	
British Isles . . . . .	12,200	
Bulgaria . . . . .	—	
Cyprus . . . . .	238	
Czechoslovakia . . . . .	1,117	
Denmark . . . . .	1,312	
Finland . . . . .	781	
France . . . . .	13,373	
Germany . . . . .	5,436	
Gibraltar . . . . .	3	
Greece . . . . .	6,663	
Hungary . . . . .	386	
Ireland . . . . .	7,159	
Italy . . . . .	15,735	
Lebanon . . . . .	1,603	
Luxembourg . . . . .	109	
Netherlands . . . . .	1,235	
Norway . . . . .	2,360	
Poland . . . . .	207	
Portugal, incl. Azores . . . . .	4,297	
Rumania . . . . .	—	
Spain and Canary Islands . . . . .	3,017	
Sweden . . . . .	2,171	
Switzerland . . . . .	3,357	
U.S.S.R. . . . .	837	
Yugoslavia . . . . .	1,246	
<b>Total . . . . .</b>		<b>91,886</b>
<b>Africa</b>		
Accra . . . . .	173	
Algeria . . . . .	126	
Angola . . . . .	85	
Belgian Congo . . . . .	1,108	

**TOURISTS ASHORE** in the pungent Casbah, Algiers, during a 1950 luxury cruise of the steamship "Caronia" which took 550 U.S. passengers and a number of Canadians to 28 ports of call in the West Indies, South America, Africa and the middle east



## Africa—continued

Dakar . . . . .	299	
Dar es Salaam . . . . .	331	
Egypt . . . . .	1,458	
Ethiopia . . . . .	508	
Lagos . . . . .	832	
Liberia . . . . .	622	
Libya . . . . .	23	
Mombasa . . . . .	21	
Morocco . . . . .	573	
Mozambique . . . . .	65	
Nairobi . . . . .	364	
Tananarive . . . . .	85	
Tunisia . . . . .	67	
Union of South Africa . . . . .	2,333	
Total . . . . .		9,073

Asia		
Aden . . . . .	24	
Afghanistan . . . . .	180	
Burma . . . . .	306	
Ceylon . . . . .	223	
China . . . . .	384	
French Indochina . . . . .	178	
Hong Kong . . . . .	1,188	
India . . . . .	3,596	
Indonesia . . . . .	688	
Iran . . . . .	593	
Iraq . . . . .	567	
Japan . . . . .	55,128	
Korea . . . . .	1,324	
Malaya . . . . .	142	
Pakistan . . . . .	463	
Palestine . . . . .	721	
Saudi Arabia . . . . .	174	
Singapore . . . . .	448	
Syria . . . . .	490	
Thailand . . . . .	499	
Turkey . . . . .	1,571	
Total . . . . .		68,887

New Caledonia . . . . .	41	
Philippines . . . . .		24,044

Australia and New Zealand		
Australia . . . . .	3,865	
New Zealand . . . . .	990	
Total . . . . .		4,855
Grand Total . . . . .		433,889

(See also TOURIST TRAVEL.)

(R. B. S.)

**American College of Dentists:** see SOCIETIES AND ASSOCIATIONS.

**American College of Life Underwriters:** see SOCIETIES AND ASSOCIATIONS.

**American College of Physicians:** see SOCIETIES AND ASSOCIATIONS.

**American College of Surgeons:** see SOCIETIES AND ASSOCIATIONS.

**American Dental Association:** see SOCIETIES AND ASSOCIATIONS.

**American Economic Association:** see SOCIETIES AND ASSOCIATIONS.

**American Federation of Labor:** see LABOUR UNIONS.

**American Geographical Society:** see SOCIETIES AND ASSOCIATIONS.

**American Historical Association:** see SOCIETIES AND ASSOCIATIONS.

**American Indians:** see INDIANS, AMERICAN.

**American Institute for Property and Liability Underwriters, Inc.:** see SOCIETIES AND ASSOCIATIONS.

**American Institute of Accountants:** see SOCIETIES AND ASSOCIATIONS.

**American Institute of Chemical Engineers:** see SOCIETIES AND ASSOCIATIONS.

**American Institute of Electrical Engineers:** see SOCIETIES AND ASSOCIATIONS.

**American Institute of Mining and Metallurgical Engineers:** see SOCIETIES AND ASSOCIATIONS.

**American Iron and Steel Institute:** see SOCIETIES AND ASSOCIATIONS.

**American Law Institute:** see SOCIETIES AND ASSOCIATIONS.

**American Legion:** see VETERANS' ORGANIZATIONS.

## American Library Association.

The oldest professional association in the world of librarians and others interested in the educational, social and cultural responsibilities of libraries, the American Library Association (A.L.A.) is the official organization of li-

brarians in the United States and Canada. Established on Oct. 6, 1872, in Philadelphia, Pa., the A.L.A. had a membership in 1950 of about 20,000 in the U.S. and possessions, Canada and more than 50 foreign countries. It is affiliated with more than 70 other library associations throughout the world. In 1950 the association had an endowment capital of approximately \$2,171,000 and a total income of about \$773,000. Headquarters are located at 50 E. Huron St., Chicago 11, Ill., with John MacKenzie Cory executive secretary.

A record attendance of 1,640 gathered at the annual midwinter meeting which convened in Chicago, Jan. 26-29, 1950. In place of the seven regional meetings held in 1949, the A.L.A. held its 69th annual conference in Cleveland, O., July 16-22, 1950. Future conference plans called for a midwinter meeting in Chicago, Jan. 30-Feb. 3, 1951; the celebration of the association's 75th anniversary at the annual conference in Chicago, July 8-14, 1951; and an annual conference in New York city, June 29-July 5, 1952.

Officers, elected by ballot, who assumed their duties at the annual conference were: president, Clarence R. Graham, Louisville Free Public library, Louisville, Ky.; first vice-president and president elect, Loleta D. Fyan, Michigan State library, Lansing, Mich.; second vice-president, Harriet D. MacPherson, Drexel Institute of Technology, Philadelphia, Pa.; and treasurer, R. Russell Munn, Akron Public library, Akron, O.

The annual A.L.A. citations for distinguished service as library trustees were awarded to Mrs. William H. Wills, Montpelier, Vt., and Anthony J. Cerrato, Yonkers, N.Y. The 29th Newbery medal was received by Marguerite de Angeli for *The Door in the Wall*, judged to be the most distinguished children's book of 1949. Leo Politi received the 13th annual Caldecott medal for his *Song of the Swallows*, chosen as the best illustrated children's volume of the year.

Halsey William Wilson, president of the H. W. Wilson Co., N.Y., received the Joseph W. Lippincott award (\$500) from the donor for having developed many outstanding bibliographical aids for the field of librarianship.

The Ada McCormick *Letter* librarian award (\$100) was received by Eva Santee, librarian of the Vancouver, Washington, Public library, for an outstanding demonstration of the human qualities of librarianship. The United States Information Service library at Prague received the *Letter* library award for "a demonstration of democratic library service abroad in bringing an accurate presentation of American life through books, periodicals, films and music to the people of Czechoslovakia."

The Field Citations for Library Recruiting were presented to the Louisiana Library association (\$300), the Pennsylvania Library association (\$200), and to the Brooklyn Public library (\$100).

Eleven libraries were presented with the 1950 John Cotton Dana Publicity awards, sponsored by the *Wilson Library Bulletin* and the A.L.A. Public Relations committee, for effective public relations programs.

At the 1950 annual conference in Cleveland, O., the A.L.A. adopted a resolution on loyalty programs in which it opposed the requirements of blanket loyalty oaths other than the regular affirmation of allegiance to the government and defined what it considered to be a fair hearing in cases of investigation.

Of considerable importance to the public library field in 1950 was the publication of the full report of the Public Library Inquiry in a series of books, with a summary volume entitled *The Public Library in the United States*. This study, carried out under the direction of Robert D. Leigh, was made possible by a two-year grant from the Carnegie corporation to the Social Science Research council.

Early in 1950 Marshall Field, whose grandfather was born in



Conway, Mass., made a grant of \$36,500 for a two-year demonstration of a co-operative library service in 12 communities in the Conway area. The participating libraries would share the services of two library specialists and would benefit from a pool of printed and audio-visual materials.

United States occupation authorities in Japan were to begin operation of a library school early in 1951 under a contract signed with the American Library association. Plans called for training Japanese librarians in modern techniques of librarianship by the A.L.A. with emphasis on practical aspects of library service to children and adults.

The association continued its work on library legislation and extension, the increase of co-operative film circuits, new minimum requirements for library schools and international library co-operation.  
(J. Mac. C.)

**American Literature.** The confusion and uncertainty in the United States in 1950 shaped the writing of the year. A country which had not yet fully assimilated World War II found itself suddenly confronting a new war. The kind of books people wrote and the kind they read reflected the political, diplomatic and military confusion of the year. But chaos did not check the flow of printed matter. Relatively few of the new books were noteworthy. Creative writers inaugurated no new trends in fiction or poetry, nor were there even many distinguished contributions in established veins. Instead, it was a year of looking backward; there were a remarkable number of books devoted to solid basic scholarship in American history, and a good many novels which recreated historic figures or eras. And it was a year in which a torrent of nonfiction documented the chaos.

The reading public, however, responded to the new tensions by turning in great numbers to three controversial books. Gayelord Hauser's *Look Younger, Live Longer* promised peace of soul through yeast, yogurt and hormones. L. Ron Hubbard propounded a new science of mental health through special techniques of self-psychoanalysis in his *Dianetics*. Immanuel Velikovsky's *Worlds in Collision*, an explanation of ancient historic events in terms of two series of cosmic catastrophes, roused such a storm over its veracity and sincerity that its original publishers handed over the rights to another publishing house.

Inevitably, at the outbreak of war in Korea, many books on Asiatic politics and history appeared, in addition to a steady flow of books about world politics, many of them outdated at publication by the swift pace of history. Of the books devoted to the actual scene of the new fighting, *Korea Today*, by George McCune and A. L. Grey, written before the outbreak of hostilities, was valuable as background material. Valuable on a wider plane was Owen Lattimore's *Pivot of Asia*, a study of the Asian frontiers of China and Russia. Two other books on Asia were Foster Bowman Hailey's *Half of One World*, a report on Asiatic political conditions, and Bruno Lasker's *Human Bondage in Southeast Asia*.

Two excellent books appeared which discussed countries not so directly involved in the conflict. Thomas Sugrue described the birth of Israel in *Watch for the Morning*, one of the best of the many books on Israel. Frank Tannenbaum's *Mexico, the Struggle for Peace and Bread* was a powerful picture of Mexico in the 20th century with especial emphasis on the revolutionary years. Hanson Baldwin wrote *Power and Politics*, a series of essays on Russia and the western world in which he advised a combined economic and military strengthening against communism. Willard Espy's *Bold New Program* was a sympathetic discussion of the Point Four program and its projected help to the undeveloped areas.

The stream of books about World War II continued, many of

them memoirs of military figures. Frank Howley's *Berlin Command* and Lucius Clay's *Decision in Germany* described U.S. military government in Germany. Mark Clark told the inside story of the Italian campaign in *Calculated Risk*, Robert L. Eichelberger covered the ground war in the Pacific in *Our Jungle Road to Tokyo*, and Adm. William D. Leahy, in *I Was There*, reported his personal observations from France in 1941 through Cairo, Teheran, Yalta and Potsdam. *The Road to Pearl Harbor*, by Herbert Feis, was a solid history of the events leading up to Dec. 7, 1941. Hanson Baldwin's *Great Mistakes of the War* analyzed both the military and political errors of World War II.

**The American Scene.**—The most important aspect of the scene in the United States was the problem of "loyalty," security and freedom of speech. A flood of books documented the country's confusion as exemplified in such episodes as the Alger Hiss trial and the University of California loyalty oath controversy, and discussed the general problems of the witch-hunt and communism. Walter Gellhorn's *Security, Loyalty, and Science* analyzed the dangers to scientific workers of the screening process. Carey McWilliams, in *Witch Hunt*, related the present purges to similar episodes in history. And Nathaniel Weyl wrote *Treason*, a survey of disloyalty and betrayal in U.S. history up to the Hiss case. U.S. political history came under scrutiny in such books as Herbert Agar's *The Price of Union* and Arthur M. Schlesinger's *The American as Reformer*.

A host of books dealt with specific episodes. Owen Lattimore's *Ordeal by Slander* included evidence which he had not been permitted to give during the investigation of his loyalty. George Stewart and a group of unnamed University of California professors joined to write *The Year of the Oath*, a history of the refusal of professors to sign a special test oath. Two books documented the Hiss trial. Ralph de Toledano and Victor Lasky, in *Seeds of Treason*, defended the proposition that Hiss had betrayed his country. Alistair Cooke, a British reporter who covered the trial, wrote *A Generation on Trial*, a more objective study of the facts and issues. Max Lowenthal's *The Federal Bureau of Investigation* was a controversial report on that group. Haywood Patterson's *Scottsboro Boy* told the story of an earlier trial and of jail terror.

Although many of the books on the current scene were little more than journalism, a good number had solid content and wide interest. *The Human Use of Human Beings*, by Norbert Wiener, expert on the electronic brain, was an effort to evaluate the machine in society. Although sometimes fumbling, the book was a major effort to deal with new facts and ideas and a plea for economic and moral support for scientist and artist. Anatole Rapoport, in *Science and the Goals of Man*, also dealt with the orientation of science and man. Crane Brinton's *Ideas and Men* was the story of western thought from the Greeks to the present time. And William J. Durant wrote *The Age of Faith*, a study of western and near eastern civilization from Constantine to Dante.

An important contribution to the understanding of radio, television, and motion pictures was Gilbert Seldes' *The Great Audience*. From a detailed analysis of the statistics and available facts, he reasoned that these mediums of mass communication were creating a stereotyped "mass man." Hortense Powdermaker, in *Hollywood, the Dream Factory*, applied the anthropologist's techniques to a study of the movie industry.

An exhaustive and scholarly study, *American Painting, History and Interpretation* by Virgil Barker, covered the 18th and 19th centuries. The final fruit of a Works Progress administration project of the 1930s was Edwin O. Christensen's *The Index of American Design*. This important work recorded practical, popular and folk art of the country. Bernard S. Myers wrote *Modern Art in the Making*, in which he discussed the relation of artists to social and economic patterns. Books on nature included



*A Cup of Sky*, essays on nature, the moon and planets by Donald Culross Peattie and his son Noel, and *The Country Wife*, essays on life in the Connecticut hills by Dorothy Van Doren. Langston Hughes gathered together a group of monologues on the Negro's status in the U.S., titling it *Simple Speaks his Mind*; and Alan Lomax wrote *Mister Jelly Roll*, an interesting account of the life of a jazz pianist.

**Memoirs and Historical Works.**—The year which saw a good deal of ephemeral writing in many fields brought at the same time an astounding wealth of historical works, many of them collections of documents and source materials. Two collections of Roosevelt documents appeared: *F.D.R.: His Personal Letters, 1929-1945*, edited by Elliott Roosevelt, and *The Public Papers and Addresses of Franklin D. Roosevelt*, compiled by Samuel I. Rosenman. *As FDR Said*, edited by Frank Kingdon, was a collection of quotations. John Gunther's popular *Roosevelt in Retrospect* attempted an appraisal of the president.

Five volumes appeared in the series "Chronicles of America," edited by Allan Nevins: *The Era of Franklin D. Roosevelt*, by Denis William Brogan; *From Versailles to the New Deal*, by Harold Underwood Faulkner; *The New Deal and World Affairs (1933-1945)*, by Allan Nevins; *The United States in a Chaotic World (1918-1933)*, by Allan Nevins; and *War for the World*, by Fletcher Pratt. Merle Curti published *An American History (1492-1763)*, the first of two volumes organized not on a chronological basis but on topics. Henry Steele Commager edited *The Blue and the Gray*, a volume of source materials on the Civil War.

There were a number of books for the general reader which were sound historically. Charles Allan Madison wrote *American Labor Leaders*, a history of labour unions for the past hundred years in terms of their leaders. Anita Lebeson's *Pilgrim People* was a thoroughly documented history of Jews in the western world. Robert Glass Cleland wrote about trappers and fur traders of the southwest from 1820 to 1840 in *This Reckless Breed of Men*.

Stewart Holbrook's *The Yankee Exodus* documented the migration of New Englanders into other parts of the continent. Amy Kelly's *Eleanor of Aquitaine and the Four Kings* was both sound scholarship and good reading.

Carl Van Doren's *Jane Mecom*, a biography of Benjamin Franklin's sister, recreated the life of ordinary people in Revolutionary times. Van Doren also edited *The Letters of Benjamin Franklin and Jane Mecom*. Catherine Drinker Bowen's *John Adams and the American Revolution* was a character study. Irving Brant's *James Madison, Father of the Constitution, 1787-1800*, the third volume of a series, was a scholarly work. Margaret L. Coit's *John C. Calhoun, American Portrait* was excellent for its picture of the times. Julian P. Boyd edited *The Papers of Thomas Jefferson: 1760-1776*, the first of 52 projected volumes. Adrienne Koch studied the relationship of two figures in *Jefferson and Madison; the Great Collaboration*, and Marie Kimball concentrated on Jefferson abroad in *Jefferson: the Scene of Europe 1784-89*. Allan Nevins wrote *The Emergence of Lincoln*, the first of two volumes of a critical biography. *The Lincoln Encyclopedia*, edited by Archer H. Shaw, was a collection of quotations arranged by subject matter. Lloyd Lewis' posthumous book, *Captain Sam Grant*, was a lively and scholarly account of Grant's career up to 1861.

**Fiction.**—Although some good new novels appeared in 1950, there were no striking developments in fiction and the quality of lesser novels was undistinguished.

Certainly the most talked-about book of the year was Ernest Hemingway's *Across the River and Into the Trees*, the story of an aging colonel, his loves, memories, opinions and manner of dying. The book was immoderately praised and damned. The condemnation rose not so much from the book itself as from the



NELSON ALGREN, U.S. novelist awarded the 1950 National Book award for fiction for *The Man With the Golden Arm*. Sponsored by the American Book Publishers council, the American Booksellers association and the Book Manufacturers institute, this was the first literary award to be presented by the U.S. publishing trade

critics' preconception of Hemingway's personality and prejudices. A glance through the critical essays collected by John K. M. McCaffery in *Ernest Hemingway: The Man and His Work* shows that from the beginning Hemingway's work and personality had elicited violent reactions. There was general agreement that he was a major novelist, but general disagreement on what elements in his work qualified him as such.

Many novels portrayed characters involved in special settings or with special problems. The most distinguished of these was John Hersey's *The Wall*, a novel in the form of a journal covering the final disintegration of the Warsaw ghetto under Nazi persecution. Although fundamentally a documentary book which drew upon real sources, *The Wall* brought alive people terrible in a universal suffering. James Aldridge, in *The Diplomat*, wrote the story of the political awakening of a young man attached to a distinguished empire-building British diplomat. The book, documentary like Hersey's but less dramatic, was a discussion of Persia (Iran) as a political football. In Christine Weston's *The World is a Bridge*, a small group of characters acted out India's conflicts. William L. Shirer, turning for the first time to fiction, used his knowledge of Germany in *The Traitor*, character study of a renegade. Ned Calmer's *The Strange Land* was one of the few novels directly using the war. He described an unsuccessful Allied offensive through the stream of consciousness of 12 people. Henry Morton Robinson's *The Cardinal* was a best seller. A story of a Catholic priest from poor parish to cardinal, it showed the workings of the church. Arthur Gordon's *Reprisal* was a grim, sometimes melodramatic story, offering no solution, of a Georgia lynching. Michael Amrine, in *Secret*, portrayed a physicist with a conscience about the atom bomb. Upton Sinclair wrote *Another Pamela; or, Virtue Still Rewarded*, a



pleasantly rambling review of contemporary social history.

Budd Schulberg's *The Disenchanted* ranked among the top books of the year. Based partly on the life of F. Scott Fitzgerald, it was a solid, mature treatment of a man's struggle with and for success. Besides subjecting Hollywood to biting criticism, it recreated, through a series of lengthy flash backs, the mood of the 1920s and contrasted it with that of the 1930s.

Robert Penn Warren chose Kentucky in the 1820s as a setting for *World Enough and Time*. The line of this story of love and politics was blurred by many of the trappings of the standard historical romance and by considerable cloudy philosophizing. Wallace Stegner, in *The Preacher and the Slave*, wrote a fictionalized biography of the immortal Wobbly, Joe Hill. Ben Ames Williams' *Owen Glen* told about a Welsh mining family in Ohio of the 1890s and its connection with the United Mine Workers.

Conrad Richter added *The Town* to his series of excellent documentary novels on the evolution from frontier life in the mid-west. Howard Fast wrote *The Proud and the Free*, a story of a rebellion of Revolutionary common soldiers against the officer gentry.

The number of historical romances was slightly smaller than usual. Thomas B. Costain's *Son of a Hundred Kings*, a novel of the 1890s in Canada, was a best seller. Samuel Shellabarger used a 16th century French setting for *The King's Cavalier*. Nancy Hale's *The Sign of Jonah* was one of the better panoramic historical novels, and Gwen Bristow's *Jubilee Trail* narrated the story of a bride travelling the Santa Fe trail to California in the mid-19th century.

The psychiatric novel and the novel of character continued in importance. Brendan Gill, in *The Trouble of One House*, revealed in the dying of a woman how she had been loved and hated in her life. Nancy Wilson Ross's *I, My Ancestor* was a perhaps too poetic treatment of a man's struggle to rearrange his psyche. Susan Yorke wrote *The Widow*, the story of a rapacious female in a South American setting. Laura Z. Hobson's *The Other Father* showed the late maturing of a man through his relationship with his daughter.

The playwright Tennessee Williams ventured into the field of fiction with *The Roman Spring of Mrs. Stone*, a not altogether successful treatment of the growing old of an actress.

Short stories gave a much richer relative yield than novels. *The Collected Stories of William Faulkner* headed the list. Faulkner's long-held position as an eminent U.S. writer was confirmed by the award to him of the 1949 Nobel prize in literature. The stories amply demonstrated the variety and maturity of his gift.

The stories in Paul Bowles's *The Delicate Prey* were of violence and death in an African setting. Mary McCarthy collected her sharply satirical pieces in *Cast a Cold Eye*. Walter Van Tilburg Clark's western stories, *The Watchful God, and Other Stories*, were too often marred by heavy symbolism. Irwin Shaw's *Mixed Company* was a group of neatly told stories often concerned with the impact of World War II. The stories in William Carlos Williams' *Make Light of It* were sketches of character. Other volumes of stories were James T. Farrell's occasionally sharp group on *An American Dream Girl*, Charles Jackson's *The Sunnier Side* and Jesse Stuart's Kentucky stories, *Clearing in the Sky*.

**Belles Lettres.**—Perhaps the most original contribution of the year was Henry Nash Smith's *Virgin Land*, a study of the west as myth and symbol in U.S. history and literature, which opened new dimensions in the area charted by Frederick J. Turner. Henry Steele Commager in *The American Mind* contributed on the whole the best survey of American thought from 1880 since the classic work of Parrington. Strongest in its chapters on the social sciences, it is rather querulous in those on literature.

Lionel Trilling, in *The Liberal Imagination*, collected his influential essays on literature and society. He criticized the liberal imagination from within the liberal camp, particularly its tendency, as in Parrington and Dreiser, to conceive "reality" and intelligence too narrowly.

While classic literary figures received their due number of sound scholarly studies, a more conspicuous phenomenon of the year was the number of books on contemporary figures. Books of criticism and collections of essays about writers signaled the fact that these 20th-century writers were now academically established as a group.

Of the studies of classical figures, several were about Herman Melville. Most important was Newton Arvin's addition to the "American Men of Letters Series," *Herman Melville*, the best critical survey of his work but not yet the needed authoritative biography. Others were M. O. Percival's *A Reading of Moby-Dick*, a sensitive interpretation, original in its analysis of Ahab's psychology in terms of Kierkegaard's concepts; and Henry Pommer's *Melville and Milton*.

Another title in the distinguished new "American Men of Letters" was John Berryman's *Stephen Crane*. Two books on Mark Twain appeared, Kenneth R. Andrews' *Nook Farm: Mark Twain's Hartford Circle* and Gladys C. Bellamy's *Mark Twain as a Literary Artist*, the first sustained attempt to assess his work in these terms.

Some of the critical works on contemporary writers were *William Carlos Williams* by Vivienne Koch, *An Examination of Ezra Pound* edited by Peter Russell, *The Shaping Spirit: A Study of Wallace Stevens* by William Van O'Connor and *The Art of T. S. Eliot* by Helen Gardner. Edgar Kemler's sympathetic biography, *The Irreverent Mr. Mencken*, reviewed the era as well as the subject.

A volume of great historical value and of interest in view of the controversy about the Bollingen prize of 1949, was *The Letters of Ezra Pound (1907-1941)*, edited by D. D. Paige. Kenneth Burke, the most philosophical of the new critics, wrote *A Rhetoric of Motives*, and Edmund Wilson collected in *Classics and Commercials* his often brilliant critical essays printed over a period of years.

**Poetry.**—Two responses to the year's tensions were demonstrated most clearly in the poetry of the year. One was to recapitulate, to collect, to put a period to the era. The other was symbolized by the suicide of F. O. Matthiessen, one of America's most brilliant and humane literary scholars.

Matthiessen's new edition of the *Oxford Book of American Verse* appeared, in general an excellent selection. Carl Sandburg, with the publication of *Complete Poems*, announced the end of his career as a poet. Conrad Aiken revised his "symphonic poems" and published them in *The Divine Pilgrim*. William Carlos Williams, who won the National Book award, gathered together *The Collected Later Poems*. Wallace Stevens wrote *The Auroras of Autumn* and received the Bollingen award. E. E. Cummings wrote *Xaïpe* (Chaire), 71 new poems, and also won the Academy of American Poets' fellowship.

Thus three talents once regarded as experimental won major awards and stepped over into the realm of public recognition as solid figures.

Other new volumes were Delmore Schwartz' verse with prose interludes, *Vaudeville for a Princess*; Peter Viereck's *Strike Through the Mask*, a book of lyrics plus an essay on "The Poet in the Machine Age"; and Ogden Nash's *Family Reunion*, poems in his inimitable manner on family situations. (See also BOOK PUBLISHING; CHILDREN'S BOOKS; ENGLISH LITERATURE; LITERARY PRIZES.)

FILMS OF 1950.—*Let's Read Poetry* (Bailey Films Inc.); *New England: Background of Literature* (Coronet Instructional Films). (H. M. H.)



**American Mathematical Society:** see SOCIETIES AND ASSOCIATIONS.

**American Medical Association:** see SOCIETIES AND ASSOCIATIONS.

**American Society of Civil Engineers:** see SOCIETIES AND ASSOCIATIONS.

**American Society of Composers, Authors and Publishers:** see SOCIETIES AND ASSOCIATIONS.

**American Society of Mechanical Engineers:** see SOCIETIES AND ASSOCIATIONS.

**American Veterans' Committee:** see VETERANS' ORGANIZATIONS.

**American Veterans of World War II (Amvets):** see VETERANS' ORGANIZATIONS.

**Anaemia.** The treatment of special anaemias caused by changes in red blood cells received much attention during 1950 and the effectiveness of vitamin B<sub>12</sub> was the subject of many reports. One microgram per day of vitamin B<sub>12</sub> in patients with pernicious anaemia was confirmed as valuable. Vitamin B<sub>12b</sub> was also useful. These substances were of especial value in patients sensitive to liver extract, and in those with neurological involvement. The medication was most effective when given by injection, but oral administration could be enhanced by potentiators such as stomach or duodenal mucosa, folic acid or gastric juice from normal people. The blood-producing effect of gastric juice concentrate or beef muscle extract was found to be proportional to their vitamin B<sub>12</sub> content. Folic acid and vitamin B<sub>12</sub> were found to be synthesized in relatively large amounts in the large intestine, even in patients with pernicious anaemia. The vitamin was not effective in the treatment of large cell anaemia of pregnancy in ordinary doses although folic acid or large doses of vitamin B<sub>12</sub> caused an adequate improvement. There appeared to be a relation between folic acid, folinic acid and *Leuconostoc citrovorum* factor, and the possibility was suggested that folic acid, liver extract and vitamin B<sub>12</sub> were essential to the formation of nucleic acid and nucleoprotein through a chemical chain reaction.

Folic acid deficient monkeys failed to become anaemic when they were supplied with sufficient quantities of ascorbic acid, but folic-acid deficiency anaemia responded only to folic acid. This substance while producing an improvement in the blood in pernicious anaemia did not check or prevent the neurological symptoms. Vitamin B<sub>12</sub>, however, was effective in reversing these complications. Folic acid was not harmful to the central nervous system when used in the treatment of other types of anaemia.

Patients with pernicious anaemia had a special predisposition to cancer of the stomach, the rate being three times that expected of a corresponding age group and more than six times as frequent as in a group showing achlorhydria or hypochlorhydria.

Some infants with megaloblastic anaemia, patients with a tropical sprue and adults with cirrhosis of the liver having macrocytic anaemia with a megaloblastic bone marrow responded to large doses of vitamin B<sub>12</sub>. Folic acid, thymine and ascorbic acid were found to be helpful adjuvants in refractory cases. Folic acid alone cured the severe macrocytic, normochromic anaemia of rats showing a chronic folic acid deficiency.

A heat-labile haemolytic factor, resembling serum coagulation accelerator, was present in the plasma of patients with paroxysmal nocturnal haemoglobinuria as an inert precursor which could be activated by thrombin. The haemolysis was inhibited by dicumarol.

Cases of hereditary or familial nonspherocytic haemolytic anaemia were described associated with bradyphalangia and porphyria and transmitted as a Mendelian dominant. Haemolytic anaemia was noted in some patients who received antihistamine

drugs over a long period of time, in patients with severe second and third degree burns, in rats poisoned with sulfathiazole, in a patient with chronic myelogenous leukemia, and in two California children who had eaten fava beans. Erythrophagocytosis was noted in the blood of the newborn with haemolytic disease, but not in normal infants.

The relationship of sensitization of Rh negative women received much attention. Besides the development of erythroblastic infants who were Rh positive in mothers sensitized from the infant, examples of the development of antibodies were described after blood transfusion and subcutaneous haemotherapy. The occurrence of erythroblastosis in one of a set of twins was reported.

Erythroblastosis foetalis was treated by replacement transfusions, countersensitization with bacterial vaccines and with hapten (extract of Rh positive red blood cells). While results were sometimes encouraging in individual patients, the effects were, as a whole, poor. Erythroblastosis was prevented in some patients by treating the mother with vitamin K and anhydrohydroxy-progesterone. Good results were noted in one series of cases after the transfusion of 50 to 60 c.c. of sedimented red blood cells. The results of treatment with exchange transfusions varied in the hands of different workers, some reporting cures whereas others had a high death rate.

The concentration of anti-A and anti-B substances in the blood of group O (universal) donors was reduced to safe levels for use in treating anaemia by the addition of substances isolated from animal stomach linings. Otherwise severe haemolytic anaemia developed in some patients. Some reactions were prevented by using washed red blood cells instead of whole blood.

At high altitudes during an aeroplane trip sudden enlargement of the spleen, with heart complications, was noted in a patient with sicklaemia. Sickling was noted in the blood of people with sicklaemia and patients with sickle cell anaemia when the oxygen tension was reduced. Severe anaemia developed during the course of an aplastic crisis in patients with sickle cell anaemia associated with hyperhaemolysis. In a study of the incidence of sickling, it was found to be less frequent in pure Negroes than in those with small admixtures of white or Indian ancestry. Sicklaemia was more common in central and west Africans than in American Negroes, but the anaemia was more frequent in the latter group. Sickle cell anaemia was reported in a newborn Negro infant and in a white Sicilian family. Mediterranean anaemia was noted in a Chinese child.

Anaemia was noted in 14% of the people in middle Tennessee.

The earlier reports of British workers on the efficiency of intravenously administered saccharated iron oxide were confirmed by numerous observers. (See also VITAMINS.)

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**Anaesthesiology.** During the year 1950 it became apparent that certain specially prepared synthetic salts, such as methyl iodide and methyl chloride of curare, had no apparent advantages over the standard *d*-tubocurarine that had become almost a standard agent in a solution of 3 mg. per cubic centimetre. Curare possessed an advantage over decamethonium bromide, or C-10, with the trade name of Sincurine, in that an antidote for curare was available, whereas there was none for Sincurine. Previously, prostigmine had been fairly effective as an antidote for curare, but by the middle of 1950 an



agent, an analogue of prostigmine (Hoffmann-LaRoche, Inc.), was found to be very effective in increasing the volume of respiration when undesired depression had developed from the use of curare.

In the field of shock therapy dextran, gelatin and periston showed themselves to be valuable.

The number of physicians who entered the field of anaesthesiology increased considerably in 1950, and higher standards were set up and attained by them. The nurse-anaesthetists, through their national nurse-anaesthetist association, similarly made their examinations more difficult and raised their standards.

The subject of anaesthesiology received increased attention in those journals which present abstracts of articles on the subject. One of the notable additions was *Excerpta Medica*, surgery section, which presented anaesthesia abstracts. Another publication, *Anesthesia Abstracts*, was revised and improved.

The so-called pain clinics increased in number; each clinic showed an increase during the year in the number of patients handled. Refinement in technique was achieved, so that the use of roentgenograms which show that the needles have been properly placed had become almost essential in most instances of nerve block. Measurements of skin temperature and skin resistance to electric current proved to be very informing as to the effectiveness of blocks that were done and of subsequent operations in which nerves had been sectioned.

Albert Faulconer, Jr., invented a device which enabled the intermittent intravenous administration of solution of pentothal sodium to be automatically controlled by measuring the minute volume of respiration. The meter of the device became useful in the measurement of respiratory depression caused by curare and the effect of the various antidotes used to abate such depression. It was found to be useful in the postanesthesia observation room in helping to estimate the patient's condition as anaesthesia becomes light or disappears.

To improve conditions in operating rooms, the question of better safeguards against fire and explosion hazards was given much attention. One motion picture with sound and colour was

produced as a method of instructing all personnel who work in the operating room in the essentials of the problems of fire and explosion hazards. Because it had become clear that safety cannot be bought, it was recognized that safety must be achieved with the aid of all methods possible. Particularly important is the teaching of personnel who work as a team in the operating room. (See also ELECTRONICS; SURGERY.)

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**Andorra.** A small autonomous principality between France and Spain, Andorra has an area of 191 sq.mi. Pop. (1950 est.): 5,400. Language: Catalan. Religion: Roman Catholic. Capital: Andorra-la-Vieja (pop., 1950 est., 980). Co-princes: the president of the French republic and the bishop of Urgel, Sp., respectively represented in 1950 by André Bertrand and Jaime Sansa Nequi, their *viguiers* or representatives. An elected general council of 24 members appoints one of its members as the *syndic général des vallées* (from 1946, Francisco Cayrat).

**History.**—The event of the year 1950 was the reduction from 100 to 60 of the French *gardes mobiles* which were stationed from autumn 1944 on Andorran territory for the purpose of maintaining order.

On Feb. 2 the Paris Tribunal des Conflits declared null and void the order of a Paris court given on March 8, 1949, to the Radiodiffusion Française to cease jamming the broadcasts of Radio Andorra. However, the Andorran broadcasts were not jammed during the year.

**Angling.** The popularity of fresh-water fishing in the United States continued its upward spiral during the fiscal year ending June 30, 1949, when the sales of anglers' licences climbed to a new high record of 15,478,570. The gross revenue derived by the 48 states from licence sales was \$32,657,940. Michigan headed the list with 1,110,109. California ranked second with 1,030,617, followed by Wisconsin with 1,022,004.

The 42nd annual national casting tournament was held at San Francisco, Calif., Aug. 16-20, 1950. Earl Osten took the all-distance championship with a score of 3,080 ft. The five-eighth-ounce distance bait event was won by Douglas Merrick with an average of 377½ ft. In the all-accuracy division, Marion Garber, a 21-year-old caster from Toledo, O., tied Osten's world record of 389 which he set in 1944 at St. Louis, Mo.

A seven-man squad of anglers from Chile, making their first bid for international tuna-fishing honours at Wedgeport, N.S., Sept. 14-16, won the Alton B. Sharp trophy in competition with six other teams from ten countries by the margin of 348 points. Forty-five anglers participated. The British team was second with 1,614 points, followed by Brazil with 640 points, Cuba with 563, Argentina with 393 and Scandinavia with 195; the seventh team, the United States, did not catch a fish. Tom Wheeler, of Toronto, Ont., fishing for the British commonwealth team, caught the biggest tuna of the tournament, 707 lb., in the closing minutes.

The International Game Fish association's outstanding world record catch for the year was a 977-lb. bluefin tuna, an all-tackle record, made by Duncan McIntyre Hodgson of Montreal, Que., at St. Ann bay, N.S., Sept. 4, 1950. The long-standing women's all-tackle record was beaten with an 846-lb. Pacific black marlin, caught in the Bay of Islands, N.Z., Feb. 14, 1950,



**SERVO-ANESTHETIZER** (right), an electronic device for maintaining a constant level of anaesthesia during surgery, developed by R. G. Bickford and associates at the Mayo clinic and exhibited for the first time in June 1950. By transmitting the patient's brain waves to the machine the injection of the anaesthetic agent was automatically controlled





FISHING THROUGH THE ICE on Lake Minnetonka, Minn., in a contest sponsored by the American Legion early in 1950. At 10° below zero, more than 700 anglers competed for the first prize which was taken by a catch of a one-pound, nine-ounce northern pike

by Mrs. A. V. Brownson of Auckland, N.Z. Herman Teetor made an all-tackle Atlantic sailfish record with a 123-lb. catch off Walker cay. On the Pacific, where the sails run larger, Gay Thomas of Santa Barbara, Calif., took the women's all-tackle and 50-lb. line test class records for both men and women with a 192-lb. catch made on Sept. 6 off La Paz, Mex.

Other world records taken in 1950 were: arctic charr, 11½ lb. (length 30 in., girth 17 in.), caught by John Durant in Richmond gulf, Hudson bay, on Aug. 10; and a 4-lb. 12-oz. bluegill (length 15 in., girth 18¼ in.) in Ketona lake, Ala., by J. C. Higgins on April 27. (A. J. ME.)

**Anglo-Egyptian Sudan.** A territory in northeast Africa, Anglo-Egyptian Sudan is under the joint sovereignty of Great Britain and Egypt. Area: 967,500 sq.mi. Pop. (1948 est.): 7,547,500. Languages: English, Arabic and various Nilotic and Negro tribal dialects in the south. Religion: Arabic minority is Moslem; the bulk of the Negro population is heathen; only c. 20% of population in the south is Christian. Chief towns (1948 est.): Khartoum (cap., 711,400); Omdurman (125,300); El Obeid (70,100); Wad Medani (57,300); Port Sudan (47,000). Governor general, Sir Robert George Howe; leader of the legislative assembly, Miralai Abdullah Bey Khalil.

**History.**—The differences between Great Britain and Egypt about the future of the Sudan remained unsolved during 1950 and were the subject of renewed political excitement in Egypt toward the end of the year. This dispute continued to have its effect upon the internal political life of the country, yet it could be said that the year was one of progress toward the government's declared object—the Sudanization and independence of the Sudan. In his report on local government, which had been called for in 1949, A. H. Marshall made proposals for drastic changes in policy, involving the creation of single local authorities for all purposes, financially independent, and answerable to the local electors. The executive council accepted the proposals in principle and laid them before the Sudan legislative assembly, which thereon approved what amounted to the replacement of the Egyptian (and originally French) system by an English one.

The ministers of health and agriculture announced five-year

plans, but the most notable developments were in the field of education. The minister, Abdurrahman Ali Taha, stated that his department planned to extend elementary education to cover two-fifths of the children of school age in the northern Sudan within a decade. This would involve the opening of new centres for the training of teachers and the increasing of the number of boys' elementary schools in the area from 156 to 356 and of girls' schools from 101 to 211. The third government secondary school, which opened at El Obeid in January with accommodation for 480 boarders, was under the charge of the first Sudanese headmaster in history.

A potentially serious source of Sudanese disunity was the difference between the Moslem, Arabic-speaking and advanced north and the more backward and still largely pagan Negro south. The considerable activities of Christian European missionaries in the south led to assertions that Islam and Arabic were being handicapped. The minister of education announced that 18 northern officials were to be sent to further the spread of Arabic in the south, while southern requests for English programs from the Omdurman radio station were not acceded to.

National feeling showed itself in debates on the Sudan defense force, although it was made clear that Sudanization had progressed so far that there were in 1950 only 40 British officers, as against 69 in 1939. On June 30 the Sudan Plantations syndicate was wound up, and the Gezira scheme came under nationalized control. This was the occasion of what must be regarded as the most striking feature of the events of the year, because when a British member of the executive council was appointed to its management, he was replaced by a Sudanese, thereby giving rise to a Sudanese majority (7 Sudanese as against 5 British members) on that body. The legislative assembly debated the future of Gezira and important reforms in land registration were undertaken. In December considerable excitement was caused by a debate on a motion in the legislative assembly in favour of the immediate independence of the country, which was defeated by one vote. (See also EGYPT.) (H. S. D.)

**Education.**—(1949) NORTHERN SYSTEM: government schools: elementary 249, pupils 35,613; subgrade and Koran 544, pupils 38,550; intermediate 17, pupils 2,568; secondary 5, pupils 1,045; technical 2, pupils 312; teachers' training colleges 5, teachers trained annually 245. Nongovernment schools 60, pupils 14,791. University education at Gordon Memorial college, higher education at Kitchener School of Medicine. SOUTHERN SYSTEM: schools: elementary 3, pupils 291; intermediate 1, pupils 150; secondary 2; pupils at mission schools 20,669.

**Finance and Banking.**—Budget (1949 actual): revenue £E18,700,000, expenditure £E11,600,000; (18 months 1950–51 est.) revenue £E28,700,000,



expenditure £E21,100,000. Total external debt (Dec. 1948) £E12,800,000, of which £E5,400,000 was to Egypt for development. Monetary unit: Egyptian pound valued at \$2.87 U.S. in Dec. 1950.

**Foreign Trade.**—(1949) Imports £E23,900,000; exports £E27,400,000. Main sources of imports (1949): U.K. 32%; Egypt 16%. Main destinations of exports U.K. 65%; Egypt 10%. Main imports: cotton piece goods 18%; sugar, coffee and tea 14%; coal, oil fuel and gasoline 0.5%. Main exports: raw cotton 69%; livestock 10%; gum 0.6%.

**Transport and Communications.**—Railways (1949): 2,013 mi. Licensed motor vehicles (Dec. 1949): cars 2,600; commercial 3,300. Telephone subscribers (1949): 3,520. Wireless licences (1949): 3,227.

**Agriculture.**—Main crops (metric tons, 1949): cottonseed 110,000; cotton, ginned 55,000; sesame seed (1947) 141,200; gum arabic (1947) 37,000; peanuts (1947) 20,000; dates (1947) 46,000. Livestock (Jan. 1948): cattle 3,500,000; sheep 5,500,000; camels 1,500,000.

**FILMS OF 1950.**—*Nile River Basin and the People of the Upper River, Nile River Valley and the People of the Lower River* (Academy Films).

**Angola:** see PORTUGUESE COLONIAL EMPIRE.

**Animal Fats:** see VEGETABLE OILS AND ANIMAL FATS.

**Animal Industry, Bureau of:** see AGRICULTURAL RESEARCH ADMINISTRATION; VETERINARY MEDICINE.

**Annam:** see FRENCH UNION; INDOCHINA.

**Annecy Trade Conference:** see TARIFFS.

**Anniversaries and Centennials:** see CALENDAR, 1951, page xxxii.

**Antabuse:** see INTOXICATION, ALCOHOLIC.

**Antarctica.** The antarctic continent lies almost entirely within and is circumscribed by the Antarctic circle. With an area of nearly 6,000,000 sq.mi., equal to the United States and Europe combined, nine-tenths of it is covered by an ice sheet, thousands of feet thick in places. The 2,000,000 sq.mi. area thus far seen by man has an estimated elevation of about 5,000 ft., with the south pole at a height of slightly less than 10,000 ft. The 14,000-mi. coast is largely inaccessible to ship navigation because of sea ice barricading the coastal shores.

The 1950 season was an active one. The men at the British base on Stonington Island, Marguerite bay, who had involuntarily remained a third winter because of impenetrable ice conditions, were relieved by aeroplane in March. A few days after the rescue, however, the ice floes opened up and the rescue ship managed to sail to their base. This base as well as the one at Hope bay on the northern end of the Palmer peninsula were abandoned, leaving five British bases still in operation.

The French expedition headed by Andre Liotard also encountered more favourable ice conditions during the year. Aided by air reconnaissance, their ship, "Commandant Charcot," was able to reach the mainland after a long search for sea leads through the

**CAMP IN THE ANTARCTIC** where 14 Australian scientists and explorers conducted weather research in 1950; their camp was at Atlas cove on Heard Island, 1,400 mi. southwest of Australia

40-mi. stretch of pack ice which had previously blocked their passage south. They anchored off the coast of Adélie Land during the middle of Jan. 1950. The 11 researchers composing the wintering party settled at Cap de Margerie for a study of the virtually uncharted French sector south of Australia until spring 1952. In France, Paul-Émile Victor was in charge of the entire project which also included scientific studies in the arctic regions with a station established in the centre of the Greenland ice cap.

The Norwegian-British-Swedish expedition to Queen Maud Land reached the coast with the aid of aerial reconnaissance in the first week of Feb. 1950. Their wintering base, Maudheim, in honour of former Queen Maud of Norway, was established on Norvegia cape where the first landing was made. In addition to the Norwegian leader, John Gjaever, there were six Norwegians, four Swedes, two Englishmen, an Australian and a South African in the wintering party. The expedition was scheduled to remain on the continent conducting investigations in many branches of science until the early part of 1952. This international scientific project, under the direction of Harald U. Sverdrup, head of the Norwegian Polar institute in Oslo, Nor., receives 75% of its support from Norway. Sverdrup was to embark for the antarctic on the expedition ship "Norsel," a Norwegian sealer, which would transport planes for aerial surveying during the antarctic summer of 1950-51.

On Heard and Macquarie Islands, south of Australia, the Australian government was operating permanent meteorological outposts. Their personnel was replaced every year.

In June the soviet government announced plans for a whaling and exploring expedition to the antarctic. Four earlier soviet postwar whaling expeditions had included a number of scientists. It was not known, however, whether the Russians had established bases on the continent, or to what extent their scientific work was progressing.

(F. RE.)

**Anthropology.** The 50 years 1900 to 1950 witnessed a remarkable growth in anthropology. A survey by Erminie W. Voegelin published in the *American Anthropologist* showed that during this period the number of institutions offering anthropology courses in the United States and Canada had grown from 11 to 304, while the teaching staffs, originally numbering 17, increased to 604. This growth continued without abatement in 1950, and was accompanied by increased opportunities for field research throughout the world. The British government's plans for colonial development included arrangements under the Fulbright program for establishing research and teaching fellowships in the British colonies. The East African Institute of Social Research was established at Makerere university, Uganda, under





the direction of Audrey I. Richards for the purpose of conducting anthropological, linguistic, economic and psychological studies in Kenya, Uganda, Tanganyika and Zanzibar.

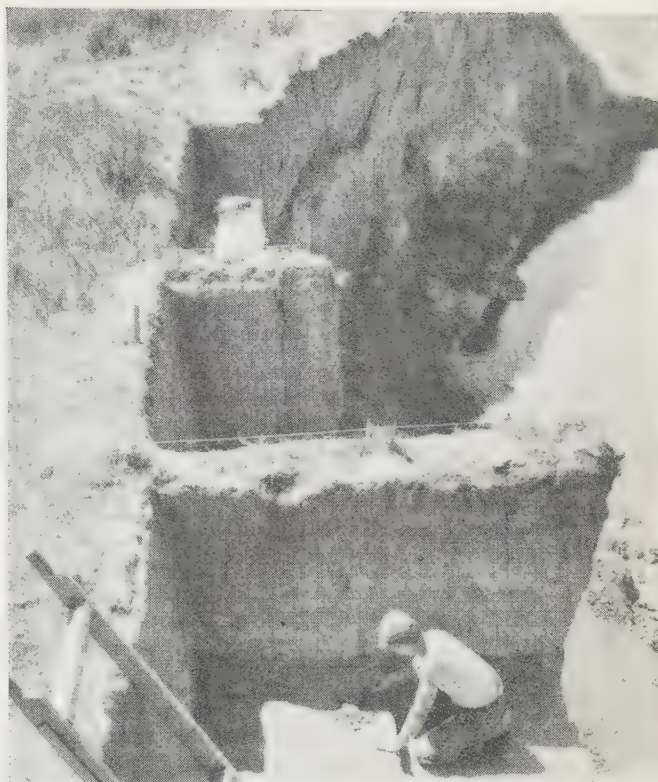
In the United States, foreign area studies received further support from the Carnegie Corporation of New York which allotted additional funds to the Social Science Research council for area training fellowships. A number of American universities expanded and improved their research facilities for area studies. Yale, Harvard and the Universities of Iowa, North Carolina, Oklahoma and Washington joined as participating members in an organization known as the Human Relations Area Files, formerly the Cross-Cultural survey, established by George P. Murdock at Yale.

An important contribution to area research was Julian H. Steward's *Area Research: Theory and Practice*, published by the Social Science Research council. The University of California at Los Angeles, represented by Joseph B. Birdsall, collaborated with the Commonwealth Serum Laboratory of Victoria, Australia, represented by Roy T. Simmons, in inaugurating a long-term genetical survey of the human populations of the Pacific area.

Problems of common interest to anthropology and genetics were discussed at a symposium on the Origin and Evolution of Man, held at the Biological laboratory, Cold Spring Harbor, N.Y. In *Genetics and the Races of Man*, William C. Boyd presented the first comprehensive statement of the role of genetics, and particularly the blood groups, in the variation and racial classification of man. According to Boyd, a race should be defined as a population that differs significantly from others in the frequency of one or more of its genes rather than in the possession of a certain combination of phenotypic or external bodily characters. It was pointed out by Chandler W. Rowe ("Genetics vs. Physical Anthropology in Determining Racial Types," *Southwestern Journal of Anthropology*) that the genetical classification, no less than the anthropological, had its limitations and that the objectives of the two systems were not identical. A striking example of the importance of blood group studies for tracing population movements and relationships was an article in the *American Journal of Physical Anthropology*, "The ABO, MN, and Rh Blood Groups of the Basque People," by J. N. Marshall Chambers, Elizabeth W. Ikin and A. E. Mourant. A comparison of the blood group gene frequencies of the Basques with those of other Europeans led the authors to the conclusion that the present population of western and central Europe arose from the mixing of people akin to the Basques with later invaders from Asia.

In *Races; A Study of the Problems of Race Formation in Man*, Carleton S. Coon, Stanley M. Garn and Joseph B. Birdsall emphasized the importance of environmental conditions in the development of phenotypic features characteristic of the various races. Ashley Montagu's *On Being Human* was a forthright attempt to marshal the evidence of science in the interest of human understanding and progress. In this remarkable volume he assumed the task of proving from the data of biology, psychology and anthropology that co-operation, not conflict, was a basic law of life.

The year 1950 brought new proof of the effectiveness of two recently discovered techniques for dating ancient skeletal and cultural materials—the fluorine and carbon-14 methods. The fluorine-dating method, described by Kenneth P. Oakley and C. Randall Hoskins in *Nature* ("New Evidence on the Antiquity of Man"), gave a decisive answer to the long-disputed question of the age and faunal associations of *Eoanthropus*. Analysis of the fluorine content in these hominid and other mammalian fossils from the Piltdown gravel showed that all of the *Eoanthropus* specimens—teeth, skull and jaw fragments—were contemporaneous, and that they belonged to the upper or middle instead of lower Pleistocene, as formerly supposed. On the other hand the



BURIED HEARTHS uncovered in the Tiber Reservoir area, Mont., by fieldworkers of the River Basin surveys of the federal government in 1950. Results of the expedition threw considerable light on the sequence of cultures in that portion of the Missouri basin

fluorine test confirmed the antiquity of the Swanscombe skull. The method of dating organic materials by means of radioactive carbon, which was developed during the past several years by W. F. Libby and J. R. Arnold of The University of Chicago Institute for Nuclear Studies, yielded fruitful results in 1950, when the first carbon-14 dates were officially announced. Of particular significance for American anthropology was the dating of the last glaciation as about 12,000 years ago, and the demonstration that man was living in western North America at least as early as 8000 B.C. and at the southern tip of South America some 2,000 years later.

The South African *Australopithecinae* continued to be a subject of discussion in 1950. The eight skulls and other fossil remains of this group discovered in 1947 by Robert Broom were described by Broom, J. T. Robinson and G. W. H. Schepers in a *Memoir* of the Transvaal museum: part 1, "Further Evidence of the Structure of the Sterkfontein Ape-Man *Pleisanthropus*"; part 2, "The Brain Casts of the Recently Discovered *Pleisanthropus* Skulls." Broom restated his views on the significance of the *Australopithecinae* in the evolution of man in another book, *Finding the Missing Link*. S. Zuckerman, in *Nature*, contended that the dimensions and indices of the *Australopithecinae* teeth did not differ significantly from those of anthropoid apes. W. E. le Gros Clark, in the same journal, maintained that Broom's new evidence left no doubt of the hominid status of the *Australopithecinae* population, which exhibited a combination of manlike features in skull, palate, teeth and pelvis observed in no anthropoid ape.

New anthropological journals included *L'Homme: cahiers d'ethnologie, de géographie et de linguistique*, issued by the École Pratique des Hautes Études of the Sorbonne and edited by Claude Lévi-Strauss, Emile Benveniste and Pierre Gourou; and *Homo, Zeitschrift für die vergleichende Forschung am Menschen*, under the editorship of E. Freiherr von Eickstedt. The latter journal, which was to appear quarterly, would continue the tradi-



tion and international character of the earlier *Zeitschrift für Rassenkunde*.

Columbia university inaugurated a program for the study of contemporary cultures in the middle and far east, beginning with a field project in India under the direction of Mrs. Gitel P. Steed and Morris Carstairs.

Studies of the Chinese and Japanese segments of the population in Hawaii were made by Francis L. K. Hsu and Marvin K. Opler, respectively. Henry Field completed measurements of more than 2,000 individuals of different tribes in Iraq and Iran. Carleton S. Coon conducted archaeological and somatological work in Iran and Allan H. Smith and Ann G. Smith made ethnographic studies in the Ryukyus.

Philip Drucker completed an ethnographic survey of the Marshall Islands for the U.S. naval administration. Other American anthropologists who engaged in field work in Micronesia under auspices either of the navy or the Pacific Science board were Gordon MacGregor, John L. Fisher, Thomas Gladwin, Ann Meredith and C. H. Hendricks.

A number of field investigations were conducted in the American arctic. L. L. Hammerick, professor of Germanic philology at the University of Copenhagen, made linguistic studies on Nunivak Island, Alaska. William S. Laughlin and Frederica de Laguna continued their research programs in the Aleutian Islands and in the Tlingit area of southeast Alaska, respectively. Viola Garfield collected data on northwest coast Indian art and Douglas Leechman worked among the Athabascan Indians in the interior. J. L. Giddings, Jr. and Helge Larsen, joined by F. G. Rainey, continued their investigation of pre-Eskimo remains on Seward peninsula and the Bering sea coast. On Cornwallis Island in the Canadian arctic, H. B. Collins and W. E. Taylor found evidence of three periods of occupation—Dorset, early Thule and late Thule.

Other anthropological investigations in the north were those of Demetri B. Shimkin and Wendell H. Oswalt in Alaska, A. C. Spaulding in the Aleutian Islands, Elmer Harp in Newfoundland and Edmund S. Carpenter on Southampton Island.

Isaac Schapera was appointed professor of anthropology at the London School of Economics and Political Science, and Meyer Fortes succeeded J. H. Hutton as professor of social anthropology at Oxford.

Gordon R. Willey was appointed Bowditch professor of Mexican and Central American archaeology and ethnology at Harvard, and Alfred Metraux became head of the United Nations Educational, Scientific and Cultural organization's division for the study of race relations.

The Viking fund medalists for 1950 were George P. Murdock, general anthropology, William K. Gregory, physical anthropology and Hallam L. Movius, archaeology.

A second edition of the *International Directory of Anthropologists*, edited by Melville J. Herskovits, was issued by the Committee on International Relations in Anthropology of the National Research Council. Important publications that appeared during the year included volume 6 of the Bureau of American Ethnology's *Handbook of South American Indians*, edited by Julian H. Steward; *Man in the Primitive World: An Introduction to Anthropology*, by E. Adamson Hoebel; *An Introduction to Social Anthropology*, by Ralph Piddington; *Anthropology, the Science of Human Society and Culture*, by J. S. Slotkin; *Social Organization of the Western Pueblos*, by Fred Eggan; *Navaho Religion*, by Gladys Reichard; *Mandan Social and Ceremonial Organization*, by Alfred W. Bowers; *Art of the Northwest Coast Indians*, by Robert B. Inverarity; and *This Is Race: An Anthology Selected from the International Literature on the Races of Mankind*, by Earl W. Count. (See also ARCHAEOLOGY.)

(H. B. Cs.)

**Anti-aircraft Guns:** see MUNITIONS OF WAR.

**Antibiotics:** see BACTERIOLOGY; CHEMOTHERAPY; PNEUMONIA.

**Antigua:** see LEEWARD ISLANDS.

**Antihistamines:** see ALLERGY; CHEMOTHERAPY; COLD, COMMON.

**Antimony:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Antitrust Law:** see LAW.

**Apples:** see FRUIT.

**Apricots:** see FRUIT.

**Aqueducts.** The world's largest system of aqueducts, canals, dams and storage reservoirs is provided by the program of the United States bureau of reclamation for multipurpose use of the water resources in the river basins of 17 western states. The man-made waterways in the bureau's program include thousands of miles of canals and ditches, tunnels, siphons and pipe lines, and the largest and highest concrete dams on earth.

Hydroelectric power-generating plants on bureau projects, including the world's largest single-plant kilowatt capacity hydroelectric installations at Grand Coulee and Hoover dams, furnished in 1950 more than 19,000,000,000 kw.hr. of energy for farms, homes and industry.

Nearly 5,000,000 persons lived in areas served by the bureau's system of waterways; more than 92,000 farms were on the projects and about 380 towns were situated in or near those areas. Crops valued at \$516,329,000 were produced in 1949 on the 4,820,589 ac. of irrigated lands receiving federal reclamation water. On June 30, 1950, the bureau had in operation, under construction or authorized 81 irrigation and multipurpose water conservation projects.

During 1950 scientific studies of river-carried sediment deposits established the fact that Hoover dam and the 32,359,000 ac.ft. capacity reservoir which it created have a useful life of at least 275 yr. regardless of upstream control of sediment. This research set at rest fears that the usefulness of this reclamation reservoir and dam would be destroyed prematurely by the sediment deposits.

The program of the bureau of reclamation, which in 1950 reached an all-time record of \$275,000,000 worth of construction work, included a number of major aqueduct systems.

The Colorado-Big Thompson project in Colorado was famous for its 13-mi. Alva B. Adams tunnel, the longest irrigation tunnel in the world, transferring Colorado river water from the west to the east slope of the Rocky mountains through the continental divide.

The All-American canal in California was the largest irrigation canal in operation in the United States, being 232 ft. wide at the water surface, 160 ft. wide at the bottom and 20.6 ft. in depth with an initial capacity of 15,155 cu.ft. of water per second. The project included the 125-mi. Coachella canal which branches from the 80-mi. All-American main canal near the Mexican border about 20 mi. west of Yuma, Ariz., and terminates near Indio, Calif.

On the Columbia Basin project in central Washington, the bureau of reclamation had under construction during 1950 several large canals. The 1.6-mi. Feeder canal, when completed, would have a capacity of 16,000 cu.ft. per second, making it the largest irrigation canal in the United States. Columbia river water stored in Lake Roosevelt behind Grand Coulee dam would be lifted 280 to 360 ft. by giant pumps and discharged into the Feeder canal which leads to a 27-mi.-long reservoir. From there, the water would flow by gravity through siphons, tunnels, an artificial lake and the main canal to be used for the irrigation of about 1,000,000 ac. of land beginning about 40 mi. south of Grand Coulee dam. Other canals under construction on this project



included the 88-mi. West canal and the 130-mi. East Low canal which would branch from the main canal.

The most comprehensive multipurpose water conservation program undertaken in the United States, the Central Valley project, California, extends 500 mi. through central California. It consists of a network of canals, including the 153-mi. Friant-Kern canal and the 120-mi. Delta-Mendota canal, the former delivering San Joaquin river water from Millerton lake behind Friant dam to areas as far south as Bakersfield, Calif., and the latter transferring Sacramento river water from the San Francisco bay area southward 120 mi., discharging it into the Mendota pool in the San Joaquin basin at Mendota, Calif., thereby providing irrigation water to replace that diverted by the Friant-Kern canal. (See also CANALS AND INLAND WATERWAYS; DAMS; IRRIGATION; TUNNELS.) (M. W. Ss.)

**Arabia.** A peninsula of southwestern Asia of approximately 1,027,300 sq.mi., with a total population estimated at 9,513,000, Arabia consists politically of two independent Arab states, Saudi Arabia and Yemen (*q.v.*), the independent sultanates of Oman and Masqat or Muscat; the autonomous sheikhdoms of Bahrein, Kuwait, Qatar, and the Trucial sheikhdoms; and Aden colony and protectorates (*q.v.*). Language: Arabic. Religion: overwhelmingly Moslem (Sunni).

**Saudi Arabia.**—Area: *c.* 597,000 sq.mi. (excluding the Rub' al-Khali desert covering approximately 193,000 sq.mi.) Pop. (1949 est.): 6,000,000. Chief towns: Riyadh (cap. 60,000); Mecca (150,000); Medina (45,000); Jeddah (40,000); Hufuf (31,500). Ruler, King 'Abd-al-'Aziz Ibn-'Abd-al-Rahman Ibn-Faisal Ibn-



ARABIAN HERDSMEN watering their camels, sheep and goats at a well originally intended to supply water for wildcat drilling operations by the Arabian American Oil company. After the wildcat well was completed, the well was given to King Ibn-Sa'ud for the use of Bedouin tribesmen at Al Jauf

Sa'ud; viceroy of Nejd and commander in chief, Amir Sa'ud, crown prince; viceroy of Hejaz and minister of foreign affairs, Amir Faisal.

**History.**—During 1950 King Ibn-Sa'ud celebrated the jubilee of his rule. During his reign he had expanded his territories from his original kingdom of Nejd so that his government extended over nine-tenths of the whole of the Arabian peninsula.

In the Arab league Saudi Arabia tended, in association with Egypt, Syria and the Lebanon, to oppose the expansionist policy of King Abdullah of Jordan. Saudi Arabia made a loan of \$6,000,000 to Syria in Feb. 1950, in return for which Syria undertook to supply Syrian goods for Saudi-Arabian consumption (*see* SYRIA). The dollars were presumed to have come from U.S. oil royalties.

In August Saudi Arabia contracted a \$15,000,000 loan from the Export-Import Bank of Washington. An immediate payment of \$4,000,000 was to be devoted to the construction of airports, roads and seaports. The remainder was to be applied for the development of agriculture and for the improvement of health, sanitation and transport conditions.

The report published in July of the Arabian American Oil company (Aramco), whose active concessions were in the Saudi-Arabian province of El Hasa on the Persian gulf, announced the progress of the railway which was being constructed westward from the oil fields by way of Kharj and Hufuf to Riyadh. The line was expected to be open early in 1951.

Another development from the oil fields during 1950 was the practical completion of the desert pipe line to pump the Aramco oil westward across the desert through Saudi Arabia, Jordan, Syria and the Lebanon to the Mediterranean port of Sidon, south of Beirut. The company was negotiating "passage rights" with the governments concerned and it was hoped that oil would be flowing early in 1951.

Developments elsewhere in Saudi Arabia included the building of a new deep-water jetty and customs sheds at Jeddah, the Red sea port of Mecca, which would greatly improve the conditions of pilgrim traffic arriving by sea from Africa, India and the far east. A new all-weather highway was also being constructed from Jeddah inland to Medina. (O. M. T.)

**Education.**—Schools (1949): primary 30, secondary 5; preuniversity 1.

**Finance.**—Pilgrimage dues (1948 est., £10,000,000) and oil royalties (1948 est., more than £20,000,000) are the main sources of revenue. Monetary unit: rial, nominally equal to the Indian rupee, valued in 1950 at 21 cents U.S.

**Transport and Communications.**—Licensed motor vehicles (Dec. 1949): cars 6,000, commercial vehicles 7,700. Radio receiving sets (1949) 9,000.

**Industry.**—Crude oil production (1949): 23,460,000 metric tons. Raw materials: copper (1948) 67 metric tons; gold (1949) 67,200 troy ounces; silver (1948) 67,819 troy ounces.

**Oman and Masqat.**—Area: *c.* 65,000 sq.mi. Pop. (1949 est.): 830,000. Ruler (from 1932): Sultan Said bin Taimur, the 13th of his dynasty.

**Bahrein.**—Area: 213 sq.mi. Pop. (1949 est.): 110,000. Ruler (from 1942): Sheikh Sir Sulman ibn Hamad al Khalifah.

**Kuwait.**—Area: *c.* 9,000 sq.mi. Pop. (1949 est.): 120,000. Ruler: Sheikh Abdullah bin Salim al-Subah, who succeeded his uncle, Sheikh Sir Ahmed ibn Jabir al Subah after the latter died on Jan. 29, 1950.

**Qatar.**—Area: *c.* 4,000 sq.mi. Pop. (1949 est.): 16,000. Ruler (from 1949): Sheikh Abdullah ibn Jasim al Thani.

**Trucial Sheikhdoms.**—Area: *c.* 16,000 sq.mi. (including the sheikhdoms of Shargah, Ras al Khaimah, Umm al Qawain, Ajman, Debai, Abu Dhabi and Kalba). Pop. (1949 est.): 105,000.

**Arab League:** *see* ARABIA; EGYPT; IRAQ; JORDAN; LEBANON; MIDDLE EASTERN UNITY; SYRIA.

**Archaeology.** Eastern Hemisphere.—Probably the most significant event for archaeology generally (as





BRICK-BUILT CENTRAL GRANARY, the best preserved building of the 4,000-yr.-old Indus valley civilization at Mohenjo-Daro, Pak., discovered by the Archaeological department of Pakistan which was in its third year of activity in 1950. Note the main loading platform in the foreground

well as for old world archaeology in particular), in the year 1950, was the announcement of the results of the first 18 months of experimentation with the radiocarbon technique of establishing dates for pre- and protohistoric materials. This technique had been under development by W. F. Libby of the Institute for Nuclear Studies of The University of Chicago, in collaboration with his colleagues there (especially J. R. Arnold), and with a committee appointed by the American Anthropological association and the Geological Society of America. While still in its developmental stage, the technique gave great promise of becoming a reliable means of arriving at fairly precise dates for specimens of archaeological interest back to about 20,000 or more years ago. The specimens tested were of organic materials, and the method was one of discovering the residual amounts of the radioactive isotope carbon 14 in specimens of an organic material (*i.e.*, charcoal or other vegetable material, burned bone, teeth, shell, etc.). Libby had established the time rate of the decline and disappearance of the radioactive isotope, and was able to assign a date relative to the residual amount of radioactivity which any given specimen might still contain.

Of the results announced in Sept. 1950, 11 tests were reported on specimens from the near east and 20 specimens from Europe. Several of the specimens tested from the near east were of known historical date, and were done as "check runs." Of the specimens of unknown date, two from Egypt and one from Iraq were very significant. A slab of wood beam from the tomb of the vizier Hemaka, contemporary with the pharaoh Udimu of the 1st Egyptian dynasty, yielded a date of  $2933 \pm 200$  years B.C., which checked remarkably well with the reckonings of the historical chronologists for the date of the first Egyptian dynasty. Wheat and barley from a pit of the Fayum A Neolithic site in Egypt—

material often suspected to be the oldest village-stage material in Egypt—yielded a date of  $4145 \pm 250$  years B.C., which was about 1,000 years less than the current archaeological "guess-dates." Snail shells from the site of Jarmo in Iraqi Kurdistan, the earliest village-stage material yet recovered in detail from western Asia, yielded a date of  $4857 \pm 320$  years B.C., slightly over 1,000 years later than the excavator's estimate.

For Europe, the test yielded a date of about  $14000 \pm 900$  years B.C. for charcoal from the Lascaux cave in France, where a remarkably fine series of cave paintings were discovered in 1940. This date indicated only about half the antiquity which had been suspected for Lascaux. On the other hand, a test of wood from the Mesolithic site at Starr Carr, Yorks., Eng., reported in 1949, gave a date of  $7538 \pm 350$  years B.C., which was somewhat older than had been assessed by the excavator. Not all of the European results gave satisfactory checks with dates arrived at by pollen analysis, but there were certain other cases of surprising consistency between the dates arrived at by the two methods.

Further refinements in both laboratory techniques and in the methods of securing reliable samples were under development, and there was a general feeling that the radioactive carbon method of dating might prove to be one of the most useful research tools yet developed for archaeology.

Another important event for old world archaeology in the year 1950 was the convening of the International Congress of Prehistoric and Protohistoric Sciences at Zürich, Switz., in August. This first fully international gathering of archaeological scholars since before World War II was attended by more than 200 representatives from the countries of western Europe, the near east, and the Americas. A total of 104 papers were read in the sections, which were divided as to general subjects, the Palaeolithic, Neolithic, Bronze Age, Iron Age, and Age of Migrations. When publication of the proceedings of this congress was completed, the papers would stand as a convenient summary statement of the



general status of old world archaeology as of the period through World War II, and also as of what was approximately the first 100 years of archaeology as a recognized science.

*Pleistocene Prehistory.*—Digging activity in the Pleistocene and immediately post-Pleistocene levels in Europe and Africa was not so marked as in 1949, insofar as results had been reported by the close of the year. D. Garrod and John Waechter of Cambridge university worked in caves in France and Gibraltar. The above mentioned congress interrupted normal summer digging campaigns in Europe.

*The Near-Middle East.*—A considerable amount of work was done in Egypt, mainly in the category of architectural clearances and of the copying of tomb and temple scenes and texts. The staffs of the Egyptian Service des Antiquités and of the Institut Français d'Archéologie at Cairo were especially active in this work, and the Oriental Institute of the University of Chicago continued its program at Luxor. The beginning of an avenue of sphinxes leading from Luxor to Karnak was found, considerable clearance was made in the great temple at Karnak, and tombs in the Theban necropolis were worked. In April, a white quartzite sarcophagus of Takhout, wife of the pharaoh Psammetichus II, was accidentally discovered at Tell Atrib. There was a rich funerary accompaniment, but the queen's body was decomposed.

P. L. Shinnie, director of the Sudan Antiquities service, continued work at Amara West, completing the excavation of the 19th-dynasty Egyptian governor's palace at that site. A. J. Arkell elaborated his earlier finds in the Neolithic of the Sudan by excavations at Sheheinab, a site characterized by "gouged" decorated pottery.

In Israel, there was flourishing archaeological activity, many finds having been made accidentally by contractors while putting in foundations for buildings and public works. Such discoveries were controlled by the Israeli department of antiquities staff, and by an industrious public organization called the Friends of Antiquities. Under such circumstances, a variety of clearances were made in the Jerusalem, Tel Aviv and Jaffa regions especially pertaining to almost all ranges of ancient times. A clear Ghassulian type settlement was identified on the outskirts of Tel Aviv, and Neolithic, Early Bronze and Hyksos materials were reclaimed near its harbour. The department of antiquities also carried on large-scale excavations at Khirbet Kerak, concentrating on the clearance of a large quadrangle of Roman date, which yielded mosaics whose motifs indicate a Jewish origin. M. Stekelis carried on excavations at an important Neolithic workshop southeast of Lake Tiberias. Père R. de Vaux of the Dominican École Biblique et Archéologique cleared a grotto with Greek inscriptions near Bethany, and resumed his important work at Tell al Farah.

In Hashimite Jordan, an interesting co-operative venture was carried on by the American Schools of Oriental Research under J. C. Kelso, in which the United Nations refugee organization put Arab refugee workmen and also equipment at the disposal of the excavators. A large-scale clearance in an Islamic pleasure palace near Jericho was made.

M. M. Dunand continued his work at Byblos, in Lebanon, working mainly in the Aëneolithic cemetery, where two especially fine tombs with gold, silver and carnelian jewellery were recovered. Architectural clearances and restorations were carried on at Tyre and in the great temple compound at Baalbek. In Syria, the department of antiquities spent most of its efforts on the completion of the magnificent restoration of Kasr el Heir in the Damascus museum, but Claude Schaeffer continued his important excavations at Ras Shamra with work in the palace area. Schaeffer also carried on work at the site of Enkomi in Cyprus, which he identified as the town of Alasia, and which yielded rich sub-Mycenean materials.

Reports of the results of the autumn, 1949, campaign at Kanesh-Kultepe in Turkey became available. There Tahsin Özgüç continued the very important work of the Turkish Historical society, in the quarter where the Assyrian merchant colonist lived in this Anatolian city. The site continued to yield remarkably rich artifacts and inscriptional material; the pottery and small objects would give real substance to the comparative archaeology of Anatolia for a long range. H. T. Bossert continued his work at Karatepe and Demuztepe and carried on a survey in the region south of Adana. Sir Leonard Woolley finished his work at Tell Atchana and on other sites in the region of Antioch, and M. Louis Robert did clearance in the temple area at Amyzon. The British School of Archaeology in Ankara carried on several small test excavations, and also collaborated with the British school at Athens and the Ankara university in the continued excavations near Izmir, where a range back to the time of Troy I had been reached.

In Iraq, the Oriental Institute resumed excavations at Jarmo in the Kurdish hills above Kirkuk, where the earliest substantial exposure in the beginning village-stage of western Asia was being investigated (*see above*). A joint University museum (University of Pennsylvania)-Oriental Institute (University of Chicago) expedition, under D. E. McCown, continued at Nippur, making clearances in the area of the temple of the god Enlil, and on the tablet hill where levels ranging from the 3rd Ur dynasty to Achaemenid times were investigated. These later operations yielded about 750 cuneiform tablets and a rich variety of artifacts, all of considerable historical importance. Max Mallowan of the British School of Archaeology in Iraq made exposures in the Assyrian levels of Nimrud, which yielded spectacular carved ivory. In Iran, M. R. Ghirshman carried on the French excavations at the site of Susa; Islamic-Sassanian levels were concentrated upon, but some earlier materials were also recovered. Research proceeded on the important materials recovered from four caves in Iran, by C. S. Coon of the University of Pennsylvania.

In Afghanistan, M. Daniel Schlumberger, for the French delegation, cleared the audience hall of the great Ghaznavid palace at Laskari Bazar, and uncovered a series of paintings of rows of men, rendered in a somewhat Buddhistic fashion. R. E. Mortimer Wheeler, archaeological advisor to the Pakistan government, did a large-scale clearance at the Indus city of Mohenjo-Daro. The massive mud brick substructure of a great public granary was uncovered, defensive bastions preserved to a height of ten feet were investigated, and a test cut done with the aid of a pump, plumbed to ten feet below the present water table without reaching virgin soil.

W. F. Albright was the head of an expedition to south Arabia, which accomplished a variety of cartographic and epigraphic tasks, and fixed the range of duration of the Qatabanian kingdom to about 500–50 B.C., by excavations at Timma.

*Classical Lands.*—The American School of Classical Studies continued the excavation of the Athenian Agora, and the detailed study of the buildings surrounding it. Pieces of sculpture found on the slope of the temple hill of the so-called Theseion (now identified as a temple of Hephaestus) were shown to have come from the east pediment of the building, and the general theme of the composition was established. Considerable attention was given to the Stoa of Attalus, which was to be entirely reconstructed and would serve as a museum for the finds from the Agora. Oscar Broneer directed the school's excavations at Corinth, where buildings of the amusement quarter were examined. The French school continued its work at Delphi, and the British school carried on research in Crete as well as in Greece and on the Turkish coast at Izmir (*see above*). A University museum, University of Pennsylvania, expedition began a large-scale cam-



paign at Gordium, in Turkey.

In Italy, J. S. P. Bradford of the Pitt Rivers museum, Oxford, reported on a successful aerial survey, locating unknown sites and elaborating knowledge of known sites, which had been done with the aid of the royal air force at the end of the war. The *American Journal of Archaeology* section on the classical lands contained many details on the work of the various national schools of archaeology in Rome. Archaeologists were reported to have satisfied the Vatican authorities with the identification of a tomb found in the substructure of St. Peter's basilica as that of St. Peter.

**Far East.**—With the troubled conditions prevailing in further Asia, there was little archaeological activity to account for, save for investigations by the state archaeological services in India, which included work on dolmens and other megalithic structures in Hyderabad, and on sites dating from the reign of Asoka in Orissa. (See also ANTHROPOLOGY.)

Sources used in the preparation of this article, other than those specifically mentioned: *Antiquaries Journal*, *L'Anthropologie*, *Antiquity*, *Archaeology*, *Bulletin of the American Schools of Oriental Research*, *Illustrated London News*, *Journal of the Royal Anthropological Institute*, *Man*, *Nature*, *Proceedings of the Prehistoric Society*, *Sumer*. (R. J. B.)

**Western Hemisphere.**—The Viking fund medal for archaeology in 1949 was awarded to H. L. Movius and the A. L. Kidder medal was presented to Alfred M. Tozzer.

**Early Man.**—The problems of early cultures in the new world, particularly in North America, received considerable attention in 1950. In general it may be said that the apparent gap between the chronologies of the later Indian cultures which could be connected with the historic period and early remains such as Folsom and Yuma was being closed. Not only were additional discoveries made but also estimated dates were undergoing revision. New dating techniques indicated that archaeologists had been too conservative in estimating recent chronologies, while geologists had over-estimated the age of late Pleistocene phenomena.

From the Rio de La Pasi6n in Guatemala, Barnum Brown reported the discovery of a fragment of fossil bone, possibly sloth, which has three V-shaped cuts that appear to have been made in fresh bone by man. This specimen was associated with other Upper Pleistocene faunal remains and gave the first direct suggestion of very early occupation of Guatemala.

George F. Carter continued work at La Jolla, Calif., on problems of terraces, valley fill, soils, sea level and their relations to evidences of human occupation. One grinding stone, a core tool and two flint flakes found beneath the soils of the Scripps cliff are from formations that suggest that they were deposited during a period of high sea level. Carter stated that if his deductions were correct this might be evidence of the presence of man in interglacial times.

In Utah Jesse D. Jennings, chairman of the department of anthropology, University of Utah, continued the excavation of Danger cave. The cave lies below the Stansbury terrace of Lake Bonneville and thus was not exposed for habitation until water had receded below this level after the onset of the Altithermal, about 6,000 years ago. The ten feet of cultural deposit lie directly on the beach gravel which forms the floor of the cave and appear to represent a long series of intermittent occupations. Several thin milling stones with pecked surfaces are suggestive of the early Cochise culture of Arizona. These were found at the base of the deposit.

Frank Hibben of the University of New Mexico reported the discovery of crudely chipped flint implements, a milling stone and evidences of fire on the surface of what seemed to be an old terrace of the Rio Grande south of Albuquerque, N.M. Above these remains lie 24 ft. of gravel which contain a considerable quantity of Pleistocene faunal material, especially mammoth bones.

Near Port Arthur, Ont., Richard MacNeish of the National Museum of Canada discovered a site which offered additional information on Palaeo-Indian culture. Plainview type projectile points, large crude choppers, and a variety of flint scrapers, some very delicately chipped, were found in an old beach deposit that at present is 235 ft. above the level of Lake Superior.

**Arctic Area.**—J. L. Giddings of the University of Alaska continued work at the remarkable early site at Iyatayet on Cape Denbigh in Norton sound. This was a continuation of the work begun in 1949. Additional artifacts from the sealed basal layer of the deposit further demonstrated the relationship of this microlithic complex to the Folsom and Yuma cultures of western North America and to the Mesolithic of northern Europe and Asia.

This site was extremely important in that it gave the first clear evidence relating early cultures of the old and new worlds.

Helge Larsen excavated, with excellent results, a large house of Ipiutak age located on the edge of the Deering air strip. Quantities of artifacts well preserved by the frozen ground added to knowledge of this culture. The cave in the Trail creek region of Seward peninsula discovered in 1949 was completely excavated and 11 additional caves were found, one of which



SUMERIAN FIGURE of a household divinity, dating from 1800 B.C., found at Nippur, Iraq, during a joint archaeological expedition from the Universities of Chicago and Pennsylvania. The seated figure was painted red except for the beard which was black



proved to contain cultural material. In the surface layers Eskimo artifacts were found but beneath these, separated by a layer of accumulated rock dust was discovered a complex of flint artifacts very similar to that found by Giddings at Iyatayet in Norton sound.

Wendell Oswalt, Walter Arron and their wives made a reconnaissance of the Yukon river and of the Bering sea coast between the mouth of the Yukon and Hazen bay. The expedition led by William Laughlin of Harvard university continued anthropological fieldwork in the Aleutians. Laughlin and James Leach of the University of Oregon made archaeological excavations on Adak and other islands as well as anthropometrical studies of the modern Aleuts.

John Marsh and Knut Bergsland, the latter from Denmark, carried on linguistic studies.

*Pacific Coast.*—The summer field session in archaeology of the University of Washington, directed by Adan E. Traganza, excavated a village site at the northern end of San Juan Island. A portion of the historic Old Man House of Chief Seattle located at Suquamish, Wash., was excavated by William Massey. The Columbia River Basin project of the River Basin surveys under the direction of the Smithsonian institution (*q.v.*) had four excavation parties working under the direction of Douglas Osborne. The party in Chief Joseph reservoir, immediately below Grand Coulee dam, excavated several pit houses and tested others. Another party worked in the Grand Coulee where the outstanding site was a shallow cave containing an interesting range of cultural deposit.

Two other parties operated in Potholes reservoir and McNary reservoir.

*Plains.*—Fieldwork in 1950 was principally devoted to large-scale excavation of outstanding sites discovered by the surveys that had been made of areas to be covered by waters of reservoirs which were under construction or projected. Nearly all the fieldwork was being conducted in co-operation with the River Basin surveys project of the Smithsonian institution. Robert L. Stephenson of the River Basin surveys completed excavations in the Whitney reservoir on the Brazos river in Texas. A variety of sites were excavated. Most interesting were some unexplained large pits 60 to 70 ft. in diameter discovered near Lavon. Jack Hughes and Alex Krieger surveyed the Falcon reservoir area on the lower Rio Grande and discovered a number of sites both historic and prehistoric.

The University of Oklahoma field school under the direction of Robert Bell continued the excavation of the Harlan site in the Fort Gibson reservoir in Oklahoma. This site is a component of the Spiro Focus and yielded house remains. A square-walled rock structure was discovered in a mound.

John L. Champe of the University of Nebraska continued work on the White Cat Village site in the Harlan County reservoir for the third season. In addition several sites of the Upper Republican and Glen Elder cultural phases were investigated.

Two parties were operating in South Dakota during the summer. Carlyle Smith of the University of Kansas led a party in the excavation of part of the Talking Crow site in Fort Randall reservoir. Three cultural levels were found: Upper Republican, Protohistoric Arikara and a late level identified as representing the Dakota of the 19th century. Wesley Hurt of the University of South Dakota also excavated in the Fort Randall reservoir area. At the Swanson site rectangular pithouses were discovered with floors buried beneath four to five feet of overburden.

*Eastern United States.*—The Wisconsin Archaeological survey worked primarily at the Aztalan site. Two houses were found and new data added on stockade features and burials. The University of Michigan began a five-year survey and excavation pro-

gram in the central Mississippi valley between the mouths of the Illinois and Ohio rivers under the direction of James B. Griffin. Excavations were made at the Cahokia mound group in an effort to define further the two Mississippian cultural levels found there and surface surveys were extended down the Missouri side of the Mississippi to Cape Girardeau. This latter work outlined a sequence from eastern Archaic to Mississippian. The Ohio State museum excavated an archaic site near Oxford, O., and found a series of troughlike refuse pits, heavy stemmed projectile points, scrapers, bone awls and needles. A postmould pattern was worked out.

The University of Kentucky partially excavated a large Adena culture burial mound in Mason county. This work was to be completed in the 1951 season. The summer field school of the University of Georgia under the direction of A. R. Kelly continued survey and salvage in the projected reservoir areas of the lower Flint and Chattahoochee. William Sears excavated a burial mound at the Kolomoki site and found quantities of Weeden Island period ceramics and other artifacts. Considerable work was accomplished in Florida. Ripley Bullen of the Florida park service excavated at Madirs Bickel Mound State monument and worked out the chronology of the site. John Goggin conducted the summer field session of the University of Florida at the Zetrouer site, a 17th century Spanish-Indian site, and briefly investigated Fort Pupa, a slightly earlier Spanish fort on the St. Johns river. A large collection of European and aboriginal artifacts was secured.

The Southeastern Archaeological conference met at the University of Tennessee and was well attended. Problems of the classification of stamped wares were the principal topic.

*Southwest.*—The University and the Museum of New Mexico co-operated with the national park service in excavating sites which were to be flooded by the Chamita reservoir on the Chama river. A pueblo dating around A.D. 1300 with some unusual semi-subterranean structures was one of the sites investigated. Paul Martin and John Rinaldo of the Chicago Natural History museum continued their work in the Pine Lawn valley in southwestern New Mexico. The efforts of the 1950 season were particularly directed to the excavation of several dry caves.

David de Harport of the Peabody museum of Harvard continued a survey of sites in the Canyon de Chelly National monument and Charles R. Steen of the national park service spent a second season in the excavation of the Tse-taa site located in the canyon. The remains at Tse-taa range from Basket Maker III to historic Navaho remains. A. H. Schroeder of the national park service made additional excavations at the deep stratified site at Willow beach on the Colorado river. The abundant remains were mainly of Patayan type. This would be covered by water of the Davis reservoir.

The summer field session of the University of Arizona was again held at Point of Pines on the San Carlos Apache reservation in eastern Arizona. A party of archaeologists under the direction of J. L. Nusbaum surveyed the prehistoric sites in the right of way of a natural gas line that was in the process of construction through the Navaho reservation and the Coconino National forest.

The information secured by this work would assure a minimum of damage to antiquities in the course of the pipe line construction.

The 1950 Pecos conference was held at the Museum of Northern Arizona, Flagstaff.

*Middle America.*—Jorge Acosta excavated at Tula and some of the smaller surrounding sites. Most of the work at Tula was concentrated on the Quetzalcoatl structure. The National Museum of Anthropology of Mexico continued work at the remarkable site of Tlatilco. Numerous additional burials were found.



adding considerably to the collection of Middle Culture and Olmec-like grave furnishings. Carlos Margain continued excavations in the Tepantla section of Teotihuacan and Augustin Villagra restored a newly discovered set of mural paintings found there.

Linton Satterthwaite of the University museum of the University of Pennsylvania began a program of investigation of house mounds in British Honduras. At Caracol he found a number of previously undiscovered monuments including stelae with dates. At Benque Viejo a part of a magnificent stucco façade was uncovered in very good condition.

Stanley Boggs continued work at Tazumal for the government of Salvador. This was the tenth season of work at this complex site and considerable information was gathered on the relations of the Tohil plumbate horizon to the local equivalents of Maya classic.

*South America.*—In Chile a party headed by Greta Mostny of the Museo Nacional de Historia Natural conducted an ethnographic survey in the region near the town of Peine in the Atacama desert. Small protohistoric stone buildings with some cut stone at the corners and in door jambs were discovered and the culture was related to the modern occupation.

Wendell C. Bennett of Yale university made a survey of the Montaro basin in the central highlands of Peru and excavated at the extensive prehistoric site of Huari. This latter work suggests strongly that Huari was the highland centre from which the coastal Tiahuanaco culture spread. Mr. and Mrs. Henry Reichlen of the Musée de L'Homme, Paris, completed their work in the Cajamarca region of the northern highlands. Richard Schaedel of the University of Trujillo, Peru, conducted a study of prehistoric architecture on the north coast between Casma and Leche valleys. Two pyramids near Trujillo, El Dragón and Huaca Tacaynamo, were partially cleared of rubbish and sand revealing interesting painted low-relief friezes and a number of small wooden statues.

These sites date in the Chimú period. Several burials of the same time horizon were opened near Chanchán producing a large collection of ceramics and metal objects.

The principal archaeological project underway in Venezuela was a program of excavation under the direction of José M. Cruxent, director of the Museo de Ciencias Naturales of Caracas, and Irving Rouse of Yale university. Three shell middens were investigated on the peninsula of Araya-Manicuare; one without pottery, one with painted pottery and the third a late contact site.

(J. A. Fd.)

**Archery.** The 66th annual tournament of the National Archery association of the United States was held at Franklin and Marshall college in Lancaster, Pa., Aug. 7-12, 1950, with 262 archers from 25 states and Canada participating. Twenty-four new national records were established. The champions and their scores are shown in the table.

The Santa Monica (Calif.) Archery club with a team of three men and one woman won the men's team round (96 arrows at 60 yd.) event, their combined scores totalling 380-2,708, exceeding the previous record by 34 points. The Orioles of Baltimore, Md., won the women's team round (96 arrows at 50 yd.) event with a score of 380-2,468.

The men's international Long round and the women's Hereford round were not shot because of inclement weather. Ann Weber established a new national record of 612 for the single Columbia round.

The regulations for the junior division were changed in 1950. The age limit was raised through 17 years and the rounds were changed accordingly to include greater distances. The Senior American round is now included in the championship events of

### Target Archery

Men's championship	Scores: Double York round Double American round	Stan Overby, Inglewood, Calif. 283-1,755* 180-1,494* 3,249
Ladies' championship	Scores: Double National round Double Columbia round Double American round	Jean Lee, Greenfield, Mass. 144-1,138* 144-1,198* 180-1,476* 3,812
Junior boys' championship	Scores: Double Hereford round Double American round	Michael Moga, Niagara Falls, N.Y. 278-1,724 180-1,336 3,060
Junior girls' championship	Scores: Double National round Double Columbia round Double American round	Betty Wagner, Fond du Lac, Wis. 143-929 144-1,130* 180-1,252 3,311

### Flight Archery

Men	Regular style	Irving Baker, Westfield, N.J.	602 yd. 1 ft.
	Free style	Charles Pierson, Cleveland, O.	617 yd. 2 ft.
Ladies	Regular style	Evelyn Haines, Warren, Pa.	505 yd.*
	Free style	Eunice Modlin, Evansville, Ind.	564 yd.
Boys	Regular style	Harold Duppre, Brentwood, Pa.	344 yd.
Girls	Regular style	Barbara Van Popering, Old Greenwich, Conn.	338 yd.

### Clout Shoot

Men	(36 arrows at 180 yd.)	Lloyd Corby, Denville, N.J.	36-244
Ladies	(36 arrows at 140 yd.)	Ann M. Weber, Bloomfield, N.J.	35-269
Ladies	(36 arrows at 120 yd.)	Ann M. Weber, Bloomfield, N.J.	36-294*
Boys	(36 arrows at 120 yd.)	Don Mitchell, Scott air force base, Ill.	36-248
Girls	(36 arrows at 120 yd.)	Laurette Young, Detroit, Mich.	36-266*

\*Indicates new record.

all divisions, namely, the men's, women's, boys' and girls'. The Columbia round is included in the women's and girls' championship events. The scores of the junior champions established records for their division.

Five contestants, two women and three men, represented the United States in the 14th world championship held in Copenhagen, Den., July 26-31. Jean Lee won the women's championship of the world with a score of 3,254, breaking every known record. Jean Richards of Laguna Beach, Calif., placed second with a score of 2,919, third place going to Mme. Windahl of Sweden with a score of 2,755.

Hans Deutgen of Sweden won the men's championship of the world with a score of 3,141. Tang Holbek of Denmark placed second with 2,878, and Russ Reynolds of Cleveland, O., was third with a score of 2,854.

The 67th national tournament of the National Archery association was to be held at the University of California, Los Angeles, Aug. 20-24, 1951.

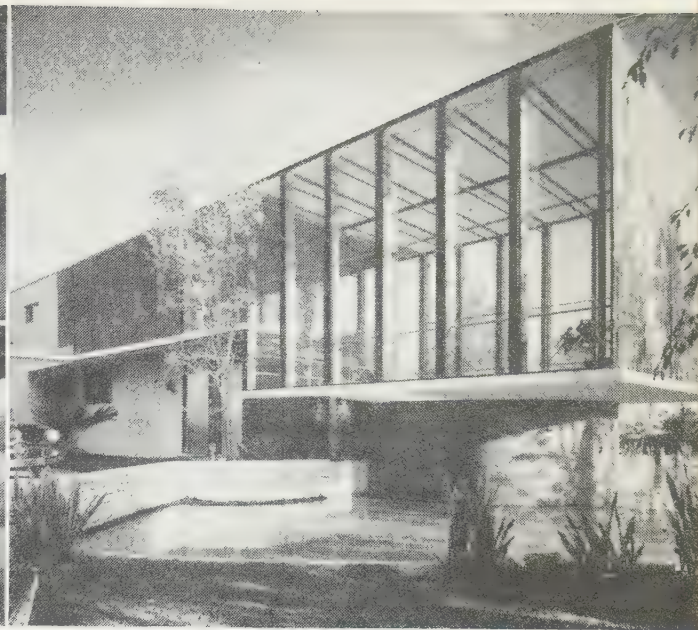
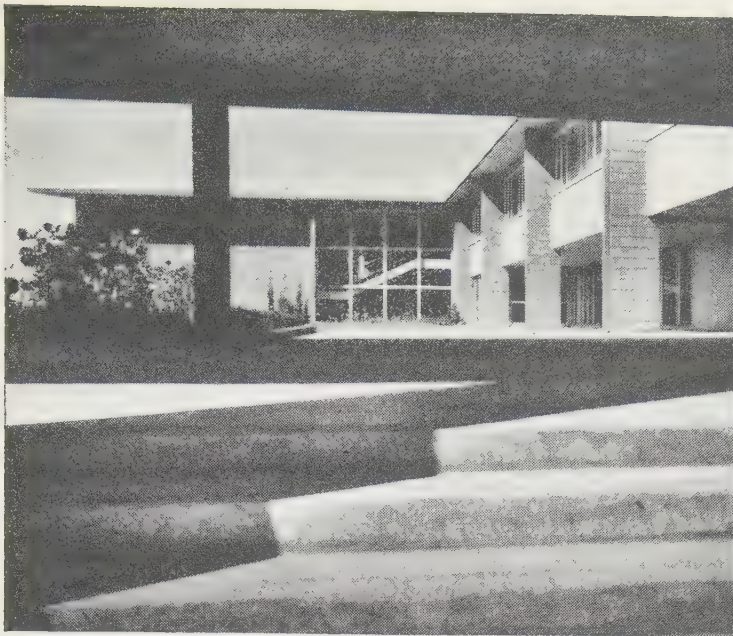
Lawrence E. Briggs, University of Massachusetts, Amherst, succeeded Mrs. Olive U. Crouch as secretary of the National Archery association.

FILMS OF 1950.—*Hunting with Bow and Arrow* (Cornell Associates). (O. U. C.)

**Architecture.** In 1950 it was inevitable that the architectural profession would not escape the impact of the Korean war and that the international situation would have an effect on United States architecture. The general effect on the architectural profession may be best described as psychological. However, there were certain tangible effects. Credit controls immediately curtailed building in the small house field. This curtailment occurred at a time when the merchant builders, through the National Association of Home Builders of America, and the architects, through the American Institute of Architects, had started on a collaborative effort to bring good architectural service into the operative building field and to arrange for methods and procedures for carrying out the objectives of the joint effort. This effort was being continued, nevertheless, although it was not anticipated that its effect on the appearance and planning of merchant building would be apparent for a year or so.

The directive on credit controls was followed shortly by restrictive order M-4 of the National Production authority. This was the order banning amusement and recreational building. Its effect on the profession again was immediate, especially as it

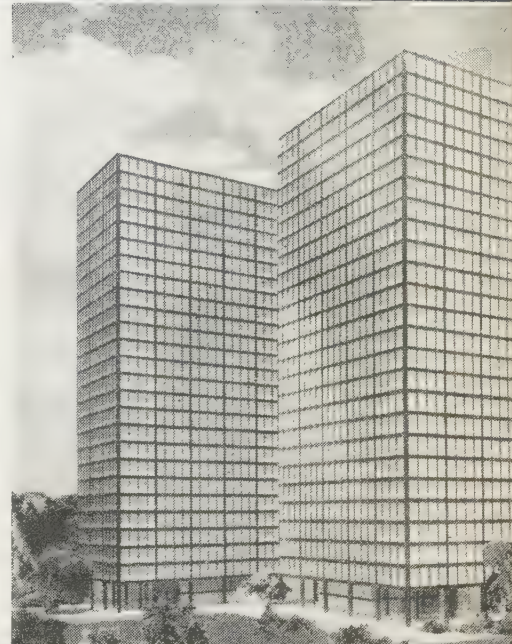




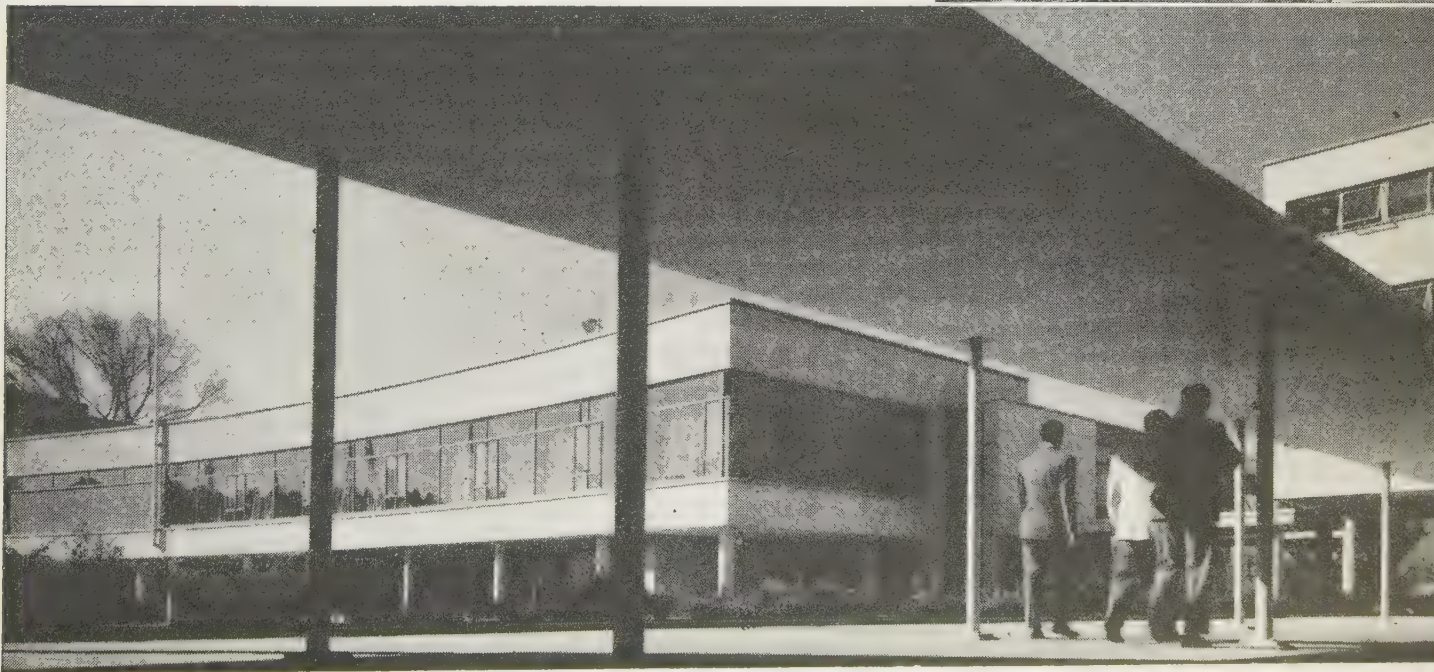
Above, left: LEA COUNTY COMMUNITY HOSPITAL opened at Hobbs, N.M., in 1950, featuring inexpensive materials, ample space and gardens to produce an informal atmosphere. William L. Pereira, architect; Truman Matthews, associate

Above, right: "BIRD CAGE HOUSE" completed in Miami, Fla., in 1950, as a practical answer to year-round living in a tropical climate. Living quarters (left) were concealed inside a two-story screened patio with entire south and west sides nothing but screen over a wooden frame. Igor B. Polevitzky, architect

Right: MODEL OF THE LAKE SHORE CO-OPERATIVE apartments being erected at Chicago, Ill., in 1950. The all steel and glass tower had floor-to-ceiling windows and was designed for radiant heating through ceiling and floors. Ludwig Mies van der Rohe, architect



Below: COMMONS BUILDING at the Harvard Graduate centre, Cambridge, Mass., first occupied in 1950. The group of eight buildings, seven of them dormitories, formed a series of large and small quadrangles with most buildings joined by covered walks. Walter Gropius, principal architect, in collaboration with seven associates forming The Architects Collaborative





was apparently the forerunner of further restrictive orders to come. The original order contained a drastic sentence, stating in effect that the government could halt any building at any time, even after construction had commenced and regardless of whether or not an official permit had been obtained. Had this sentence prevailed, not only the profession but the construction industry and the general economy itself might have been seriously affected. Through the efforts of the American Institute of Architects, the National Production authority was prevailed upon to eliminate this sentence.

The slight panic, which may have existed here and there in the profession at the outset of the Korean war, quickly evaporated. There was a reluctance on the part of the contractors to submit firm bids. However, that reluctance appeared to be lessening toward the end of the year. Curiously enough there arose an interesting stimulation of immediate planning in various nonmilitary fields. This was the result of a desire to get the planning work under way, and if possible construction also, before the country might find itself in a serious predicament. As the year closed, the outlook for the profession was more stable than it had been six months earlier.

**Residential.**—Considerable interest was focused in 1950 upon the public housing program. At the close of the year this program was almost exclusively in the planning stage, and the rise in prices was causing a drastic change in the planning phases. It was obvious that, under existing authorizations and appropriations, the program could not be carried out as originally contemplated. The official remedy had been a cutting down on space allotments and an elimination of any semblance of superfluity of architectural design.

In the private residential field there was in some areas a marked falling off in construction of what is loosely termed a "luxury house." Houses well out of the low-cost range were being built in Texas, Nebraska and other places which hitherto had not been especially noteworthy in this field. An interesting manifestation was the building of fine homes for well-to-do farmers and ranchers in remote parts of the middle west. Very often in these houses the architects had the opportunity to develop completely contemporary and up-to-date structures, some of which were located far from the beaten path.

In the smaller private residential field, many interesting modern houses were designed and built, and indications were that so-called modern architecture was passing through its growing stages and was arriving at maturity. In many of these houses the modernistic clichés had been eliminated or forgotten. However, where the design of modern houses had fallen into less capable hands, or in some instances had fallen outside the hands of the profession completely, the imposition of modern clichés on the long-accepted plan did not serve to advance progressive architecture. Taking all residential work into consideration—public, government-financed and private (except in a few parts of the country)—the established American way of living had not indicated that it was undergoing much promise of advance. On the contrary, save for sporadic outbreaks of "ramblers" or ranch-type houses, the two-story Cape Cod cottage with the tightly landscaped front lawn and the small back yard was still being built in quantity. The American way of life, as enjoyed by the masses, still called for living in the public view, the only token of advance being the forest of television masts.

**Techniques and Materials.**—There was an increasing concentration on research, in which activity the American Institute of Architects was taking a leading role, as was the Building Research Advisory board, set up under the National Research council and supported in whole by the construction industry.

The construction industry also established a project to explore and advocate modular co-ordination. This was being carried

out under the immediate direction of the American Institute of Architects and was expected to have a profound effect on architectural design in general. The architects were leading this effort. The profession was also active in the study of climatology, which is the carrying out of a scientific approach to those weather conditions which should affect the design of buildings.

**Commercial.**—The general tendency toward decentralization throughout the country offered the architect a further opportunity to develop a relatively new and fast-growing field of design. His principal contributions during 1950 were in the shopping centre and in the development of the supermarket, a peculiarly American institution.

Further studies were made in the field of indoor and outdoor automobile parking facilities, and new and ingenious developments were being carried out in public garages. The open-air movie which, in its initial development, seemed to offer little opportunity to the architect, had progressed to a point where architectural service was demanded, and some architects had become experts in this field. No longer was the open-air movie simply a screen set up in a vacant lot; it had become a thoroughly planned centre of amusement, calling for architectural ability.

The auto court or motel was another field in which considerable architectural progress was made during the year. Among the attractive and inviting new motel projects were those on the outskirts of Wilmington, Del., Dallas, Tex., and in many other places, especially in the west and southwest.

In 1950 office building design was characterized by an increased simplicity which tended to border on barrenness, and save for the U.N. building in New York city, which was a special-purpose building, no particular innovation was forthcoming. The year saw a breaking away from the skyscraper per se. There no longer appeared to be a striving for a building higher than its fellows in order to enhance the building and the owner's prestige (possibly to his financial disadvantage).

**Schools.**—There was a renaissance of research resulting in a radical change in the approach to school planning and in school building itself. Notable work in this line was accomplished in California, Chicago and its environs, and in many other places throughout the country.

**Governmental.**—In governmental architecture the trend toward simplicity was also evident. Great attention was paid to the function of the building and to the lowering of maintenance cost. That these objectives could be achieved with a corresponding improvement in the architectural appearance of a building was exemplified in Louis Justement's courthouse, which was under construction in Washington, D.C.

To sum up architectural progress of 1950, there was an intelligent concentration on study and research, an adaptability to the national economic pattern, and a steady advance, despite a momentary uncertainty brought about by the disturbed international situation.

(ED. R. P.)

**Great Britain.**—The completion of the new house of commons was the architectural event which attracted most attention during 1950. The "Tudor Domestic" style of the new chamber inevitably aroused controversy. There were those who believed that each age should have the courage of its own architectural convictions and could see no reason why the new chamber was not frankly contemporary. In his planning it was generally agreed Sir Giles Gilbert Scott had exercised considerable ingenuity. With only a slight addition in total height three extra floors had been fitted in. Accommodation in the chamber itself was increased from 802 to 939, chiefly by replanning and extending the galleries. The new floor of the house was not made larger since it was thought important to retain that sense of intimacy in debate which is characteristic of the house of commons. An



elaborate and advanced system of air conditioning was designed by Oscar Faber.

On the south bank site of the 1951 Festival of Britain the installation of the internal equipment for the permanent concert building, to be known as the Royal Festival hall, was well under way by the end of the year, and was to be completed in time for the opening on May 3, 1951.

In the city of Westminster the housing problem was still very acute and drastic measures were needed to deal with it. In 1945-46 a competition had been held to provide designs for a large number of dwellings on a site which covered 30 ac. and stretched 600 yd. along the north bank of the Thames at Pimlico. The winner was the firm of Powell and Moya, and the first block of flats in the scheme was completed in Oct. 1950. Density would be at 200 persons an acre and, apart from the flats, there would be about 30 shops, laundries, a mortuary, a restaurant, public lavatories and a service station with an underground garage for 200 cars. Space heating and domestic hot water were provided by a district heating system utilizing waste heat from Battersea power station which faced the site across the river.

**Australia.**—Designs were published for the new National university at Canberra. The architect was Brian B. Lewis of the University of Melbourne. His designs were based on a main axis which followed a well-defined ridge of ground. At one end, above a future lake, there would be an open-air auditorium and along the ridge, ranged at each side of a central lawn, the library, administrative offices and public lecture rooms. University house, at the other end of the axis, would be the social focus of the university.

**South Africa.**—In order to provide accommodation for the rapidly growing population of Salisbury, the capital of Southern Rhodesia, the city council inaugurated a scheme for a block of flats which would be the highest building in Rhodesia. Designed by the firm of Ross MacKenzie, Van Heerden and Hartford, it would comprise 108 one-room and 84 two-room flats on 12 floors. The foundations would be a reinforced concrete raft and spreader beams and the main structure, a series of parallel spine walls, would be carried at ground-floor level on piers similar to those of Le Corbusier's *Unité d'Habitation* near Marseilles. Windows would be continuous, and protected by hoods against the mid-day sun. Finishes would be of brick and fair-faced concrete, with aluminum cladding for the projecting fins of the spine walls and a polished stone veneer round the main entrances. The flat reinforced concrete roof would be surfaced with bitumen, screed and a light "umbrella" of corrugated asbestos. Vertical expansion joints would divide the building into seven separate structures.

**Europe.**—In Hungary and Czechoslovakia a number of good modern buildings were completed, apparently still free from the stultifying grip of Stalinist aesthetic theory. In Hungary the most interesting buildings were the new school for apprentices attached to the Matyas Rakosi metal foundry, and the clinic at Vjpest by Kiss Ferenc. In Czechoslovakia, a 13-story block of flats for factory workers was completed at Horní Litvínov. The flats provided accommodation for single people and families and included day nurseries, a nursery school and a central kitchen with canteen. The structure, of steel with brick infilling, was faced with prefabricated panels.

Switzerland's most notable buildings were both in Geneva. One was a block of flats by Marc T. Saugey. The other, a Protestant church and assembly hall with an exposed reinforced concrete frame, by W. M. Moser of Haefeli, Moser and Steiger, had walls of specially designed concrete blocks and circular sheets of glass. (See also BUILDING AND CONSTRUCTION INDUSTRY; HOUSING; TOWN AND REGIONAL PLANNING.) (I. R. M. M.)

FILMS OF 1950.—*Art and Life in Italy* (Coronet Instructional Films).

**Archives, National.** The national archives and records service is a part of the General Services administration. It superseded the national archives establishment, an independent agency created by congress in 1934, which was transferred to the General Services administration effective July 1, 1949. It consists of the records management division, the national archives, the federal register division and the Franklin D. Roosevelt library at Hyde Park, N.Y., and in 1950 was headed by Wayne C. Grover, archivist of the United States.

The national archives and records service prescribes standards and methods for the efficient management of the government's current records; supervises the administration of records centres, where noncurrent records being processed for disposal are stored inexpensively; selects, preserves and administers in the national archives those federal records that have enduring value; publishes the daily *Federal Register*, the *Code of Federal Regulations*, the *Statutes at Large* and the *U.S. Government Organization Manual*; and administers the paper and collections of Franklin D. Roosevelt and related materials in the library at Hyde Park.

The new records management division began its nation-wide program to improve government records practices. Regional records centres were established in New York city, Chicago, San Francisco and Alexandria, Va.; and a manual on the *Disposition of Federal Records* was issued.

By the end of 1950 there were more than 900,000 cu.ft. of permanently valuable records in the national archives. During the year 385,000 reference services were performed on these materials for the government and the public. Responsibility for the compilation and publication of *The Territorial Papers of the United States* was assigned to the national archives during the year.

The 1949 edition of the *Code*, the first since the original 1938 edition, was completed and published during 1950 by the federal register division which also issued the daily *Register*, published the annual *Government Organization Manual*, and took over from the state department the responsibility for publishing the *Statutes at Large*.

A large part of the papers of Pres. Franklin D. Roosevelt in the Franklin D. Roosevelt library were made available for research in March 1950.

(W. C. G.)

## Areas and Populations of the Countries of the World.

The political entities of the world are listed here with their areas, populations and number of persons per square mile. The latest census or official estimates are given for each country. Areas in square miles are in accordance with the boundaries for the year of the population figure unless otherwise noted. Some of the later boundary adjustments had not been recognized at the end of 1950 by the U.S. government. The subtotals for colonial groupings within continents do not carry density figures.

Where two figures are given for a country, the most recent is used in the continental and world totals.

The table, on this and the following page, provides a fundamental basis for country comparisons.

Areas and Populations of the Countries of the World  
(For statistical details and dates see separate country and empire articles)

Name of continent and state	Area (in sq.mi.)	Population (in thousands)	Persons per sq.mi.
World total . . . . .	58,062,977	2,388,939	45.9*
AFRICA . . . . .	11,611,409	191,410	16.5
Belgian colony and trusteeship . . . . .	925,094	14,811	
British colonies, dependencies, protectorates, trusteeships and condominium . . . . .	3,046,063	67,038	
Egypt . . . . .	383,000	20,045	52.3



## Areas and Populations of the Countries of the World—Continued

Name of continent and state	Area (in sq.mi.)	Population (in thousands)	Persons per sq.mi.
Ethiopia . . . . .	350,000	10,000	28.6
French colonies, trusteeships, protectorates, department and metropolitan area . . . . .	4,270,896	50,037	
Italian trusteeship . . . . .	194,000	955	4.9
Liberia . . . . .	43,000	1,648	38.3
Libya . . . . .	679,183	1,177	1.7
Portuguese colonies . . . . .	794,959	11,480	
South-West Africa (mandate of Union of South Africa) . . . . .	317,725	374	1.2
Spanish colonies and protectorate . . . . .	134,763	1,587	
Tangier, International Zone of . . . . .	232	150	646.6
Union of South Africa . . . . .	472,494	12,108	25.6
ANTARCTICA . . . . .	6,000,000	Uninhabited	
ASIA (exclusive of U.S.S.R.) . . . . .	10,575,583	1,274,211	120.5
Afghanistan . . . . .	270,000	12,000	44.4
Arabian desert . . . . .	193,000	Largely uninhabited	
Bhutan . . . . .	18,000	300	16.7
British colonies, dependencies, protector- ates, protected state and independent state under British protection . . . . .	245,932	10,577	
Burma . . . . .	261,749	18,200	69.5
Ceylon, Dominion of . . . . .	25,332	7,500	296.1
China (35 provinces, including Formosa, Kwantung and South Manchurian rail- way, Manchuria and Tibet) . . . . .	3,876,956	475,000	122.5
French overseas territory and associated states . . . . .	285,987	27,777	
India, Republic of . . . . .	1,220,099	347,340	284.5
Indonesia . . . . .	583,479	79,260	135.8
Iran . . . . .	634,413	18,387	29.0
Iraq . . . . .	116,600	4,990	42.8
Israel . . . . .	7,800	1,247	159.9
Japan (1949) . . . . .	146,690	83,074	566.3
Jordan, Hashemite Kingdom of . . . . .	37,110	120	10.8
Korea . . . . .	85,225	29,291	343.7
Kuwait . . . . .	9,000	120	13.3
Lebanon . . . . .	3,470	1,238	356.8
Mongolian People's Republic . . . . .	606,000	2,000	3.3
Nepal . . . . .	54,000	6,910	128.0
Netherlands New Guinea . . . . .	151,789	1,000	6.6
Oman and Masqat . . . . .	65,000	830	12.8
Pakistan, Dominion of . . . . .	337,524	75,000	222.2
Philippines, Republic of the . . . . .	115,600	19,356	167.4
Portuguese colonies . . . . .	8,876	1,487	
Qatar . . . . .	4,000	16	4.0
Ryukyu Is. (U.S. occupied territory) . . . . .	935	909	972.2
Saudi Arabia . . . . .	597,000	6,000	10.1
Syria . . . . .	72,560	3,407	47.0
Thailand (Siam) . . . . .	198,272	17,987	90.7
Trucial Sheiks . . . . .	16,000	105	6.6
Turkey . . . . .	296,185	20,903	70.6
Yemen . . . . .	31,000	1,600	51.6
AUSTRALIA and OCEANIA . . . . .	3,304,507	12,759	3.9
Australia . . . . .	2,974,581	8,179	2.7
Australian dependency, territory and trust- eeship . . . . .	183,553	1,313	
British colonies, dependencies, condominium, protectorate and protected state . . . . .	24,700	552	
French colonies . . . . .	9,199	109	
New Zealand . . . . .	103,416	1,881	18.2
New Zealand dependencies and trustee- ship . . . . .	1,656	93	
United States possessions, territory and trusteeship . . . . .	7,402	632	
EUROPE (exclusive of U.S.S.R.) . . . . .	1,903,369	391,902	205.9
Albania . . . . .	10,629	1,300	122.3
Andorra . . . . .	191	5	26.2
Austria . . . . .	32,388	7,090	218.9
Belgium . . . . .	11,783	8,614	731.1
British colonies and dependencies . . . . .	124	337	
Bulgaria . . . . .	42,796	7,160	167.3
Czechoslovakia (1950) . . . . .	49,330	12,463	252.6
Denmark (excl. Greenland, incl. Faeroe Islands) . . . . .	17,109	4,261	249.1
Estonia . . . . .	18,357	854	46.5
Finland (including Aland Islands) . . . . .	130,159	4,015	30.8
France . . . . .	213,010	42,000	197.2
Germany (1937 area, 1939 population) . . . . .	181,742	69,317	381.4
Germany (1950, including Saar) . . . . .	138,017	69,382	505.2
Greece (including Aegean Islands) . . . . .	51,182	7,960	155.5
Hungary . . . . .	35,893	9,201	256.3
Iceland . . . . .	39,768	140	3.5
Ireland, Republic of . . . . .	26,602	2,991	112.4
Italy (1950) . . . . .	116,224	46,001	395.8
Latvia . . . . .	25,395	1,650	65.0
Liechtenstein . . . . .	61	13	213.1
Lithuania . . . . .	25,173	2,353	93.5
Luxembourg . . . . .	1,010	295	292.1
Monaco . . . . .	0.6	23	38,333.3
Netherlands . . . . .	12,868	9,955	773.6
Norway (including Spitzbergen) . . . . .	149,161	3,237	21.7
Poland (pre-World War II) . . . . .	150,052	35,339	235.5
Poland (1950) . . . . .	120,359	25,036	208.0
Portugal (incl. Azores and Madeira Islands) . . . . .	35,413	8,491	239.8
Rumania . . . . .	91,654	15,873	173.2
San Marino . . . . .	38	13	342.1
Spain (including Canary Islands) . . . . .	194,945	28,023	143.7
Sweden . . . . .	173,390	6,986	40.3
Switzerland . . . . .	15,940	4,696	294.6
Trieste, Free Territory of . . . . .	293	381	1,300.3
United Kingdom . . . . .	94,205	49,919	529.9
Vatican City . . . . .	0.5	1	2,000.0
Yugoslavia (after Sept. 15, 1947) . . . . .	98,826	16,040	162.3
U.S.S.R. (1939) . . . . .	8,173,557	170,467	20.9
U.S.S.R. (1950 area, 1946 pop. est.) . . . . .	8,436,121	193,000	22.9
NORTH AMERICA . . . . .	9,375,934	217,192	23.2
British colonies and dependencies . . . . .	21,060	2,751	
Canada . . . . .	3,843,144	13,845	3.6

## Areas and Populations of the Countries of the World—Continued

Name of continent and state	Area (in sq.mi.)	Population (in thousands)	Persons per sq.mi.
Costa Rica . . . . .	19,238	851	44.2
Cuba . . . . .	44,217	5,400	122.1
Danish colony (Greenland, including ice cap) . . . . .	840,000	23	0.03
Dominican Republic . . . . .	19,129	2,400	125.5
El Salvador . . . . .	13,176	2,150	163.2
French territory and departments . . . . .	1,206	553	
Guatemala . . . . .	45,452	3,784	83.3
Haiti . . . . .	10,748	3,750	348.9
Honduras . . . . .	59,160	1,534	25.9
Mexico . . . . .	760,373	25,368	33.4
Netherlands overseas territory (The Nether- lands Antilles) . . . . .	403	165	409.4
Nicaragua . . . . .	57,145	1,503	26.3
Panama (excluding Canal Zone) . . . . .	28,575	764	26.7
United States . . . . .	3,022,387	150,697	50.6
United States possessions . . . . .	590,521	2,418	
SOUTH AMERICA . . . . .	6,856,054	108,465	15.8
Argentina . . . . .	1,079,965	17,098	15.8
Bolivia . . . . .	416,040	3,990	9.6
Brazil . . . . .	3,286,170	50,000	15.2
British colonies and dependencies . . . . .	90,681	410	
Chile . . . . .	286,323	5,761	20.1
Colombia . . . . .	439,714	11,015	25.1
Ecuador . . . . .	104,510	3,404	32.6
French department (French Guiana) . . . . .	34,740	35	1.0
Netherlands overseas territory (Surinam) . . . . .	54,291	192	3.5
Paraguay . . . . .	157,047	1,304	8.3
Peru . . . . .	482,258	8,204	17.0
Uruguay . . . . .	72,172	2,353	32.6
Venezuela . . . . .	352,143	4,697	13.3

\*In computing the world density the area of Antarctica is omitted.

†Includes Eritrea as military trustee area.

‡Areas and populations of Baltic republics included in 1950 and 1946 U.S.S.R. totals.

**Argentina.** A republic in southern South America, Argentina is bounded on the north by Bolivia, Paraguay and Brazil; on the south and west by Chile; and on the east by Uruguay, the River Plate and the Atlantic ocean. Next to Brazil, it is the largest country in South America, with an area of 1,079,965 sq.mi. and a population of 17,097,889 (est. June 1950), mostly of European ancestry. The capital and leading port, Buenos Aires, has a population of 3,000,371 (1947 census). Other principal cities are: Córdoba, 351,644; Avellaneda, 279,572; La Plata, 271,738; Lanús, 242,760; Santa Fé, 168,011; Tucumán, 152,508; Mendoza, 105,328; Mar del Plata, 104,513; Bahía Blanca, 93,122. Religion: Christian, mostly Roman Catholic. President: Gen. Juan Domingo Perón.

**History.**—During 1950 the Perón regime continued to ride hard on its critics and enemies at home, maintained its arbitrary restrictions on civil liberties, kept a strict control on business and financial enterprises and generally consolidated its position in power. The gloomy economic outlook during the early part of the year was improved by the rearmament program forced upon the free world by the Korean war. Political and economic relations with the United States improved and the Peronista party seemed to be in full control.

The political feud which forced the retirement of Juan A. Bramuglia as foreign minister in 1949 had further repercussions in 1950. Z. R. del Campo resigned as minister counselor of the embassy in Washington, D.C., in a strongly worded letter to the foreign office, thus expressing his solidarity with Enrique Corominas, former ambassador to the Organization of American States, and José Arce, former delegate to the United Nations. The campaign to draft Bramuglia as a presidential candidate against Perón was ended when he announced that he would not accept the nomination and would enter the private practice of law. Members of the opposition and independents were disillusioned by this, but it was generally recognized that under existing laws it was almost impossible to organize a political party. Oscar Ivanissevich, former ambassador to Washington and minister of education, fell out of favour and resigned his post in May. Armando Méndez San Martín, director of the Eva Perón Social Aid fund, was appointed as the new minister of education.

Provincial elections were held in 1950 in Entre Ríos, Buenos Aires province and San Luis. The Peronistas won all three elections. A comparison with the last previous election showed that in Entre Ríos the Peronistas lost 7,000 votes and the opposition



gained 5,000 and in Buenos Aires the government increased its total votes by 18% and the opposition showed a 36% gain. The San Luis election was the first in which women participated, although they were given the right to vote in 1947. It was the last election to be held prior to the presidential election in Feb. 1952. Elections had been held in 10 of the 14 provinces since Dec. 1948 when the constituent assembly was elected. The Peronistas lost ground in all of them. They lost an average of 4.37% of the vote and the Radicals gained 5.1%, mostly at the expense of the Socialists and Democrats. The Communists also lost ground, and the Peronistas claimed that they had gone over to the Radicals. Opposition candidates Ricardo Balbín and Isaías Juan Nogues were arrested for disrespect to Perón. The former was given a five-year term and deprived of his political and civil rights.

A draft was launched for Perón's re-election in 1952 with Eva Perón as vice-president.

Perón decreed that 1950 be celebrated as the "year of San Martín," to honour the Argentine liberator. Upon his recommendation the Inter-American Treaty of Reciprocal Assistance negotiated at Rio de Janeiro was ratified. The opposition labelled this "subservience to Yankee imperialism" and forced Perón to tone down his international policies in favour of a more nationalistic approach. In a speech before the National Commission for Economic Co-operation in February Perón stated that in the future the government would be interested in nationalizing only the public utilities. This led to speculation in diplomatic circles, since the United States held large interests in Argentine public utilities and it was not known whether petroleum was considered a public utility. In his address at the opening of congress in May, Perón said that foreign enterprises investing in Argentina would enjoy full freedom and receive a fair return on their capital. He asserted that capitalism as an economic system was doomed and that all the west could offer was liberalism, which had failed. In the struggle between capitalism and communism Perón again suggested, as he had done several times during the year, that he represented a "third way."

A Joint Argentine-United States Committee of Commercial Studies was established to consider granting a \$125,000,000 credit to foster foreign trade. In February Assistant Secretary of State Edward G. Miller went to Buenos Aires to initiate negotiations. At first the Perón press was hostile, but toward the end of his visit their tone changed, indicating that some progress in improving United States-Argentine relations had been made. Economy Minister Ramón A. Cereijo later went to Washington to continue negotiations with the Export-Import bank. The loan was to be repaid in 20 half-yearly instalments, the first of which was due in June 1954. The interest was 3½%, and although the government was responsible for the loan, it was made through ten commercial banks, several of which were official or semiofficial.

Congress promoted Perón to a major general; refused to pass a law banning Communists, but approved a drastic law to repress sabotage, espionage and treason. The law provided that anyone who "in any way provokes public alarm or lowers public morale" might be sent to prison from one to eight years. Unauthorized publication of secret or restricted government information was also punished. In all cases severe prison terms were provided in peacetime and death in times of war. The law also punished agents of a foreign country operating against another foreign country on Argentine soil.

The government nationalized all uranium deposits and created an atomic energy commission to work through the ministry of technical affairs.

(J. McAd.)

**Education.**—In 1949 there were 14,649 primary schools, with 2,074,233 pupils and 91,024 teachers. The 744 secondary, normal and special schools had 185,283 students; they included 136 national colleges with 44,901 students, 219 national normal schools with 67,968 students and 91 na-

tional commercial schools with 25,973 students. The 670 incorporated (i.e., private) secondary, normal and special schools had 55,693 students. There were national universities at Buenos Aires (34,988 students), La Plata (18,181), Córdoba (8,881), Cuyo (6,749), Tucumán (2,308), the national university of the Litoral at Santa Fé (17,716) and the technical institute at Bahía Blanca (254).

**Finance.**—The monetary unit is the peso, valued on Nov. 23, 1950, at \$0.1333 U.S. currency, basic rate, \$0.2000, preferential rate and \$0.0698, free market rate. Imports into Argentina were paid for at one of the three rates, depending upon their respective importance to the economy. Authorized nontrade remittances from Argentina were effected at the free market rate. The 1951 budget, as approved by congress in Aug. 1950, totalled 13,073,900,000 pesos (1950: 11,258,400,000 pesos), distributed as follows: national administration 4,844,000,000 pesos (balanced by general revenue with an estimated surplus of 100,000 pesos); public works 1,059,600,000 pesos (to be covered by borrowing with the exception of 100,000 pesos); autonomous agencies (railways, oil fields, etc.) 5,987,900,000 pesos (self-balancing); special accounts 1,182,400,000 pesos (self-balancing). In addition, about 1,300,000,000 pesos were allocated for the five-year plan and were to be covered by borrowing. Expenditure of the national administration amounted to 4,477,000,000 pesos in 1949; general revenue totalled 4,581,600,000 pesos. The national debt was 16,643,000,000 pesos on June 30, 1950 (Dec. 31, 1949: 15,194,500,000 pesos; Dec. 31, 1948: 12,940,000,000 pesos), of which 14,450,000,000 pesos represented the funded debt and 2,192,500,000 pesos the floating debt. The debt figures did not include the debt of the Institute for Trade Promotion (I.A.P.I.), estimated at 9,300,000,000 pesos on Dec. 31, 1949, nor that of the official agencies and of provincial and municipal governments. Currency and subsidiary money in circulation on Sept. 30, 1950, totalled 9,631,000,000 pesos, and on that date the Central bank had gold holdings of \$216,000,000. Bank clearings averaged 16,360,000,000 pesos a month in 1949 and totalled 18,696,000,000 pesos in June 1950.

**Trade and Communications.**—Exports in 1949 were officially valued at 3,717,500,000 pesos (1948: 5,465,000,000 pesos); imports amounted to 4,045,400,000 pesos (1948: 5,341,000,000 pesos). Exports were divided as follows: meat, wool, hides and other animal products 50.46%; agricultural products 45.01%; manufactured goods 1.95%; forest products 2.33%. Leading imports were machinery and vehicles (21.5%), textiles (18.6%), iron and steel (16.3%), fuel and lubricants (10.7%) and timber (6.6%). Leading customers were the United Kingdom (22.8%), Brazil (10.9%), the U.S. (10.7%), Italy (9.1%) and Spain (4.8%). Principal suppliers were Italy (15.9%), the United Kingdom (15.6%), the U.S. (14.8%), France (10.0%), Brazil (7.6%) and India (5.8%).

The railway system totalled 26,923 mi. in 1949 (including the Argentine section of the new Salta-Antofagasta line), all of which was owned and operated by the government. National highway mileage in 1949 was about 43,500, of which about one-fourth was paved or improved. On Jan. 1, 1950, it was unofficially estimated that Argentina had 219,870 automobiles and 140,840 trucks. According to *Lloyd's Register of Shipping*, the merchant marine (June 30, 1949) had 357 steamers and motorships (100 tons and over) aggregating 814,274 gross tons and 46 sailing vessels and barges aggregating 20,566 tons.

**Agriculture.**—Acreage and production figures for the crop year 1949-50 were officially reported as follows: wheat, 14,064,932 ac., 5,670,231 short tons; linseed, 2,662,550 ac., 744,934 tons; maize, 5,287,940 ac., 930,140 tons; oats, 3,038,342 ac., 595,352 tons; barley, 1,984,213 ac., 435,098 tons; rye, 4,703,473 ac., 305,447 tons; sunflower, 4,463,367 ac., 701,614 tons. Exports during the period Jan. 1-Dec. 14, 1950, were estimated in short tons as follows (total for entire year 1949 in parentheses): wheat 2,923,225 (2,018,262); maize 873,834 (1,203,221); linseed 122,789; oats 419,560 (213,740); barley 102,750 (219,371).

The livestock census of July 1, 1947, showed 41,268,470 cattle, 7,237,663 horses, 50,856,556 sheep, 2,981,406 pigs and 4,933,679 goats. Wool exports in the wool year ending Sept. 30, 1950, were 383,863 bales, of which 238,574 went to the U.S. and 56,924 to France. Livestock slaughtered in 1949 included 8,930,700 cattle, 7,472,200 sheep and 1,768,300 pigs. Meat exports in 1949 included 4,609,417 frozen beef quarters, 635,838 frozen mutton carcasses, 2,636,202 frozen lamb carcasses and 82,144 short tons of canned meat. Exports of hides and skins included 2,612,251 calf skins, 647,209 dried ox hides, and 5,959,329 salted ox hides. Dairy exports included 92 short tons of butter (1948: 13,462 tons) and 26,152 tons of casein. Exports of quebracho extract were estimated at 152,036 short tons, of which 30,821 tons were re-exported from Paraguay.

**Manufactures.**—Industrial establishments numbered 101,884 in 1947 (65,803 in 1943). Most important were the meat-packing establishments, flour mills and textile mills. In 1949 there were about 100 woollen spinning mills, 180 woollen textile plants, 34 cotton spinning mills and 200 cotton textile plants. Estimated production data in 1949 included cement 1,600,000 short tons; iron and steel products 188,000 tons; electric energy (consumption) 3,312,000,000 kw.hr. Imports of iron and steel products totalled 590,655 short tons in 1949. The cost-of-living index stood at 300.9 in Aug. 1950 (1943=100).

**Mineral Production.**—Petroleum production in 1949 totalled about 22,500,000 bbl.; imports (crude only) were 12,200,000 bbl. Gold, lead, zinc, copper, tin and coal were also produced. Coal imports in 1949 were 1,361,766 long tons, of which 987,780 tons came from the United Kingdom and 225,289 tons from the Union of South Africa.

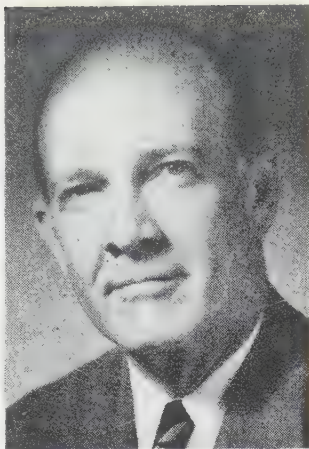
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(J. W. Mw.)

**Arizona.** Arizona, nicknamed the "Grand Canyon State," lies in the southwestern part of the United States; the Colorado river forms most of the western boundary. Its area is 113,909 sq.mi. The official census determination for 1950 gave



the state a population of 749,587, a 50.1% increase above that of 1940. The 1940 census gave rural population, 65.2%; urban, 34.8%; foreign-born whites (including Mexicans) 7.3%; other races, including Negroes and Indians, 14.4%. The capital is Phoenix with a preliminary population estimate (1950) of 105,003; other cities with similar estimates were: Tucson, 45,064; Mesa, 16,766; Douglas, 9,393; Yuma, 9,095; Glendale, 8,174; Tempe, 7,688; Prescott, 6,734; and Morenci, 6,549.



HOWARD PYLE, Republican, elected governor of Arizona, Nov. 7, 1950

**History.**—The state's officers (1950) were: chief justice, Arthur T. La Prade; governor, Dan E. Garvey; secretary of state, Wesley Bolin; treasurer, J. W. Kelly; attorney general, Fred O. Wilson; superintendent of public instruction, Marion L. Brooks. In the 1950 Democratic primary Dan Garvey was defeated by Mrs. Ana Frohmiller, gubernatorial candidate; but the November election was won by Howard Pyle, Republican candidate. The other officials were re-elected, except for the treasurer (E. T. Williams) and all were Democrats. Since the 19 state senators were Democrats, as were 61 of 72 house members, and since the Republican governor-elect had to make 79 appointments to 54 state departments and agencies, he early entered into conferences with members of the opposite party. Two special sessions of the 19th legislature were called by Governor Garvey. The office of post auditor was created, appointment to be made by the president of the senate and the speaker of the house with the advice and consent of the two houses. A measure was passed providing for the leasing of state lands to cattlemen. A mistake of more than \$500,000 was made in the wording of an appropriation bill so a second session was necessary.

**Education.**—The net enrolment and the number of teachers in the public schools for 1949-50 stood respectively as follows: elementary schools, 122,413 and 3,875; high schools, 30,485 and 1,361. There were 12 accredited private secondary schools in addition to parochial and private elementary schools in various towns.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The total number of recipients of grants and social services for Nov. 1950 was 21,450. The state welfare appropriations for 1950 were: for girl juvenile offenders, \$139,525; aid to the blind, \$365,000; dependent children, \$1,950,000; old-age assistance, \$3,965,584; crippled children, \$153,100; direct relief, \$625,000; industrial school, \$161,838; prison, \$431,700; state hospital, \$934,260; pioneer home, \$127,062.

**Communications.**—Arizona highways for 1950 were as follows: mileage of primary state highways, 3,933; county roads, 15,847; federal aid highways, 2,486; national roads, 7,891. Railroad mileage at the beginning of 1950 was 2,090. There were 154,623 telephones. There were 12 air lines to the east and 6 to the west from Arizona.

**Banking and Finance.**—National banks, Oct. 4, 1950, had deposits of \$305,562,687; loans and discounts, \$161,532,558; U.S. government securities, \$78,818,064. State banks had deposits of \$106,355,382; loans and discounts, \$31,915,133; U.S. government securities, \$50,522,051.

**Agriculture.**—The lettuce crop for 1949 was 6,820,000 crates. The long-continued hot weather during the autumn of 1950 caused much to go to seed with an estimated loss of 3,500 carloads.

**Manufacturing.**—Production of manufactures, exclusive of smelting, for the fiscal year 1949-50 was \$130,666,830, a decrease of \$4,107,759 from the previous fiscal period. In June 1950 there were 16,000 workers employed.

Table I.—Leading Agricultural Products of Arizona

Crop	1950	1949	1939-48 Average
Barley, bu. . . . .	6,520,000	5,440,000	2,602,000
Wheat, bu. . . . .	672,000	700,000	583,000
Oats, bu. . . . .	300,000	330,000	283,000
Grain sorghums, bu. . . . .	3,784,000	2,684,000	1,562,000
Corn, bu. . . . .	396,000	420,000	352,000
Alfalfa seed, bu. . . . .	234,000	208,000	118,100
Flaxseed, bu. . . . .	247,000	950,000	438,000
Cotton, bales . . . . .	440,000	543,000	188,000
Grapefruit, boxes . . . . .	3,000,000	3,400,000	3,244,000
Oranges, boxes . . . . .	1,250,000	985,000	866,000
Potatoes, bu. . . . .	1,704,000	1,268,000	1,072,000

Table II.—Mineral Production of Arizona

Mineral	Production 1949	Value
Copper . . . . .	713,000,000 lb.	\$140,461,000
Gold . . . . .	110,600 oz.	3,871,000
Silver . . . . .	5,070,000 oz.	4,588,350
Zinc . . . . .	140,100,000 lb.	17,932,000
Lead . . . . .	66,800,000 lb.	10,621,200

**Mineral Production.**—The estimated copper production for 1950 was the second highest in the state's history, exceeding that of 1949 by 74,000,000 lb. Plans were made for two new developments in the Bisbee and Globe-Miami areas. (H. A. H.)

**Arkansas.** Arkansas, a south-central state of the United States, was admitted to the union in 1836. Termed the "Wonder state," its area is 53,102 sq.mi., including about 400 sq.mi. of water. The population was 1,949,387 in 1940; the official 1950 census determination showed a population of 1,909,511, a 2% loss. Indications were that the 1950 population was 67.6% rural. The 1940 population was 77.8% rural. The Negro population, principally in southeastern Arkansas, was 482,578 in 1940.

The capital city, Little Rock, had 101,387 (preliminary 1950 U.S. census report) inhabitants. Other cities and preliminary 1950 population: Fort Smith, 47,864; North Little Rock, 42,142; Pine Bluff, 37,147; Hot Springs, 29,298; El Dorado, 23,047; Fayetteville, 17,024; Jonesboro, 16,260; Blytheville, 16,221; Texarkana, 15,833.

**History.**—An initiated statute, ratified at the general election in Nov. 1950, prohibits the "open range" grazing of livestock on a state-wide basis. Three initiated measures were defeated at the general election: for state-wide prohibition, constitutional earmarking of revenues for public schools, and four-year terms for elective officers. The amendment of Democratic party rules during 1950 admitted Negro voters and candidates for nomination to the party primaries. A survey of higher education in the state was completed and a commission on state government reorganization was active during the year. Sidney McMath defeated Ben Laney for the Democratic nomination for governor in the primary on July 25 by a vote of 209,559 to 112,651.

McMath defeated Jefferson W. Speck, Republican, in the gubernatorial election on Nov. 7 by 266,778 to 50,309. The principal state officers inaugurated in Jan. 1951 were: Sidney McMath, governor; Nathan Gordon, lieutenant governor; Ike Murry, attorney general; C. G. Hall, secretary of state; J. Oscar Humphrey, auditor; J. Vance Clayton, treasurer, Claude Rankin, land commissioner.

**Education.**—There were 1,983 elementary schools during the year ending June 30, 1950, and 610 secondary schools. Elementary school enrolment was 293,980; secondary 131,193. Teachers and principals in elementary schools numbered 7,995; in secondary 5,345. Expenditures during the year ending June 30, 1950, by the state government to school districts amounted to \$24,395,969. Facilities for pupil transportation, a program for benefit of handicapped children, and the school lunch program were expanded during 1950. A. B. Bonds, Jr., was commissioner of education.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—During the calendar year 1950, old-age assistance grants totalling \$20,483,097 were paid to a monthly average of 66,187 recipients. A monthly average of 16,870 families received a total of \$8,480,236 for dependent children; an average of 1,796 blind persons received \$719,214; an average of approximately 2,613 general relief cases received approximately \$401,441. Unemployment benefits totalling \$7,369,544 were paid during the year to a weekly average of 12,525 beneficiaries. Arkansas maintained three penitentiaries and four reformatories at a total expense of \$1,107,716 during fiscal 1950. There were 1,541 adult and 200 juvenile inmates in penal institutions on Dec. 31, 1950.

**Communications.**—Expenditures by the state government on highways in fiscal 1950 totalled \$16,229,628. The state highway system comprised approximately 9,722 mi. at the end of 1950. County highways not in the highway system had a mileage of approximately 53,000. About 785 mi. of roads in the state highway system were paved, surfaced or graded during 1950. Main-track railway mileage was 4,269.76; airway mileage, approximately 832. There were 91 airports at the end of 1950. Approximately 253,000 telephones were in use at that time.

**Banking and Finance.**—There were 176 state and 52 national banks on Dec. 31, 1950. Deposits in state banks on June 30, 1950, totalled \$354,288,141; resources \$383,814,993. Deposits in national banks on Oct. 4, 1950, totalled \$393,496,000; resources \$426,323,000. The 6 state and the



35 federal saving and loan associations in Arkansas had total resources of \$65,186,000 on June 30, 1950. Real and personal property tax assessments, listed by law at 20% of value, totalled \$694,535,000 during 1950. State treasury revenues during the calendar year were \$120,934,175; expenditures \$156,924,553. The gross state government debt on Dec. 31, 1950, was \$124,905,500; the net debt was \$116,668,600.

**Agriculture.**—The crop reporting service estimated the value of principal crops harvested from 5,715,000 ac. during 1950 at \$442,000,000, or 10% above 1949. This increase was due entirely to higher prices, as the volume of the crop in 1950 was 13% below 1949. Cash receipts during 1950 from farm marketings, estimated on the basis of preliminary data for the first ten months of the year, totalled \$585,593,337. Receipts from crops were \$425,000,000; from livestock and products \$155,000,000; from government payments, \$5,593,337.

Cotton acreage, as compared with 1949, declined 860,000 ac., and rice 55,000 ac., partly as a result of acreage allotments. Partially offsetting these declines were increases of 248,000 ac. for corn and 265,000 ac. for soybeans. Cool, cloudy, wet weather during July, August and September was very unfavourable for cotton, but corn, sorghums, soybeans, rice and hay did well. A fine crop of corn was produced, but wet weather after early corn matured caused considerable loss and reduced quality. Nearly ideal weather in October permitted rapid progress in harvesting of late crops.

Table I.—Leading Agricultural Products of Arkansas

Crop	1950	1949	Average 1939-48
Corn, bu. . . . .	38,610,000	28,368,000	31,598,000
Cotton, bales . . . . .	1,100,000	1,632,000	1,393,000
Cottonseed, tons . . . . .	442,000	674,000	571,000
Hay, tons . . . . .	1,623,000	1,681,000	1,589,000
Rice, 100-lb. bags . . . . .	7,975,000	8,856,000	6,024,000
Soybeans, bu. . . . .	11,676,000	5,820,000	2,980,000

**Manufacturing.**—The value of manufactures in 1950 was about \$650,000,000. Wages in manufacturing during the year, totalling approximately \$161,000,000, were paid to a monthly average of 72,800 employees. During 1950, according to the state Resources and Development commission, 107 new industrial units located in the state, and substantial expansions were made in 26 existing industries. Greatest number of new units were listed in food processing, finished lumber and lumber products, and metal-working plants.

Table II.—Principal Industries of Arkansas

Industry	Value added by manufacturing	
	1947	1939
Chemicals and allied products . . . . .	\$29,194,000	\$4,303,000
Food and kindred products . . . . .	41,020,000	12,414,000
Lumber and products . . . . .	92,800,000	29,596,000
Paper and allied products . . . . .	21,887,000	4,443,000
Petroleum and coal products . . . . .	17,064,000	3,894,000
Primary metal industries . . . . .	18,885,000	747,000
Stone, clay and glass products . . . . .	10,237,000	2,736,000

Table III.—Principal Mineral Products of Arkansas

Mineral	Estimated value, 1950	Value, 1949
Borite . . . . .	\$4,761,000	\$6,104,935
Bauxite . . . . .	7,267,000	6,138,085
Coal . . . . .	6,764,000	7,061,239
Natural gas, marketed . . . . .	4,722,000	5,677,407
Petroleum and products . . . . .	69,365,000	73,954,653

**Minerals.**—Minerals produced during 1950, as estimated by the state geologist on the basis of severance tax collections, had a value of about \$130,000,000. Production in 1949 was valued at \$133,232,312. Wildcatting for oil and gas during 1950 was active, and oil fields in southwestern Arkansas and a gas field in western Arkansas were discovered. Facilities for reduction of aluminum were expanded during the year. (H. M. A.)

**Armies of the World.** During 1950 all armies of the world received increased attention as a major war commenced in Korea and the outbreak of World War III seemed closer.

There were five outstanding developments affecting the ground forces during the year:

On June 25 the Communist-trained and led army of North Korea invaded South Korea, precipitating a war between Communist and United Nations forces.

An American, Gen. Dwight D. Eisenhower, was named commander in chief of the forces of the North Atlantic powers.

The United States abandoned attempts to economize on its defense establishment, passed a new draft law and commenced major shipments of arms to North Atlantic treaty nations while greatly expanding its own ground forces.

Communist China intervened in Korea after United Nations troops had crushed the North Koreans, launched an invasion of Tibet and built up its forces in Kwangtung for a possible amphibious thrust at Formosa or support of the Communist forces in Indochina.

France continued to hold the key areas of Indochina against assaults of the Viêt-Minh.

**The Korean War.**—The long expected but not immediately anticipated attack by Communist North Korea on South Korea was launched on June 25. With superior arms, equipment and training the North Koreans quickly overran the South Korean border positions, captured the capital of Seoul and threatened to destroy all resistance. The United States took the initiative in aiding the South Koreans, followed almost immediately by nearly all of the non-Communist countries in the United Nations. Two days after the attack Pres. Harry S. Truman pledged U.S. air and naval support to South Korea. As it became apparent that such support was insufficient to hold the attack, U.S. ground forces were thrown into the battle.

The North Korean army entered the conflict with approximately 15 divisions of 6,000-8,000 men, about 100,000 of whom had fought in the Chinese Communist armies in Manchuria. Supporting the North Korean attack were several hundred 32-ton T-34 tanks of soviet manufacture. These tanks, mounting 76-mm. guns, were relatively unchallenged on the ground except in isolated actions, until heavy U.S. equipment including General Patton tanks commenced arriving in early July.

Initial U.S. forces to enter the battle in Korea were troops from Japanese occupation duty. The 24th infantry division was committed in company and battalion strength as it arrived. Delaying actions mounted by this division, the 25th infantry and the 1st cavalry, also from Japan, permitted the withdrawal of the remnants of the South Korean army into a beachhead around the big supply port of Pusan.

By early September the U.N. forces had succeeded in stabilizing the front along the Naktong river behind which had been built up sufficient forces to launch an offensive. An amphibious assault at Inchon was staged on Sept. 15. This threat to the principal communications to the north plus the strength of the attack along the Naktong crumbled the North Korean army. Following the retreating Communists, the United Nations forces crossed the 38th parallel into North Korea and in early November were approaching the Manchurian frontier along the Yalu river.

During this second phase of the Korean war, other United Nations troops joined the U.S. and South Korean forces. Among the first to arrive was a British brigade, the first of two, and a Turkish brigade. A Filipino battalion, as well as units of French, Dutch, Belgians, Greeks, Thailanders and Canadians also went to Korea. U.S. forces at this time included the 7th infantry division from Japan, plus the 2nd and 3rd infantry and the 1st marine divisions, the 187th regimental combat team (airborne) and other units of regimental and battalion strength from the United States, Hawaii and Puerto Rico.

The third phase of the Korean war started in November when United Nations forces launched an offensive aimed for the Manchurian border and an elimination of all opposition. Advancing with little opposition from the North Koreans, the U.N. forces were counterattacked by troops identified as Chinese Communists. By the end of November the Chinese were committed in a counteroffensive and the outnumbered United Nations forces were withdrawn to the 38th parallel. This withdrawal included an amphibious evacuation from the port of Hungnam after the 10th corps was cut off from the 8th army. At the end of 1950 the opposing forces were drawn up approximately along the 38th parallel.

Military observers noted the following facts in the Korean war. The training of the satellite Communist troops—both North Korean and Chinese—was good, with a strong emphasis on guerilla and infiltration tactics. The strategy was similar to that used in the civil war in China—sudden attacks that faded away into the hills if encountering too heavy opposition. The



leadership of the Communist forces was excellent and showed an ability to take advantage of any weakness and to capitalize on terrain and geographic features. Soviet equipment stood up well under adverse conditions. Such equipment included a submachine gun with a drum-type magazine and high rate of fire, a 120-mm. mortar, jeeps and anti-tank guns. The T-34 tank had the field to itself until the U.S. General Patton tank with its 90-mm. gun arrived. (See KOREAN WAR.)

**The North Atlantic Army.**—Agreement was finally reached in 1950 among the powers of the Atlantic area over the details of establishing an international army for defense of western Europe. This followed the creation in 1948 of the western European union with its five-power defense pact for 50 years, and the signing in 1949 of the 12-nation North Atlantic treaty. While all of the Atlantic nations passed greatly augmented defense budgets in 1950, agreement on the individual contributions and the composition of the army was not reached until late in the year. Even then the rearmament of western Germany continued to be a controversial subject among the North Atlantic treaty powers, and a final solution concerning western Germany was not reached in 1950.

A three-year goal was laid out for the North Atlantic army. The following table gives a general indication of the goal for contributions by nations to the troops to be stationed in western Europe by 1953.

Country	Strength in Europe in 1950	Goal
France	5 divisions	25 divisions
Italy	8	18
United States	2	10
Benelux	2	9
United Kingdom	2	7
Total	19	69

To support these units the United States appropriated \$6,000,000,000 in 1950 for equipment to be sent to the pact nations. Britain planned to spend more than \$9,000,000,000 over a period of two years in developing and equipping its forces and providing certain equipment for other countries, while France planned on an outlay of nearly \$6,000,000,000 for defense in the next three years. (See also NORTH ATLANTIC COMMUNITY.)

The major changes in the disposition of the armies of the world during 1950 resulted from the Korean war. Nearly all of the U.S. forces of occupation in Japan were sent to Korea, while most of the regular army troops in the United States were also sent to the far east. Within the United States the troops being sent overseas were replaced by conscripts and the activation of four national guard divisions. France continued to send additional troops, mostly colonials, to Indochina. At the same time a gradual build-up of strength commenced among the North Atlantic treaty nations. There was little change in the disposition of the soviet and satellite armies.

**United States.**—At the beginning of 1950 the United States army faced an economy program, by which the number of troops would be reduced from 677,000 to 630,000. At this time about 20% of the troop strength of the army was allocated to housekeeping duties normally performed by civilian employees who had been dismissed in the economy drive. Consequently, with the outbreak of war in Korea the army had only about 596,000 men.

With the bulk of the regular army committed in Korea, the trend was completely reversed. The rate of military appropriations indicates graphically the development of plans for U.S. rearmament. The appropriation for the army for the fiscal year 1950 was \$4,407,000,000. With economy in mind the initial appropriation for the fiscal year 1951 (commencing July 1, 1950) called for \$4,018,000,000, a reduction of \$389,000,000. The over-all defense appropriation for this period was \$13,000,-



LIEUT. GEN. W. L. WALKER (centre), commanding general of the U.S. 8th army in Korea, planning operations with his joint chiefs of staff in July 1950. Gen. Walker was killed in a motor crash north of Seoul on Dec. 23

000,000. However, during 1950 congress passed two supplemental defense appropriations—the first for \$11,000,000,000 and the second for \$16,000,000,000, bringing defense appropriations to more than \$42,000,000,000 or three times the original figure by the end of the calendar year. Of this amount approximately half was for the army and provided for a strength of 1,263,000 men.

At the outbreak of the Korean war in June 1950 the U.S. army had only ten active divisions. Of these four were on occupation duty in Japan, one was in Germany and the balance were in the United States. Two of the divisions in the U.S., the 2nd and 3rd infantry, were sent to Korea and four national guard divisions—the 28th (Pennsylvania), 40th (California), 43rd (Connecticut, Rhode Island, Vermont) and 45th (Oklahoma)—were called to active duty. In addition the 196th (South Dakota) and 278th (Tennessee) regimental combat teams were called up. These units were to be brought to full strength by integration of draftees. Some nondivisional national guard units were activated to bolster regular army divisions and replace units sent overseas. Strength of the national guard at the start of the Korean conflict was 325,976 and included 27 divisions and 20 regimental combat teams. At that time the organized reserve had a strength of 185,000 and the volunteer reserve 337,000.

By the end of 1950 more than 200,000 men had been inducted into the army under selective service, bringing over-all ground strength to nearly 1,000,000. Plans called for the equivalent of 24 divisions to be organized by June 1951.

**Disposition.**—Approximately half the U.S. troops, 314,000, were in the United States during the first half of 1950, with about 100,000 in Europe and 150,000 in the Pacific. At the end of the year U.S. troop strength in the Pacific was considerably greater, with that in Europe increasing only slightly.

Steps were taken to transform the occupation forces in Germany into a component part of the Atlantic pact army. The U.S. 7th army was reactivated with headquarters in Stuttgart. Combat forces initially assigned to this army included the U.S. 1st infantry division and constabulary units which were slated to be reorganized into an armoured division.

**Training.**—The United States army commenced to reactivate



posts and to modernize training areas necessary to handle an army of two to three times the size of the regular army in 1950. Initial plans called for induction of about 80,000 men a month during the early part of 1951.

During 1950 three major training exercises were conducted:

In February "Sweetbriar" was held in Alaska jointly with the Canadians to test arctic equipment and techniques. About 53,000 troops participated in a mechanized march across difficult Alaska terrain to attack an airstrip held by an "aggressor" force. The U.S. 14th regimental combat team and elements of the Princess Patricia Canadian light infantry, plus some air-borne troops, participated.

In March "Portex" was the largest peacetime amphibious air-borne joint operation held to date. With approximately 80,000 U.S. army, navy, marine and air force personnel participating, this exercise was designed to provide training in joint operations including air-borne amphibious techniques, to test in service new equipment, and to train the defense forces of the Caribbean command.

In May "Swarmers" put to test a purely aerial invasion. Conducted with about 63,000 men and 375 planes, including the bulk of the 11th and 82nd air-borne divisions, this operation tested the practicality of capturing and supporting completely from the air a foothold in enemy-held territory.

Another training problem that received attention in 1950 was that of close support of ground units by tactical aircraft. An army air-support centre was established at Fort Bragg, N.C., to train air-ground teams.

**Equipment.**—New tanks put into production during 1950 included a light tank designated the T-41 weighing 28 tons, mounting a 76-mm. gun, with a speed of 35 m.p.h. The T-41 was stated to be superior to anything in its class, including the M-24 light tank which was thinly armoured and mounted a 75-mm. gun. An improved medium tank designated M-47 was also put into production. A development of the General Patton, the new tank had similar characteristics, such as a weight of 48 tons, 90-mm. gun and a speed of 33 m.p.h.

A new anti-tank weapon was also produced in 1950, a 105-mm. jeep-mounted recoilless rifle. This weapon was planned for infantry units, to be used with 3.5-in. bazookas and the 75-mm. recoilless rifle against enemy armour. (See also MUNITIONS OF WAR.)

**Great Britain.**—The international crisis forced Great Britain to modify its program for economic recovery and to concentrate on building up its armed forces. A minimum defense expenditure of \$10,000,000,000 spread over 1951, 1952 and 1953 was contemplated. It was estimated that it would cost nearly \$3,000,000,000 alone to re-equip the present army. Military service for men from 18 to 26 was extended from 18 months to two years and service pay was increased by as much as 75% in some ranks.

Under the Atlantic pact agreement Britain was to expand its forces in Germany, and to produce tanks, transport and heavy artillery for the Atlantic pact army.

**Disposition.**—Steps were taken during 1950 to increase the army by 55,000 men. This was to bring the six and one-half divisions overseas to full strength. A new division, the 11th armoured, was moved to Germany, joining the 7th armoured and 2nd infantry which were already in the army of the Rhine. British troop strength of around 50,000 was maintained in the middle east with a concentration in the Suez canal zone plus troops in Eritrea and Cyprus. There was the equivalent of two divisions in Malaya plus about 70,000 police of all types. Strength in Hong Kong was 40,000 men. In Korea the 28th and 29th brigades plus supporting troops, including armour, fought alongside the U.N. forces.

**Equipment.**—The 60-ton Centurian tank, which saw some

service in Korea, was one of the best heavy tanks in the world, along with the soviet Stalin Mark III. However, British production of the Centurian was only slightly more than 100 a year.

**U.S.S.R.**—There was little evidence of change in the over-all strength of the soviet army in 1950. With around 100 divisions being maintained at full strength and another 100 in cadres, the U.S.S.R. was maintaining about 2,500,000 men on active service in the army. Because of a smaller overhead, this number gave the soviets a higher proportion of combat effectives than would normally be the case for this number of men in the army.

The published defense appropriation for 1950 was \$20,000,000,000 or 19% of the total budget, but the total defense expenditures probably ran closer to \$45,000,000,000 because of the soviet system of hidden appropriations.

**Disposition.**—No major changes in disposition of the soviet army took place in 1950. About 30 to 35 divisions were maintained in Germany at full strength of 11,000 for the infantry units. These divisions included six armoured plus some unattached tank regiments. In addition there were six soviet divisions in Hungary and Rumania and an additional two in Austria. The exact number of units in Poland was unknown and it was apparent that a major build-up could take place there relatively unobserved. Bridges in the eastern zone of Germany were strengthened to carry the very heavy Stalin Mark III tanks. Strength maintained in the far east was 650,000 men.

**Training.**—At least one special task force was trained during 1950 in arctic warfare techniques. Large-scale exercises were held in Germany, although tank manoeuvres were believed to

"COOKHOUSE" set up for troops of the British, Danish and Norwegian armies during Operation "Nordic," a mutual training exercise carried out in the British zone of Germany during 1950





be restricted because of the deterioration of equipment. An analysis of the state of training and equipment in the soviet army revealed the following conditions:

1. Maintenance of mechanized equipment and armour was at its lowest ebb since World War II because of an extreme shortage of technicians. It was deduced that soviet industrial expansion had received first priority for technicians and that the army was required to train its own mechanics.

2. There was a shortage of all forms of mechanized equipment. Tanks were old, trucks were scarce and in bad condition, and there was a scarcity of self-propelled guns.

3. Armoured divisions lacked good radio equipment.

4. The physical condition, training and discipline of the troops were excellent.

5. Despite shortcomings the soviet army was an extremely effective fighting force.

**France.**—The length of military service was increased from 18 months to two years as part of the program to expand the army to fulfil France's commitment to the Atlantic pact. Plans called for the expansion of the army in Europe to a total of 10 divisions in 1951 and at least 15 in 1952 and 20 in 1953.

The defense budget totalled \$1,650,000,000. Additional financial support was promised by the United States, as well as arms and equipment.

**Disposition.**—Three French divisions were engaged in occupation duties in Germany and Austria. Four additional divisional cadres were available in France and were to be fully manned in 1951.

Reinforcements were sent from France and North Africa to Indochina during the year. These included an armoured regiment equipped with Sherman tanks and an infantry regiment composed of battalions from the Foreign Legion, Morocco and Senegal. French strength in Indochina mounted to 150,000 of which about one-third were French, one-third colonial and the balance Viêt-Nam. About half of the Viêt-Nam troops were well trained and less than 10,000 were under Viêt-Nam officers, the balance having French officers and noncommissioned officers.

Opposing the French and Viêt-Nam forces in Indochina were 150,000 Viêt-Minh, a large proportion of whom had been armed and trained at the major depot and supply centre of Nanning in southern China. Ho Chi Minh maintained 53 well-armed battalions plus 50 more lightly armed units of battalion strength in the vital Tonkin area, where French communications to Hanoi and Haiphong were harassed.

**Equipment.**—France was heavily dependent on U.S. equipment both in Indochina and in metropolitan France. Production of armoured vehicles was increased but still was well behind needs.

**China.**—Most of the remaining forces of Chiang Kai-shek were concentrated on the island of Formosa, although some guerrilla bands, particularly in southwest China, continued to harass the Communist forces. Chiang's forces numbered about 400,000, although most of these had received only six to eight weeks' training and very few were properly equipped.

Strength of the Communist armies, like that of most Chinese armies, was very indefinite. There were probably about 3,000,000 men in arms, of whom nearly half were in central Manchuria and North Korea. Mobilization was publicly decreed on Dec. 12, 1950, and there were indications that the Communists were apprehensive of a general war in Asia. In addition to the forces in the regular army, there were 2,000,000 in the People's militia.

**Disposition.**—There was a major shift in the disposition of the Chinese armies following the decision by Peking to intervene in the Korean war. The 4th field army, with a strength of more than 500,000 men, and one of the best in fighting quality in China, was shifted from the south to Korea. To fill in the gap left by this movement the 3rd field army moved to cover the

Indochina border and the coast opposite Formosa. The 2nd field army was reported in southwest China and there was some indication that the 1st field army was in central Manchuria.

**Organization.**—The strength of the Chinese divisions was 7,000 to 10,000 men. These were organized into three infantry regiments. The Chinese divisions had few supporting services such as engineers, communications, reconnaissance, etc. Artillery support was limited. Three Chinese divisions were grouped into each army and three armies into each group of armies. A field army usually had several groups of armies.

**Equipment.**—Most small arms were old and of soviet or U.S. origin. The Chinese had field artillery up to 155 mm. There were some U.S. light and medium tanks, plus some soviet small arms and medium tanks.

**Other European Powers.**—**Belgium.**—The army was reorganized to fit into the Atlantic pact force. Three commands were established, one for the pact troops, one for the defense of the national territory and one for maintenance and transport. Plans were made to send a full division to Germany to bolster the Belgian corps, which consisted of two brigades in 1950. Compulsory service was extended from 18 months to two years. Strength of the armed forces was 75,000 but was to be raised to 150,000. The 1950 defense budget of \$163,000,000, approximately 11% of the national budget, was increased to \$250,000,000.

**Bulgaria.**—One of the most advanced of the soviet satellite armies, the Bulgarians were reported to have 195,000 men under arms, although the treaty limit set a top figure of 55,000. The Bulgarian army was well equipped with soviet T-34 tanks. About 3,000 soviet military advisers assisted with the training and organization of the army.

**Czechoslovakia.**—The sovietization of the Czech army was accelerated during 1950. Much emphasis was placed in discarding so-called French theories of defense and adopting so-called soviet theories of the offensive. Most of the schooling, however, was based on the German tactics of armoured wedges and pocket fighting plus the usual soviet theory of mass attack disregarding losses. Army strength was 135,000 equipped with several hundred T-34 tanks.

**Eastern Germany.**—The People's "readiness squads" reached a strength of approximately 60,000 in 1950, but the soviets were faced with many desertions from these units despite their indoctrination and considered them unreliable. These troops were known to be given arms only during training periods. There was still evidence that the soviet plan was to train the officer and enlisted cadres of the People's police to be used as the basis for a greatly expanded German army.

**Hungary.**—Although highly unreliable from the Communist viewpoint, the Hungarian army received considerable soviet equipment in 1950. Measures were taken during the year to increase armament production. Army strength was reported to be well above the allowed treaty maximum of 65,000. Military service was extended from two to three years. (There were approximately 30,000 soviet troops in Hungary.)

**Italy.**—During the year Italy maintained about 100,000 men in the army, plus the 70,000 *carabinieri*. To build up sufficient forces for defense, the 8 existing divisions would be increased to 12 plus 2 armoured brigades. Hindering development of the army was a lack of equipment, which would be forthcoming under the Atlantic pact. The regular defense appropriation totalled \$512,000,000 which would be augmented by \$80,000,000 annually. In addition Italy would produce \$400,000,000 in arms for other pact nations.

**Poland.**—The sovietization of the Polish army neared completion as many new officers were commissioned from the ranks of agricultural and industrial workers and former officers were dismissed as politically unreliable. The draft age was dropped from



21 to 20 and the length of service in the army increased to two years, followed by reserve service until age 50. The army numbered 250,000 men and included 16 infantry divisions.

**Rumania.**—One of the first of the satellite armies to be sovietized, the Rumanian army strength was approximately 200,000, well over the treaty limit of 120,000. In addition there were 30,000 soviet troops.

**Spain.**—Although Spain took steps to modernize its army, including the weeding out of incompetent officers, the calibre of the force did not improve. Plans set into effect in 1950 included training a large number of soldiers and noncommissioned officers to cadre a larger army in event of mobilization. The strength of the army in 1950 was 250,000, organized into 22 divisions, but the mobilization goal was 2,000,000. For everything except small arms, Spain would be dependent on outside help. The existing equipment included artillery from the civil war (1938) and French and German tanks of pre-World War II vintage.

**Sweden.**—A new record defense budget was planned at the end of 1950. This would increase expenditures from 17% to 19.4% of the budget. Full-scale manoeuvres were planned for 1951. The immediately mobilizable strength of the army was 700,000. More than \$2,000,000,000 had been spent on new equipment.

**Turkey.**—Army strength was reduced to 400,000, but combat strength was maintained by economies in manpower. The general staff, command and supply systems were reorganized along U.S. lines, and about 10,000 Turkish military personnel completed courses under U.S. instructors. Approximately one-third of the budget or \$164,000,000 was for defense. During 1950 a brigade was sent to Korea and proved to be effective in combat.

**Yugoslavia.**—The strength of the army was 600,000, organized into 25 divisions. Its training was the best in Europe, but emphasized guerrilla tactics and mountain fighting to compensate for the lack of heavy equipment. Although fairly well equipped with small arms, the army lacked anti-tank guns, mortars, artillery, and heavy weapons. Its armour consisted of a pot-pourri of tanks collected during World War II. Plans called for falling back into the mountains in the event of an attack and conducting a guerrilla campaign with approximately 1,000,000 men.

**Other Powers.**—**Canada.**—An appropriation of \$800,000,000 for defense plus \$300,000,000 for new equipment supported not only the Canadian defense establishment and the expeditionary force to Korea but forces of some of the Atlantic pact nations. The army was maintained at 22,000, and a force of 10,000 was sent to Korea.

**India.**—Although relations with Pakistan improved somewhat, the Kashmir situation continued to strain Indian defenses. Approximately 50% of the budget or \$364,000,000 was allocated for defense.

**Iran.**—Faced with an increasingly tense situation along the soviet border, the Iranian army cancelled all leaves at the end of 1950. Plans called for a defense in depth with the 150,000-man army falling back to the mountains for the main battle.

**Israel.**—During 1950 Israel turned more and more to western Europe for training and equipment, as requests to the United States were refused. Lacking in modern arms, Israel could mobilize 200,000 men in an emergency.

**Pakistan.**—The army was maintained at the same level, while defenses were strengthened. An appropriation of \$152,000,000 was made for defense.

(See also AVIATION, MILITARY; NAVIES OF THE WORLD.)

(E. L. S.)

**Arsenic:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Art:** see ARCHITECTURE; PAINTING; SCULPTURE; etc.

**Art Exhibitions.** During the summer of 1950 the Philadelphia museum again brought before the public some 250 items from the rich private collections of the vicinity. About 60 collectors were represented and high spots were "The Family" by El Greco from the Pitcairn collection; "José Romero" by Goya from the Tyson collection and "On the Balcony" by Mary Cassatt from the Scott collection. Notable canvases by Paul Cézanne, Vincent Van Gogh and Pablo Picasso were also included.

In the fall the Philadelphia museum celebrated its diamond jubilee with an exhibition called "Masterpieces in America" comprising 102 paintings and 119 drawings covering eight centuries and lent by 70 institutions and private collectors. They ranged all the way from a "Crucifixion" by Fra Angelico to "The Three Musicians" by Pablo Picasso. A feature of the exhibition was "St. Peter Denying Christ" by Rembrandt lent by the Rijksmuseum in Amsterdam. Also included was the only work in the United States by Michelangelo, a red chalk drawing, study for the "Libyan Sibyl" in the Sistine chapel, lent by the Metropolitan museum, New York.

A special event at the National gallery in Washington, D.C., was the showing of 40 paintings lent by C. S. Gulbenkian, of Lisbon, London and Paris. Rembrandt's "Pallas Athena" was outstanding in the group as well as several French pictures of importance: Jean-Honoré Fragonard's "Fête at Rambouillet," Pierre Auguste Renoir's "Portrait of Mme. Monet," Edouard Manet's "Boy with the Cherries" and Edgar Degas's "Self-Portrait."

The Corcoran Gallery of Art in Washington featured "American Processional" to celebrate the 150th anniversary of Washington as the capital. Important events in American history and life from 1492 to 1900 were depicted in paintings, drawings and a few prints. The portrait of Christopher Columbus by Sebastiano del Piombo formed the introductory note to the exhibition. Beginning with the end of the 17th century events were depicted by artists working in America. Just as four rare coloured engravings by Amos Doolittle, done in Dec. 1775, tell the story of the battles of Lexington and Concord, so original drawings by Alfred R. Woud give us on-the-spot reporting of leading battles of the Civil War. Many important personages as well as scenes from daily life were recorded in paintings by the leading artists of the day.

Edvard Munch, Norwegian expressionist, was featured in an exhibition divided between the Fogg museum at Harvard university, Cambridge, Mass., and the Institute of Contemporary Art, Boston. Munch lived a good deal in Paris between 1885 and 1892, and was a leader in the modern art movement.

An outstanding exhibition, the "Art of Greater India," brought to the Los Angeles County museum leading examples of Indian sculpture as well as illuminated miniatures of the Mogul school.

New York's Museum of Modern Art did three notable retrospective exhibitions of the work of three highly diversified artists. The first was Paul Klee, the fanciful and highly imaginative Swiss artist who has had such an influence on contemporary art. Another was Charles Demuth, sensitive American artist, facile water colourist, who not only did crisp flower and fruit still lifes but also telling illustrations for Emil Zola's *Nana* and Henry James's *The Turn of the Screw*. Finally, it gathered from collectors in Paris and in the United States a comprehensive survey of the painting of Chaim Soutine, colourful French expressionist.

During the summer seven American artists received international recognition by inclusion in the 25th Biennial in Venice. A whole gallery was devoted to the work of John Marin, dean of American water colourists, while a group showing was shared by six *avant garde* painters: Arshile Gorky, William de Kooning,





"WOMAN CUTTING BREAD," by Abraham Rattner, a 1950 purchase by the Metropolitan Museum of Art and part of "Twentieth-Century Painters," a retrospective exhibit of U.S. paintings, drawings and prints, 1900-50, drawn from the collections of the museum

Jackson Pollock, Hyman Bloom, Lee Gatch and Rico Le Brun.

James Johnson Sweeney, noted writer and art critic, was chosen as a one-man jury to select the Biennial exhibition for the Virginia Museum of Fine Arts. Considerable furor was aroused by the inclusion of Hyman Bloom's "Female Corpse."

Carnegie institute in Pittsburgh resumed its famous International exhibition after a lapse of 11 years. The jury was made up of Marcel Gromaire (Paris), Sir Gerald Kelly (London), American artists Charles Burchfield and Franklin Watkins and retiring Carnegie director, Homer Saint-Gaudens. First prize of \$2,000 went to Jacques Villon (French), for "The Thresher," second prize of \$1,000 went to Lyonel Feininger for "Houses by the River" and third prize of \$800 to Priscilla Robert's "Self-Portrait."

The Art Students league in New York celebrated their 75th anniversary with an exhibition made up of the work of leading alumni and teachers of both past and present and held the show on the premises of the National academy from which they had seceded to form their own school.

Andover (Mass.) reviewed the work of 25 art schools at the Addison gallery, Phillips Andover. This nation-wide survey indicated that American art students have great technical ability and are fully aware of progressive art trends prominent in the world today.

New York's Metropolitan museum put on a handsome sampling of its American paintings from the time of John Singer Sargent's frothy but deftly painted "Wyndham Sisters," Winslow Homer's vigorous "Gulf Stream," John Sloan's atmospheric "Dust Storm" down to a fair cross-section of work by contemporary artists. This was a curtain raiser for their first juried exhibition, which opened in December, called "American Painting Today." Selected by five regional juries and later sifted down by a national jury, the exhibition included 307 pictures. First prize (\$3,500) went to Karl Knaths for "Basket Bouquet," second prize (\$2,000) to Rico Le Brun for "Centurion's Horse," third prize

(\$1,500) to Yasuo Kuniyoshi for "Fish Kite" and fourth prize (\$1,000) to Joseph Husch for "Nine Men."

The *Art News* staged the first National Amateur competition and 1,866 entries were sent in from 46 states. Two gold medals went to Leslie A. Goss of Colorado Springs and Maurice H. Bisharat of Torrington, Conn. Six silver medals were also offered.

The Whitney Museum of American Art featured a retrospective exhibition of the painting and etchings of 68-year-old American artist Edward Hopper, noted for his clean-cut lighthouses, city scenes and immobile interiors where perfectly organized compositional arrangement is his chief concern.

Rockland, Maine's comparatively new Farnsworth museum featured a group of paintings done at the artists' favourite haunt, Monhegan Island. Robert Henri, Rockwell Kent and George Bellows, early admirers of this rocky island off the coast of Maine, were succeeded by Morris Kantor, Reuben Tam and others of a later day.

The Art Institute of Chicago in the 54th Annual Exhibition by Artists of Chicago and Vicinity gave new Pauline Palmer prizes of \$750 each to Francis Chapin's oil, "Black Bull," and to Abbott Pattison's embarrassingly heavy (two tons) marble "Wingless Victory."

(F. A. Sw.)

**Great Britain and Europe.**—The wealth of French art of more than four centuries seen in London in 1950 was made available by the relaxation of import restrictions. French 19th-century painting was well represented: at Burlington house, by a part of the Burrell collection selected for circulation; by the first comprehensive assembly of Berthe Morisot's paintings (55 in all) to be seen in London; and at several private galleries. The Lefevre gallery opened its new premises in Briton Street, London, with an exhibition of Raoul Dufy's work, followed by one of Edgar Degas's.

At the Tate gallery "Modern Italian Art" was outstanding among exhibitions of contemporary art from overseas. Arranged by the Arts Council of Great Britain, the Italian institute and the Amici di Brera, this offered (with the important exception of the painting of Gino Severini) a fair representation of Italian art as far as concerned two sides of Futurist development: the *scuola metafisica* (Giorgio de Chirico, Carlo Carrà, Amedeo Modigliani, etc.) and the *novecento* group (Arturo Tosi, Mario Sironi, etc.) but stopped short of the more recent *fronte nuova dell' arte*.

The opportunity of studying an aspect of modern American painting was afforded when the Institute of Contemporary Arts held in its new premises an exhibition "Symbolic Realism in American Art 1940-50"—a collection of minutely painted illustrations, surrealist or illusionist in character.

Exhibitions of old masters and antique works of art hardly rivalled those of 1949. Nevertheless "William and Mary and Their Time," to which the king lent three tapestries, and which was the first considerable fruit of the Anglo-Dutch cultural convention, provided an excellent portrait of an age. Rembrandt was the artist chosen by the Edinburgh Festival society for 1950 and 36 paintings were exhibited, including the sumptuous "Family Group" from the Count Anton Ulrich museum, Braunschweig, Ger., later shown in London. In accord with the current romantic mood were Wildenstein's important and revealing exhibition of Rubens' portraits, decorative panels and drawings (many of them unfamiliar) illustrating the diversity of his genius; and the first London exhibition of paintings and drawings by William Blake's contemporary Henry Fuseli. "The Private Collector," organized by the Contemporary Art society at the Tate gallery, and the exhibition before dispersal of part of the private collection of Howard Bliss, were most rewarding and showed the trend of enlightened collectors' taste; interesting also, not least for their historical associations, were the William Hothenstein



and D. S. McColl memorial exhibitions, also at the Tate.

The Royal Academy of 1950, chiefly memorable for variations by Stanley Spencer on the theme of the Resurrection, reflected, in the greater influx of serious works and the dwindling of outworn features, the liberal policy of the new president, Sir Gerald Kelly. The latter's one-man show at the Leicester galleries showed that his scrupulous craftsmanship was hardly paralleled in contemporary art.

The 25th Venice Biennial was the highlight of the year's exhibitions of modern art, coming near to providing a cross-section of the contemporary achievement not only of Europe but of the western world. Twenty-one nations participated, five (Colombia, the Republic of Ireland, Portugal, Brazil and South Africa) for the first time.

In Paris the reorganization of the Petit Palais proceeded apace, and at the Louvre an exhibition of the "Madonna in French Art" was held after the rearrangement of the French paintings. Exhibitions of drawings from the Albertina, Vienna, of Yugoslav mediaeval art, of the first of the work of Eva Gonzales (a neglected Impressionist) and of paintings by the Mexican Rufino Tamayo, were among those held in France. (See also ART SALES; ETCHING; MUSEUMS; PAINTING; SCULPTURE.) (N. A. D. W.)

**Arthritis.** During 1950 cortisone (17 hydroxy-11-dehydrocorticosterone—Kendall's adreno-cortical Compound E) and ACTH (adrenocorticotrophic hormone of the anterior pituitary) consistently demonstrated an antirheumatic effect (benefit) on many types of arthritis, especially those of inflammatory nature and particularly rheumatoid arthritis.

New developments in the manufacture of cortisone and ACTH during the year resulted in a substantially increased supply at a considerably lower cost. The practical application of these hormones in the management of rheumatic patients was accomplished in some acute rheumatic illnesses such as rheumatic fever and gouty arthritis. Their use in chronic illnesses such as rheumatoid arthritis was still problematical. It was found that this disease is not eliminated by a short period of administration of cortisone or ACTH, although it may be completely suppressed. When the hormone is discontinued the disease almost invariably recurs and usually presents the same problems that existed before treatment. In an effort to obtain more permanent benefits, trials of repeated short periods of hormone treatment, separated by periods without the hormone, were made. Such treatment failed to accomplish the objective. Many medicines were used immediately following cortisone or ACTH with the hope that they would sustain the benefits of the hormone, but none were successful. Studies of long periods of continuous cortisone or ACTH therapy for rheumatoid arthritis were being made. The results indicated that in some patients it seemed reasonable and possibly desirable; in others it was impractical because effects of the hormone other than the antirheumatic effect sometimes produce complications and make the treatment unsafe. These other effects include hormonal and metabolic changes which may result in diabetic changes, oedema, hypertension, central nervous system changes which result in depression or excitement, and bleeding tendencies which may cause severe haemorrhage. Also, long use of the hormones may decrease the functioning of the patient's adrenal or pituitary glands. This may cause undesirable glandular changes when the hormone is discontinued, resulting in withdrawal symptoms of weakness, stiffness and depression; this is in addition to the worsening of the arthritis which usually occurs even after long use of the hormones. These complications are important factors which make prolonged use of cortisone and ACTH difficult and sometimes impossible.

Cortisone is effective by mouth and in general has the same effects as when given by intramuscular injection, as formerly re-

quired. Tablets of cortisone became available during the year, making treatment simplified and less expensive.

A major difficulty in the use of ACTH was the requirement of injections of this hormone several times each day; this was necessary because of the short period of effectiveness of available preparations. Efforts were being made to develop a form of this hormone that could be slowly and uniformly absorbed so as to require injection only every 48 or 72 hours, and thus facilitate its use in ambulatory patients. The developments were encouraging.

Many steroids were produced chemically similar to cortisone. These were intensively studied, and investigation was continued with the hope of developing an effective substitute for cortisone, a substitute which would have little or no complicating side effects. An outstanding example of these drugs was pregnenolone. Reports concerning its effectiveness varied widely. It seemed to have much less antirheumatic effect than cortisone. Many investigators found this drug to be of little or no value in the majority of trials, but because it had little toxicity, efforts were continued to determine if this steroid could be made more effective.

Intensive research into the cause and mechanism of rheumatoid arthritis, and in ways to improve physical measures of treatment, pain-relieving drugs and other well established forms of treatment was also being carried forward. (See also BIOCHEMISTRY; ENDOCRINOLOGY.)

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**Artificial Weather:** see METEOROLOGY.

**Artillery:** see MUNITIONS OF WAR.

**Art Sales.** The art sales season which closed in the early summer of 1950 brought a somewhat lower total than the previous season. This was attributed to the fact that art objects had become more scarce. New York's leading auction house, the Parke-Bernet galleries, moved to spacious new quarters. Their season's total, \$4,537,142, was a little more than \$1,000,000 under the total of the year before, a fact which was partly the result of the disruption caused by moving. They reported, however, a 30% increase in attendance. Raphael's "Peruzzi Madonna" sold for \$27,000, the highest price of the season. A Gilbert Stuart full-length portrait of George Washington brought \$17,500, and Mme. Vigée-Lebrun's "Madame Elizabeth of France," \$13,250. Other top prices for paintings were \$12,500 paid for Frans Hals's "Jouker Ramp," a similar price for "Le Grand Nu" by Amedeo Modigliani and \$5,500 for Henri Matisse's "Woman in Green."

Furniture sold at good prices, \$14,500 being paid for a Louis XVI Beauvais tapestry suite made for Marie Antoinette. A pair of Louis XV acajou commodes went for \$7,100. The Marsden Perry set of Apostle spoons brought \$5,000.

Among the prints in the Albert E. McVitty sale Rembrandt's "St. Francis beneath a Tree Praying" sold for \$3,100 and "Jan Cornelis Sylvius Preacher" \$2,600.

The Plaza galleries announced a season's total of \$1,178,870.70, about \$150,000 under the previous year. Their most interesting sale was the collection of Robert (Believe-It-Or-Not) Ripley in which Makoffsky's "Russian Wedding Feast" brought \$2,200.

Kende galleries did business amounting to \$900,000, also under the previous season's figure. Highest painting prices were \$5,500 paid for Anthony Van Dyck's "Duchess of Croy" (Andrassy collection) and \$3,500 for Jan Steen's "The Quack Doctor" (N. M. Friberg collection).



Auctions in London were lively but not spectacular. Christie sold the collection of Mrs. Isabella Frances Weston for £25,025 of which £7,560 was paid for "Grand Canal, Venice" by Francesco Guardi. At the sale of the Claude Lucas collection of drawings £2,415 was paid for "Man on Horseback with Falcon" attributed to Pisanello and £1,890 for "Mule and Peasant" by Pieter Bruegel, the Elder.

The sale ordered by the Wanchope Settlement trust came to £18,490 with £6,510 for a landscape attributed to Rembrandt. Mrs. Warwick Bryant sold a pair of views of Dresden by Bernardo Bellotto, mid-18th century, for £3,990. Sir Joshua Reynolds' "Miss Charlotte Fish" (Sir John Fitzgerald collection) went for £1,522. The collection of Col. H. A. Clowes brought £32,447 with top price of £6,195 paid for the "Coast near Scheveningen" by Jacob van Ruysdael.

Sotheby auctioned a pair of portraits by Francis Cotes of Sir Robert and Lady Cunliffe (late Sir Foster Cunliffe collection) for £1,320. Lieut. Col. the Master of Belhaven sold "Prince William of Orange" by Albert Cuyp for £1,250. A Jacob Ochtervelt "Interior" brought £1,000. A standing salt of rock crystal with silver-gilt mounts (1573) sold for £2,400. This was supposed to have been given to Sir Francis Drake by Queen Elizabeth. A rare Worcester porcelain teapot, dated 1772, brought £800.

(F. A. Sw.)

**Aruba:** *see* NETHERLANDS ANTILLES.

**Asbestos:** *see* MINERAL AND METAL PRODUCTION AND PRICES.

**ASCAP (American Society of Composers, Authors and Publishers):** *see* SOCIETIES AND ASSOCIATIONS.

**Ascension:** *see* ST. HELENA.

**Asia:** *see* AFGHANISTAN; CHINA; etc.

PHOTOGRAPH OF A SOLAR PROMINENCE from the motion picture *Action on the Sun*, taken with a coronagraph at the High Altitude observatory in Climax, Colo. The film was being used in astrophysical research in 1950 to study the relation of solar activity to the earth

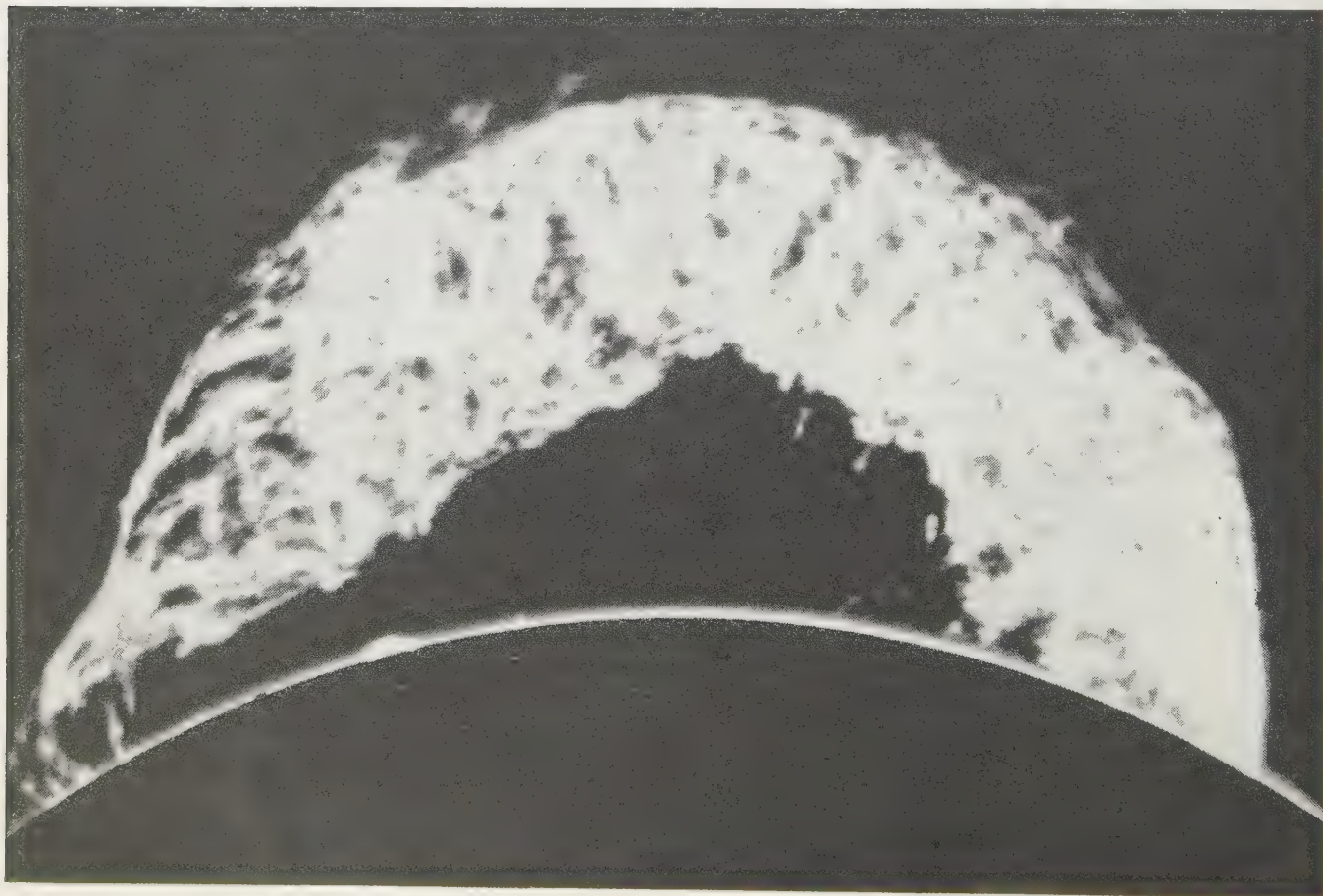
**Association for the Advancement of Science, American:** *see* SOCIETIES AND ASSOCIATIONS.

**Association of Research Libraries:** *see* SOCIETIES AND ASSOCIATIONS: *Research Libraries, The Association of.*

**Astronomy.** Certain general tendencies in astronomical research were well marked during the year 1950; theoretical investigators were active in problems concerned with the recently discovered polarization of material between the stars; the possible evolution of stars from interstellar dust clouds and the motions of interstellar clouds also formed the subject of extensive theoretical research. The young science of radio astronomy was very active, with the discovery of new radio stars and large-scale extensions in the use of radio telescopes. The substitution of photoelectric methods of observation for those employing the photographic plate proceeded at an accelerated rate. A lecture by W. Baade of Mount Wilson observatory, California, at a symposium at the University of Michigan, Ann Arbor, in June summarized the present knowledge concerning the structure of galaxies, and indicated the most profitable directions for future investigations in this field.

**Solar System.**—R. S. Richardson and M. Schwarzschild at the Mount Wilson observatory measured the amount of motion in the line of sight of the small granules observed in profusion over the surface of the sun. Velocities in the line of sight of the order of 3 mi. per second were measured for areas of the order of 100 mi. in diameter.

An annual fluctuation in the length of the day was established by the work of H. F. Finch at the Greenwich Royal observatory, England. Investigation of the period of rotation of the earth was carried on by means of quartz clocks; the latter undergo an acceleration of rate in the autumn and a retardation in the spring. The accumulative effect in time is approximately 0.06 sec., and confirms the earlier results of N. Stoyko. The principal features





of the fluctuation were shown independently by W. Uhink at Potsdam, Ger. An attempt was made in 1949 by F. H. van den Dungen, J. F. Cox and J. van Mieghem to express such a fluctuation in terms of seasonal changes in the distribution of air masses over the earth's surface.

The spectrum of the earth's atmosphere was shown by A. B. Meinel of the Yerkes observatory, Williams Bay, Wis. to contain extremely strong emission features because of the ion OH. Meinel also made the discovery of the entry into the earth's atmosphere of high-speed hydrogen nuclei at the time of the great aurora of Aug. 19-20, 1950.

**The Stars and Nebulae.**—Two new stellar systems belonging to the local group of galaxies were discovered at Palomar observatory, California, by R. G. Harrington and A. G. Wilson. On plates taken with the 48-in. Schmidt camera, more than 200 separate stars could be counted in each system. The systems are of the dwarf variety and are of the order of 650,000 light-years from the earth. Their discovery brought the total known membership of the local system (of which our own galaxy is the largest member) to 16.

The problem of fundamental standards of brightness for stars over a large range in apparent magnitude was investigated by Joel Stebbins, A. E. Whitford and H. L. Johnson of the Mount Wilson, Palomar and Washburn (Madison, Wis.) observatories. By means of photoelectric equipment of high accuracy and sensitivity, the brightness and colours of 102 stars in various selected regions of the sky were determined. It seemed exceedingly unlikely that any future work would appreciably alter these standards, and it was probable that they could be considered fundamental for all problems in stellar astronomy.

**Phenomena for 1951.**—*Eclipses.*—There would be two eclipses in 1951, both of the sun and both annular. On March 7, 1951, the path of an annular eclipse would begin in the South Pacific ocean and end in the Caribbean sea. It would pass over New Zealand and Central America and would be observable in its partial phase in parts of North America, Central and South America. On Sept. 1, 1951, the path of an annular eclipse would pass from the east coast of North America over the Atlantic ocean, parts of Africa, and end on the island of Madagascar. The eclipse would be observable in its partial phase over the eastern part of North America and parts of Europe and Africa. (See also NATIONAL GEOGRAPHIC SOCIETY.)

FILMS OF 1950.—*Sun's Family, The* (Young America Films, Inc.). (W. W. M.)

**Athletics:** see TRACK AND FIELD SPORTS; etc.

**Atlantic Community:** see NORTH ATLANTIC COMMUNITY.

**Atlantic Treaty:** see EUROPEAN UNION; NORTH ATLANTIC COMMUNITY.

**Atomic Energy.** Pres. Harry S. Truman's decision to proceed with the development of a hydrogen bomb was the most important event in the field of atomic energy in 1950.

The Korean war (*q.v.*) and the possibility that it might lead to World War III caused the United States to embark upon a great expansion of its atomic energy program. It also stimulated increased activity in the organization of civil defense against atomic attack.

Attempts to reach an agreement on the international control of atomic energy came to a standstill early in 1950.

Other events of importance in the realm of atomic energy during 1950 included the conviction of Klaus Fuchs as an atomic spy and the realization that he had furnished the U.S.S.R. with basic information of the utmost importance; the substantial achievements of the U.S. Atomic Energy commission; the release by the commission of a considerable amount of previously secret infor-

mation on the nature and effects of atomic explosions; the three-power decision by the U.S., Great Britain and Canada to disclose significant data on the construction and operation of low-power nuclear reactors; and the dismissal of Frederic Joliot-Curie from his post as French high commissioner for atomic energy.

**The Hydrogen Bomb.**—More than 20 years before the discovery of uranium fission in 1939, physicists realized that vast amounts of energy could be released by the synthesis of helium from hydrogen. If four atoms of hydrogen were combined into one atom of helium there would be a loss in mass of 0.0286 atomic mass units. This, in accordance with the Einstein equation for the transformation of matter into energy,  $E=mc^2$ , would mean the release of 2,670,000 ev of energy.

During the 1930s astronomers came to the conclusion that hydrogen was undoubtedly the "atomic fuel" of the sun and stars, and equations were written by Hans Bethe for the probable nuclear reactions occurring in the celestial bodies. But scientists despaired of duplicating these processes on earth since apparently they could take place only at the high temperatures existing in the interiors of the sun and stars. Because of their dependence on such temperatures they were named "thermonuclear reactions."

However, with the discovery of uranium fission a new possibility developed. Even before an atomic bomb had been achieved, J. Robert Oppenheimer and his associates at the Los Alamos laboratory recognized that the explosion of a uranium bomb would generate a temperature at which thermonuclear reactions might take place. It occurred to them that it might be possible to build a hydrogen bomb which would employ an atomic bomb as the fuse to detonate it.

After the end of World War II, preliminary studies were instituted at the Los Alamos laboratory to explore these possibilities. It was realized that it was not feasible to employ ordinary hydrogen, which is a mixture of 98% lightweight hydrogen and 2% deuterium or double-weight hydrogen. It did appear, however, that a hydrogen bomb could be made with deuterium; or with tritium or triple-weight hydrogen; or with a combination of deuterium and tritium.

Deuterium can be separated from ordinary hydrogen by chemical means. However, tritium occurs in nature only in infinitesimal amounts. But it was known that tritium could be produced by subjecting lithium to neutron bombardment in a nuclear reactor or uranium pile.

It was estimated that a given weight of tritium would release seven times as much atomic energy as would an equal weight of plutonium. One kilogram (2.2 lb.) of tritium would be the equivalent in explosive violence to 140,000 tons of T.N.T. It will be recalled that the atomic bomb which devastated Hiroshima was the equivalent of 20,000 tons of T.N.T.

Unlike the uranium or plutonium bomb, the hydrogen bomb would not be limited in size to any critical mass. Theoretically it appeared possible to produce a hydrogen bomb 1,000 times as powerful as an atomic bomb. Cost of production and difficulties of transportation appeared to be the only limiting factors.

A further possibility was the construction of a hydrogen bomb surrounded by some material which would be rendered highly radioactive by the neutrons released in the bomb explosion. The substance most suitable for this purpose appeared to be cobalt, so that the proposed weapon was designated a "hydrogen-cobalt bomb."

It was suggested that such a bomb exploded at sea would release into the air vast amounts of radioactive dust which would be carried landward by prevailing winds to devastate vast areas. In fact, a number of eminent scientists, including Albert Einstein, maintained that such explosions might render the entire earth lifeless. Other scientists doubted this possibility.

On Jan. 31, 1950, President Truman announced that he had



directed the U.S. Atomic Energy commission to continue its work on all forms of atomic weapons including the so-called hydrogen or super bomb. The president's announcement met with immediate approval from Republican as well as Democratic members of Congress.

On Nov. 28, 1950, the U.S. Atomic Energy commission announced that a new plant, to be known as the Savannah River plant, would be built on a 250,000-ac. site in Aiken and Barnwell counties, South Carolina, on the Savannah river. It was generally understood that the primary purpose of this plant would be the production of material for the hydrogen bomb.

A contract was made with E. I. du Pont de Nemours & Co., which had built the original plutonium plants at Hanford, Wash., during World War II, to assume the design, construction and operation of the new plant for which Congress had already appropriated \$260,000,000.

**Atomic Submarine.**—The Westinghouse Electric corporation and the General Electric company were engaged in 1950, under contracts with the U.S. Atomic Energy commission, on the design of atomic power plants for use in submarines. Westinghouse was working on a "ship thermal reactor," a nuclear reactor utilizing slow neutrons, while General Electric was working on a "ship intermediate reactor" employing neutrons of higher speed.

It was estimated that an atomic-powered submarine would cost about \$40,000,000, or four times as much as the present type. It would, however, have an enormously greater cruising range and would be able to carry on full-speed underwater operations for extended periods of time.

**Atomic Aeroplane.**—Early in 1950 a technical advisory board to the Oak Ridge National laboratory, composed of more than 20 aeronautic and nuclear physicists, was organized to accelerate the development of a nuclear power plant for aeroplanes. F. Wheeler Loomis of the University of Illinois was chairman.

**Radiological Warfare.**—It had been realized since 1945 that the fission products formed in a nuclear reactor could be used to manufacture particularly vicious forms of radioactive poison gases or for the preparation of radioactive dusts and sands. These could be released in various ways or fired in artillery shells. The U.S. Atomic Energy commission announced in 1950 that it was continuing its studies of radiological warfare.

**United States Atomic Strength.**—The entire program of the U.S. Atomic Energy commission was accelerated in 1950. Fissionable materials were produced at the highest rate of output and the lowest unit cost on record. Procurement of both foreign and domestic ores was increased and plans were made to expand operations on the Colorado plateau.

Planning and construction were carried on for new weapons tests at the Eniwetok proving grounds in the Pacific.

The U.S. air force disclosed that hundreds of men had been taught in a secret training program how to handle atomic bombs. The U.S. navy announced that bomber planes sufficiently large to carry atomic bombs had made successful test landings on an aircraft carrier.

Gen. J. Lawton Collins, chief of staff of the U.S. army, said that an artillery piece capable of firing atomic weapons and guided missiles with atomic war heads was under development.

As 1950 drew to a close, the United States made plans for a tremendous expansion of its atomic energy facilities in 1951. On Dec. 13, Sen. Brien McMahon outlined to the senate a \$1,050,000,000 program for the development of "new and more effective atomic weapons." This included a \$500,000,000 plant to be built near Paducah, Ky., for the production of uranium 235.

**Korea and the Bomb.**—It was generally conceded at the start of the Korean war that use of atomic bombs would be unwise from both the military and the diplomatic points of view. However, President Truman's answer to a question at a press confer-

ence on Nov. 30, 1950, was construed to mean that use of the bomb was being contemplated.

Although a clarifying statement was issued by the White House, the first report caused alarm among the United Nations delegates at Lake Success, N.Y., and in the capitals of western Europe. This alarm was believed to have been the deciding factor in Prime Minister Clement Attlee's decision on Nov. 30 to fly to Washington, D.C., for a conference with President Truman on the threat to world peace in the far east.

**The Treachery of Klaus Fuchs.**—On March 1, 1950, Klaus Emil Fuchs was sentenced in London's historic criminal court, the Old Bailey, to serve 14 years in prison for having given United States and British atomic secrets to soviet agents. It was believed probable that his treachery enabled the U.S.S.R. to achieve the atomic bomb at least a year earlier than it could otherwise have done.

Fuchs, a German, who joined the Communist party in 1932 had fled to Great Britain in 1933 because of persecution of his family by the nazis. He continued his scientific studies in Great Britain, and was interned as an enemy alien in 1940, but subsequently was released and put to work on the atomic energy project. In 1943 he was sent to the United States with a team of British atomic scientists and became one of the inner circle at the Los Alamos laboratory where the first atomic bomb was designed and built. He returned to England in 1946 to become head of the theoretical physical division of the British atomic energy project at Harwell. He made a second visit to the United States in 1947. On Feb. 3, 1950, Fuchs was arrested by Scotland Yard officers on the basis of information furnished by the U.S. Federal Bureau of Investigation. In a voluntary confession he disclosed that he had started giving atomic secrets to soviet agents almost from the day that he joined the atomic bomb project.

On March 7, Tass, official soviet news agency, stated that Fuchs was unknown to the soviet government and that his confession was a lie.

**The Soviet Spy Ring.**—On May 23, 1950, the FBI arrested Harry Gold, 39, a biochemist, of Philadelphia, Pa., charging that he had been the messenger between Fuchs and two soviet espionage agents no longer in the U.S. Gold pleaded guilty and furnished information which aided in the apprehension of other members of the ring. On Dec. 9 he was sentenced to serve 30 years in a federal penitentiary.

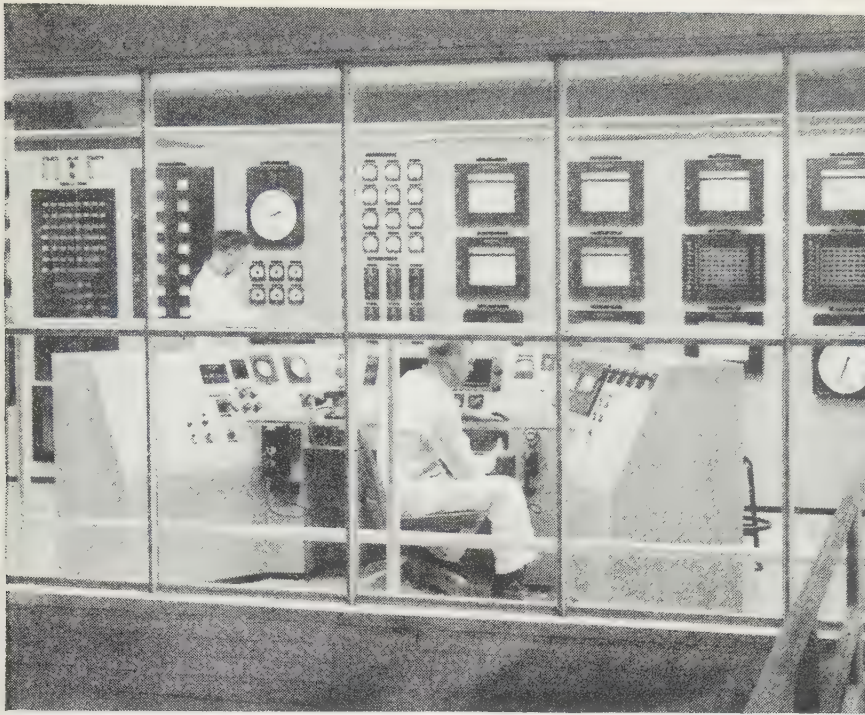
**International Deliberations.**—Attempts to reach an international agreement on the control of atomic energy came to an abrupt halt on Jan. 19, 1950, when soviet Deputy Foreign Minister Jacob A. Malik walked out of a conference of representatives of the Big Five and Canada at Lake Success. This action followed the pattern set on Jan. 10 when the soviet delegation marched out of the Security council meeting, stating that it would not take part in any discussion so long as the delegates of nationalist China were permitted to remain.

Following President Truman's announcement of the decision to proceed with the hydrogen bomb, a strong feeling manifested itself in both the United States and Great Britain that another attempt ought to be made to reach an understanding with the U.S.S.R. Among those who urged this were Sen. Brien McMahon, chairman of the joint congressional committee on atomic energy; Sen. Millard E. Tydings, chairman of the senate's armed services committee; and Winston Churchill, former prime minister of Great Britain.

But President Truman and Secretary of State Dean Acheson held that any new attempt to approach the U.S.S.R. would be useless.

Addressing the general assembly of the United Nations at Lake Success on Oct. 24, President Truman suggested that a new approach might be made to disarmament and the control of

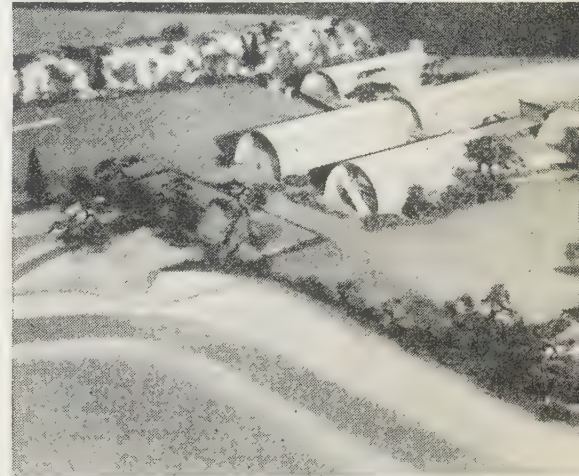




Above, left: CONTROL ROOM of the nuclear reactor at Brookhaven National laboratory, Upton, N.Y., the largest atomic pile in the United States at the start of its operations in Aug. 1950. The purpose of the reactor was to produce neutrons for research in biology, medicine and nuclear physics



Above right: BRITISH WOMEN demonstrating atomic defense techniques at Winchester, Eng., in 1950, as part of a program organized by the Hampshire Civil Defense corps. They are shown using Geiger counters in an area supposedly contaminated by radioactivity



Right: MODEL of a laboratory-clinic to be erected at Hiroshima, Japan, for follow-up studies by the U.S. Atomic Bomb Casualty commission on the long-range effects of atomic bomb blasts on several generations of descendants of survivors

Below: HOUSING for the largest privately operated centre for nuclear studies, radiobiology and metallurgy, under construction at The University of Chicago in 1950. At right is a corner of the Stagg field enclosure, site of the first atomic chain reaction





atomic energy by merging the United Nations Atomic Energy commission and the Commission for Conventional Armaments into a single disarmament commission.

Since the U.S.S.R. had been known to favour such a course, hopes were raised that progress might be resumed. However, on Nov. 3, when the Political and Security committee of the general assembly approved a resolution calling on all nations to accept the majority plan for the control of atomic energy and to agree to a reduction in armaments, the vote was 47 to 5 with the soviet bloc casting the negative votes.

**The Stockholm Petition.**—Following a meeting in March 1950 of the world peace congress of the Partisans of Peace in Stockholm, Swed., a campaign was launched to obtain signatures to a "peace petition" demanding the outlawing of the atomic bomb. The whole movement was plainly dominated by the U.S.S.R. and the pattern was set by *Pravda*, which declared that anyone who refused to sign the petition exposed himself as an "accomplice and henchman of the warmongers."

By August it was claimed that 273,470,566 persons had signed the petition. It was significant that while 115,275,000 signers were reported from the U.S.S.R., only 790,277 signers were claimed in Great Britain and 1,350,000 in the U.S.

**U.S. Atomic Energy Commission.**—Lewis L. Strauss resigned from the U.S. Atomic Energy commission on Feb. 7, 1950. The resignation of David E. Lilienthal, first chairman of the commission, became effective on Feb. 15 and President Truman appointed Thomas E. Murray, 58, an industrial engineer of New York city, to the commission.

In June President Truman renominated the four men then serving on the commission for new terms as follows: Sumner T. Pike, four years; Gordon Dean, three years; Murray, two years; and Henry DeWolf Smyth, one year. Congress subsequently confirmed these nominations and on July 11 the president appointed Dean chairman of the commission.

On Aug. 11 President Truman nominated T. Keith Glennan, 44, president of the Case Institute of Technology, Cleveland, O., as the fifth member of the commission.

Carroll L. Wilson, general manager of the commission, submitted his resignation on Aug. 8, and on Oct. 25 the commission appointed Marion W. Boyer, vice-president of Esso Standard Oil company, to the post of general manager.

**Effects of Atomic Weapons.**—The basic information needed for the intelligent planning of civil defense against atomic attack was set forth in a book entitled *The Effects of Atomic Weapons* issued by the U.S. defense department and the Atomic Energy commission on Aug. 12, 1950. It had been prepared under the direction of the Los Alamos laboratory by a board of editors with J. O. Hirschfelder as chairman. The book explains in detail many things about the nature of an atomic explosion and its effects which had previously been disclosed only in broad general terms.

It describes in detail the four main sources of damage in an atomic explosion, namely, (1) the air blast or shock wave, (2) the heat wave or thermal radiation, (3) the radioactive rays or nuclear radiations and (4) the residual radioactivity of the fission fragments.

The chief damage is done by the air blast or shock wave and this is greatest when the bomb is exploded in air at an altitude of about 2,000 ft. Under such circumstances the average limit of general structural damage is roughly two miles in all directions from "ground zero," the point directly under the exploding bomb.

Statistics analyzed by the U.S. Atomic Energy commission indicate that at Hiroshima and Nagasaki, 50% to 60% of the deaths were due to blast effects and flame burns, 20% to 30% to flash burns and 15% to 20% to radioactivity. It must be realized,

however, that many whose deaths were attributed to the more obvious causes also received lethal doses of radioactivity.

Flame burns, not to be confused with flash burns, are the result of fires started by broken gas mains, short-circuited electric lines and the like.

**Civil Defense.**—There was mounting interest in civil defense in the United States in 1950. It was realized that civil defense, a mere side issue in the U.S. in World War II, was at the very core of preparations for the possibility of World War III.

It came as a shock to many persons to learn that the basic purpose of civil defense was not the prevention of civilian casualties but the maintenance of industrial production without which the armed forces of the nation could not continue to exist.

The ideal defense against the atomic bomb would be to disperse the big cities and industrial centres of the nation so that there was no target left sufficiently attractive to justify the expense of an atomic attack. This, however, would cost hundreds of billions of dollars and would require years to accomplish.

It was felt, however, that as possible must be done to disperse new industrial facilities and to create fire lanes or "green belts" to halt the spread of fires.

It was obvious that no city hit by an atomic bomb could take care of itself. It was necessary, therefore, to organize civil defense on a state-wide or even interstate basis, designating the so-called "target areas" and the "assistance areas" which would be prepared to render first aid to them if they were hit.

There were no atomic bomb shelters in existence as 1950 drew to a close. A great deal was accomplished, however, in the last six months of the year in the formation of a civil defense organization. State directors of civil defense were appointed in every state but one and considerable progress was made in the creation of local units.

On Sept. 8 the national security resources board submitted



"BACK WHERE WE STARTED," cartoon by Costello which appeared in the *Knickerbocker News* (Albany, N.Y.) during 1950



a plan to President Truman for the civil defense of the United States. On Dec. 1 President Truman created the federal Civil Defense administration as a branch of his executive office and appointed former Gov. Millard F. Caldwell, Jr., of Florida to head it.

On Dec. 4 bills were introduced into congress embodying the plan for civil defense prepared by the national security resources board. This called for the expenditure of \$3,100,000,000 over a period of three years. The federal government would supply 54% of this fund, with state and local communities furnishing the balance. The largest expenditure envisioned was that of \$2,250,000,000 for communal-type air-raid shelters. In addition to shelters, the plan embraced the need for fire services, sanitation, panic prevention and control, civilian evacuations, dissemination of warnings, relief, emergency feeding and housing, emergency medical care, rehabilitation, and restoration of essential utilities, communications, transportation and the like.

**Reactor Data Released.**—The U.S., Great Britain and Canada agreed in Nov. 1950 to make public data relating to the construction and operation of low-power nuclear reactors. It was believed that the release of this information, which represented a major change in policy for the governments involved, would accelerate atomic research and the development of peacetime uses of atomic energy.

**Atomic Research.**—The largest and most powerful nuclear reactor designed exclusively for research purposes went into operation at the Brookhaven National laboratory on Aug. 22, 1950. It was an air-cooled graphite-uranium pile that cost \$25,000,000 and took three years to build.

Columbia university, New York city, became the possessor of the world's most powerful atom smasher when its new synchro-cyclotron began operation on May 2 at Irvington-on-Hudson. It developed energies of 400,000,000 ev.

However, the Radiations laboratory of the University of California, Berkeley, announced that the halfway mark had been reached in the construction of the so-called bevatron, a synchro-cyclotron that would develop energies of 6,000,000,000 ev. A similar but smaller atom smasher, designed to produce 3,000,000,000 ev, was being constructed at the Brookhaven National laboratory.

The General Electric company built a new type of atom smasher, a nonferromagnetic synchrotron which was expected to produce X-rays with energies of 1,000,000,000 ev.

The University of Michigan, Ann Arbor, opened a drive on Oct. 2 to raise \$6,500,000 for its so-called Phoenix project, a research centre devoted to atomic studies.

The U.S. Atomic Energy commission on Oct. 28 granted the North Carolina State college, Raleigh, N.C., permission to build a low-power nuclear reactor. Known as a "water boiler," it would produce less than a gram of plutonium a year. This would be the first nongovernmental reactor in the United States.

**Advances in Great Britain.**—The British began construction of a sixth atomic energy establishment at Aldermaston, near Reading, 45 mi. from London, in April 1950. At the time four atomic energy stations were in operation and a fifth under construction.

Sir John Cockcroft, director of the British Atomic Energy Research establishment, disclosed that studies on atomic power plants for ships and for industrial purposes were under way and that he believed both goals could be achieved in about eight years. The Harwell station had a 180,000,000-ev cyclotron, the largest one in Europe.

**Canadian Atomic Energy Project.**—W. Bennett Lewis, director of the Division of Atomic Energy Research, National Research Council of Canada, disclosed that a high-power nuclear reactor using heavy water as a moderator and developing 10,000

kw. of heat, was in successful operation during 1950. The reactor had the highest neutron flux density of any reactor in operation at the time. It had produced some plutonium but its chief use was for research and the production of radioactive isotopes. Thirty-two isotopes were being produced at the close of 1950.

The Canadian program, according to Lewis, called for the building of a series of reactors, culminating in one that would generate power for industrial purposes.

**Norwegian Institute.**—Norway created an institute for atomic energy studies in 1950 with Gunnar Randers as chairman. Construction was started on a nuclear reactor using heavy water as a moderator and developing energies of 100 kw. The reactor would be located at Kjeller, 15 mi. from Oslo, near the existing laboratories of the Defense Research establishment.

Other instruments for nuclear research were being built both for the institute and for Norwegian universities. These included a 50,000,000-ev betatron. Randers pointed out that all the Norwegian equipment was modest by U.S. standards but designed for precise scientific investigations.

**Dismissal of Joliot-Curie.**—Addressing the national congress of the Communist party in France on April 5, 1950, Frédéric Joliot-Curie, French high commissioner for atomic energy, stated that a "true progressive scientist" would never give any of his knowledge for war against the Soviet Union. On April 28 he was dismissed from his post as commissioner.

The French atomic energy commission had a nuclear reactor using heavy water as a moderator which went into operation on Dec. 15, 1948. The first sample of plutonium was obtained from the reactor on Nov. 20, 1949. Radioactive isotopes were also being produced with the reactor.

**German Uranium Mines.**—The British element of the Allied High commission for Germany issued a report on Aug. 23, 1950, declaring that the Russians were operating the uranium mines in the soviet zone of Germany at a "frantic pace." The report stated that about 300,000 men and women were employed in the mines and were being driven to the limit of their physical powers. The operations were under the direction of a soviet organization known as Wismuth Aktien Gesellschaft. (See also METALLURGY; PHYSICS; URANIUM.)

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**FILMS OF 1950.**—*The Beginning or the End* (Teaching Film Custodians, Inc.), *Report on the Atom* (March of Time Forum Films). (D. Dz.)

**Atom Smashers:** see ATOMIC ENERGY.

**Attlee, Clement Richard** (1883– ), British prime minister, was born in London on Jan. 3. He was educated at Haileybury and University college, Oxford. After a period of legal practice, he was secretary of Toynbee hall, London, and a lecturer at Ruskin college, Oxford. In 1913 he joined the staff of the London School of Economics. During World War I he served in Gallipoli, Mesopotamia and France. He was first Labour mayor of Stepney, London, 1919–20, was elected member of parliament for Limehouse in 1922, and in the second Labour government was chancellor of the duchy of Lancaster and later postmaster general. He was deputy prime minister in the wartime coalition government and became prime minister when the Labour party achieved a majority in July 1945. In the general election of Feb. 23, 1950, the Labour party was confirmed in power with a small majority, and the prime minister was returned for West Walthamstow. After the general election he reformed his ministry. On March 16 he rejected Winston Churchill's demand for a secret session on de-



fense. He had discussions with the United Nations secretary-general, Trygve Lie, in April and May, and in May he also conferred with the U.S. secretary of state, Dean Acheson. During the year, the prime minister broadcast once before the general election and three times on defense. In October he rejected suggestions that there would be a coalition government or an immediate general election. On Oct. 26 he took part in the ceremony to mark the opening of the new house of commons chamber. On Dec. 4 he flew to Washington, D.C., for discussions on defense with Pres. Harry S. Truman.

**Audio-visual Education:** *see* MOTION PICTURES.

**Auriol, Vincent** (1884– ), French statesman, was born on Aug. 27 at Revel, Haute-Garonne. After receiving his degree of doctor of laws at the faculty of law in Toulouse, he practised in that city. In 1909 Auriol became editor in chief of the newspaper, *Le Midi Socialiste*. Entering politics, he was elected to the chamber of deputies as Socialist member for Muret (Haute-Garonne) in 1914 and was constantly re-elected up to the collapse of France in June 1940. Auriol's first cabinet post was in Leon Blum's cabinet in 1936, when he was appointed minister of finance. He was minister of justice in the Camille Chautemps cabinet (1937–38) and held a post in the short-lived Blum cabinet in 1938. Auriol, who was among the 80 French parliamentarians who on July 10, 1940, voted against according full powers to Marshal Henri Philippe Pétain, was imprisoned by Vichy authorities for several months but was later released. In Oct. 1943 he escaped to London where he joined Gen. Charles de Gaulle's movement. He became a member of the consultative assembly set up in Paris after its liberation in Aug. 1944. In Nov. 1945 he was appointed minister of state without portfolio in the De Gaulle government. He was elected president of the French constituent assembly on Jan. 31, 1946. On Jan. 16, 1947, Auriol became the first president under the constitution of the Fourth Republic. In April 1947 he paid an official visit to French West Africa. In May 1949 he visited Algeria. On March 7, 1950, President and Mme. Auriol went to London for a three-day state visit. At a state banquet at Buckingham palace at which King George referred to the old ties uniting France and Great Britain, President Auriol said in reply that the happiness and peace of the peoples of the world largely depended on the resolution of the two nations to act in concert. (*See also* FRANCE.)

**Austin, Warren Robinson** (1877– ), U.S. delegate to the United Nations, was born at Highgate, Vt., on Nov. 12 and was graduated from the University of Vermont at Burlington in 1899. He practised law and became active in Republican politics. Elected U.S. senator from Vermont in 1931 to fill an unexpired term, he was re-elected in 1934 and 1940, but resigned to become acting U.S. representative to the United Nations, by appointment of Pres. Harry S. Truman, June 5, 1946. On Jan. 13, 1947, Austin became U.S. representative at the seat of the United Nations, with the rank of envoy extraordinary and plenipotentiary, and U.S. representative on the Security council. Austin was one of several U.S. leaders to disagree with former Pres. Herbert Hoover's suggestion, early in 1950, that the United Nations proceed without the Communist bloc, which was boycotting the Security council. It was Austin who led the attack against soviet efforts to use the U.N. Security council as a propaganda sounding board after the Russians resumed their seat on the council to take advantage of their turn, in rotation, at the presidency in Aug. 1950. Austin repeatedly opposed soviet delegate Jacob Malik in debates over Korea. On Aug. 1 he led the fight to halt Malik's attempt to seat the Communist China delegation by a ruling of the chair. On

Aug. 2 he demanded that the U.S.S.R. submit proposals to end the Korean war, asserting (Aug. 8) that the Soviet Union was assisting the invaders and could call off the attack. He consistently held that the U.N. rulings of 1947–49 to the effect that Korea must be unified by popular vote must be adhered to, and persistently declared as false soviet accusations that the South Koreans were the attackers. On Sept. 18 he refuted soviet assertions that the U.S.S.R. had furnished North Korea no arms since 1948 by showing weapons captured in Korea which had been made in the U.S.S.R. in 1950.

**Australia, Commonwealth of.** A self-governing member of the Commonwealth of Nations, Australia is situated in the southern hemisphere. Areas and populations of the six federated states, the Northern Territory and the Australian Capital Territory are:

States and Territories	Capital	Area (sq. mi.)	Population (1947 census)	Population (mid.-1950 est.)
New South Wales	Sydney . . . . .	309,433	2,985,464	3,225,242
Victoria	Melbourne . . . . .	87,884	2,055,252	2,202,869
Queensland	Brisbane . . . . .	670,500	1,106,269	1,183,792
South Australia	Adelaide . . . . .	380,070	646,216	700,257
Western Australia	Perth . . . . .	975,920	502,731	557,918
Tasmania	Hobart . . . . .	26,215	257,117	272,649*
Northern Territory	— . . . . .	523,620	10,866	15,303
Australian Capital Territory	Canberra . . . . .	939	16,905	20,772
		2,974,581	7,580,820	8,178,802

\*Dec. 31, 1949 est.

Full blood aboriginals were estimated at 47,000 and half-castes numbered 24,881 in 1944. Territories under the administration of the commonwealth but not included in it comprise Papua, Norfolk Island, the trust territory of New Guinea, Nauru, the territory of Ashmore and Cartier islands and the Australian antarctic territory. Language: English. Religion: Christian (1933 census: Anglican 2,565,118, Roman Catholic 1,161,455, Presbyterian 713,229, Methodist 684,022, other Christian 603,914); Jewish 37,000. Chief towns (pop. 1947): Sydney (1,484,434), Melbourne (1,226,923), Brisbane (402,172), Adelaide (382,604), Perth (272,586), Newcastle (127,188), Hobart (76,567). Governor general: William John McKell; prime minister: Robert Gordon Menzies.

**History.**—The new government, a coalition of the Liberal and Country parties, with Menzies (Liberal party) as prime minister and Arthur William Fadden (Country party) as treasurer, had taken office just before the year began. Australian public affairs in 1950 were dominated internally by the new government's bill for the suppression of the Communist party and externally by the growing international tension, culminating in the Korean war.

In bringing in a bill for the suppression of the Communist party and affiliated organizations, the government fulfilled an election pledge. The main features of the bill were: the declaration as illegal of the Communist party and certain organizations declared to be affiliated to communism; the power of declaration by the governor-general in council of certain individuals as Communists. Declared individuals became automatically disabled from holding executive office in certain named key trade unions. The bill defined Communists as persons "who support or advocate the objectives, policies, teachings, principles, or practices of Communism as expounded by Marx and Lenin." The bill provided for a right of appeal to the high court by declared persons or associations. It aroused strong public controversy and the opposition of the Labour party. As a result, the government introduced certain amendments, in particular a high-level advisory committee, to advise the government on the declaration of persons and associations. It did not yield on the vital "onus of proof" clause, which charged the "declared"



person to deny on oath that he was a Communist. After months of discussion, the Labour party, faced with the threat of a "double dissolution," of the house of representatives and the senate, withdrew its opposition to the bill. Upon the promulgation of the act, the Communist party became automatically illegal, but implementation of the act was delayed by the party's challenge of the constitutionality of the act before the high court—an action still pending late in the year.

**Industrial and Economic Position.**—By comparison with the previous year, the country was relatively free from major industrial trouble, except for a railway strike affecting most of the Australian states which started early in October.

In June 1950 the basic wage stood at £6.15.0. Returns compiled from 80% of wage earners showed at the same time an average wage of £9.19.0.

The commonwealth arbitration court issued its "basic wage" judgment which increased the basic wage by £1 per week.

Economic activity was sustained on a high level; national income in 1949-50 was £A2,265,000,000, an increase of 16% over 1948-49; the level of employment in June 1950 was the highest on record, with 2,546,900 wage and salary earners. Unemployment in March 1950 was 0.8%, equal to the lowest recorded. Prices rose sharply during the year; the "C" series retail index in June 1950 indicated an increase of 10% over June 1949.

Exports rose to £A617,305,000, an increase over the previous year of 14%. This was mainly the result of further price rises in wheat and, in particular, in wool, which was in keen competitive demand by soviet, U.S. and other buyers. Imports stood at £A536,037,000 for the same period, an increase of 30% over 1948-49.

The commonwealth obtained a dollar loan from the International Bank for Reconstruction and Development, earmarked for the purchase of U.S. machinery and other capital equipment. Australia's overseas funds rose to £A650,000,000, an increase over the previous year of 43%. The budget for 1950-51 gave an estimated balance of expenditure and revenue at: revenue, £A738,700,000; expenditure, £A738,700,000. This was an increase of £A172,078,842 over the previous year.

**Defense Services.**—Estimated expenditure for 1950-51 was £A133,383,000, an increase of £A79,136,853 over the previous year. The increase was almost entirely the result of a vastly increased defense program connected with Australia's active participation in the United Nations action in Korea and a projected expansion of all three arms of the military forces.

**Immigration.**—The number of immigrants was expected to exceed 200,000 in 1950, compared with 149,000 in 1949. It was anticipated that, with the gradual exhaustion of the European pool of displaced persons, the proportion of British immigrants would increase. The absorption of immigrants into production and employment caused no problems, but the housing shortage became more acute. The gap between housing needs and new building was, at the prevailing rate of construction, expected to increase by 30,000 to 35,000 houses a year.

**Foreign Affairs.**—Australia was one of the first members of the United Nations to promise support for U.N. action in Korea, and immediately sent a fighter squadron to fight with the U.S. forces. In September a battalion of the Australian occupation forces in Japan became part of the British Commonwealth brigade fighting in Korea. Under its new minister for external affairs and external territories, Percy Claude Spender, Australia's foreign policy took a sharper antisoviet turn. In the United Nations general assembly, Australia strongly supported intervention in Korea, opposed soviet proposals for disarmament and the banning of atomic weapons, opposed the recognition of the Communist Chinese government and generally supported United States policy. Spender also proposed a Pacific pact which would link a

vast number of Pacific nations, from all the American countries with a Pacific coast to Australia and New Zealand, and including the Republic of the Philippines, Korea and anti-Communist China, as well as the Pacific possessions of the British Commonwealth. (W. FN.)

**Education.**—(1947) State schools 8,212, pupils (average weekly enrolment) 856,753, teachers 32,941; private schools 1,871, pupils (average weekly enrolment) 281,838, teachers 12,484; universities 8, students 30,477, professors and lecturers 2,141.

**Finance and Banking.**—Budget: (1949-50) revenue £A589,500,000, expenditure £A606,000,000; (1950-51 est.) revenue £A738,700,000, expenditure £A738,300,000. National debt (June 1950) £A850,900,000. Currency circulation (Aug. 1950) £A237,000,000. Gold and foreign exchange (March 1950) U.S. \$1,251,000,000. Bank deposits (Aug. 1950) £A855,000,000. Monetary unit: Australian pound with an exchange rate in Nov. 1950 of £A1.25 to the pound and £A0.45 to the U.S. dollar.

**Foreign Trade.**—(1949) Imports £A455,000,000; exports £A535,000,000. Main sources of imports (1948-49): U.K. 51.4%; U.S. 10.2%; India 6.4%; Canada 2.9%. Main destinations of exports: U.K. 42.4%; France 8.5%; U.S. 5.9%; Italy 5.3%. Main imports: machinery 9.8%; cotton and linen piece goods 7.5%; petroleum 5.1%; silk and rayon piece goods 4.1%. Main exports: wool 42.3%; wheat and flour 18.6%; meat 5.4%; butter 4.4%.

**Transport and Communications.**—Roads (1946 est.): 500,497 mi. Licensed motor vehicles (Dec. 1949): cars 747,200; commercial 425,889. Government railways (1948-49): 26,999 mi.; passengers carried 504,076; freight carried 40,225 tons; freight net ton-miles 6,308,000,000. Shipping (merchant vessels of 100 gross tons and more, July 1949) 341, total tonnage 541,516. Air transport (1949): miles flown 43,224,000; passenger-miles 710,900,000; freight net ton-miles 18,000,000; air mail ton-miles 4,100,000. Telephones (Dec. 1949): subscribers 1,066,385. Radio receiving set licences (Dec. 1949): 1,986,180.

**Agriculture.**—Main crops (metric tons, 1949-50): wheat 5,891,000; oats 580,000; maize 178,000; barley 414,000; sugar cane, raw value, 955,000; potatoes 520,000. Livestock (March 1949): sheep 108,500,000; cattle 14,124,000; pigs 1,194,000; horses 1,116,000. Wool production (metric tons, greasy basis, 1949-50): 474,000. Milk production (1949-50): 1,250,000,000 gal. Food production (metric tons, 1949-50): butter 171,200; cheese 45,600; meat 1,048,700, of which beef comprised 611,800.

**Industry.**—Manufacturing establishments (1948-49) 40,010; persons employed, including working proprietors, 890,454. Fuel and power (1949): coal 14,328,000 metric tons; lignite 7,488,000 metric tons; manufactured gas 974,000,000 cu.m.; electricity 9,018,000,000 kw.hr. Raw materials (1949): gold 893,000 fine ounces; refined copper 10,100 metric tons; refined lead 187,000 metric tons; zinc 83,000 metric tons; steel ingots and castings 1,149,000 metric tons. Manufactured goods (1949-50): wool yarn 21,700 metric tons; cement (1949) 1,076,000 metric tons.

**BIBLIOGRAPHY.**—J. B. Greaves, *Economic and Commercial Conditions in Australia* (London, 1950).

**FILMS OF 1950.**—*Animals of Australia, Birds of Australia* (Cornell Associates); *Australian Diary No. 31-36, The Bushman Goes Home, Crocodile Hunters, Plan for Living, Shearing at Big Billabong, Turn the Soil* (Australian News and Information Bureau).

**Austria.** A Republic of central Europe, Austria has an area of 32,388 sq.mi. Pop.: (1949 est.) 7,090,000. Language: German 98%, other 2% (mainly Slovene in Carinthia). Religion: mainly Roman Catholic. Principal towns (pop., 1948 est.): Vienna (cap., 1,730,613); Graz (226,229); Linz (184,336); Salzburg (106,919); Innsbruck (98,561); Klagenfurt (65,950). President of the republic, Karl Renner; chancellor (prime minister), Leopold Figl. During 1950 the Austrian government had jurisdiction throughout Austria, with certain limitations regarding matters control over which was reserved to quadripartite decision in the Allied Council for Austria. By Dec. 31, 1950, members of the A.C.A. were: France, Jean Payart (from June 29); United Kingdom, Sir Harold Caccia (from June 12); U.S., Walter J. Donnelly (from Aug. 24); U.S.S.R., Lieut. Gen. V. P. Sviridov.

**History.**—The total strength of the forces occupying Austria at the beginning of 1950 was 68,500, of which soviet troops numbered 44,000, U.S. 10,000, British 8,500 and French 6,000. In the five years of occupation the military and civilian costs had swallowed up, it was estimated, about 30% of the country's wealth: in 1949 alone contributions amounted to 420,000,000 schillings. In addition, the Russians by enforcing their claim on all former German properties secured possession of most of Austria's oil as well as the assets of the Danube Shipping company. The Soviet Union thus had a tight grip on the nation's economy. For these reasons, the dearest wish of both government and people during 1950 was to achieve a peace treaty and effective inde-



pendence.

Only the U.S. could afford to pay its own occupation costs, but the process of relaxation of controls continued throughout 1950. Such measures of alleviation, however, could bring little comfort. In contrast with the behaviour of the Soviet Union, seemingly concerned with frustrating the patient efforts of the foreign ministers' deputies to get an agreed draft treaty.

Nevertheless, the government felt it incumbent on it to demand that occupation costs should be borne by the occupying powers. A note in this sense was addressed to the powers, and on March 8 Karl Gruber, foreign minister, detailed in the diet some of the other requests that were included: that the strength of the foreign garrisons should be drastically reduced; that requisitioned property should be released; and that all military courts, zonal frontier controls and every form of censorship should be abolished. Chancellor Figl was understood also to have suggested a meeting in Vienna at the highest level to break the deadlock.

This proposal was not taken up. After the 252nd abortive meeting of the deputies on April 26, however, the foreign ministers of the three western powers, on the occasion of their London talks, issued on May 19 a statement that they were willing to settle all outstanding issues if this would bring about agreement on the treaty as a whole; failing that, while the occupation must be maintained, everything possible would be done to lighten the burden, and, to begin with, civilian high commissioners would be appointed to replace the military commanders. A formal reply to the Austrian note was made by the British foreign office on July 13. The concessions comprised a considerable reduction of high commission personnel, further release of requisitioned property, a promise of sympathetic consideration for any plan for ending Allied control of the Austrian broadcasting system and, in time, the abolition of military travel permits. But on the questions of military courts and the right to ban books and newspapers the British government would not yield. (In fact, censorship no longer existed in the British zone.) The U.S. and French governments made somewhat similar responses.

During 1950 Austria received 2,600,000,000 schillings from Economic Cooperation administration funds. In addition, a "stop-gap" allocation of a further 200,000,000 schillings from European Recovery program sources was forthcoming to cover housing costs. But the chronic problem of unemployment (which reached a peak figure of 195,000 in February) persisted, and the ominous date of 1952, when ERP aid would cease, was looming ahead.

As a result of U.S. aid, industrial production rose to 109% of the 1937 figure; agricultural output and the volume of exports, on the other hand, amounted to only 70% of the prewar level. Early in September a crisis developed over fixing the inland price of wheat: the People's party called for a figure higher than the Socialists could accept unless there was a compensatory rise in wages. After some hard bargaining, a new price and wage agreement was reached, on a basis of a 10% increase of wages and salaries, with appropriate increases in pensions and family allowances, to offset the increased cost of living, including the removal of certain food and fuel subsidies. The Communists, however, initiated token strikes and demonstrations, with the deliberate connivance of the soviet authorities in Vienna; and then on Sept. 30 a conference of several hundred Communist shop stewards issued an ultimatum calling for a general strike unless the wage and price agreement were withdrawn by Oct. 3. By that time, however, the government and trade union leaders regained complete authority over the bulk of the workers, and the strike was called off. Only in the soviet zone were there any serious disturbances.

For the time being the Communists ceased to count as a serious



AUSTRIAN HOUSEWIVES in excited talk over the "wonder caldron," or self-service laundry, installed in Vienna in 1950 by two U.S. businessmen as the first establishment of its kind in central Europe

factor in Austria's internal politics. At the peasant chamber elections held in Lower Austria in April they failed to win a single seat. In local elections held in May in the same soviet sector of Lower Austria they polled only 5.23%, against 51.96% for the People's party and 39.97% for the Social Democrats. Ten of the 11 Communist mayors lost their seats. (W. H. CAR.)

**Education.**—Schools (1948-49): elementary 4,956, pupils 829,326, teachers 34,105; secondary 167, pupils 47,310, teachers 3,476; technical and commercial 64, students 20,739, teachers 1,691; teachers' training colleges 28, students 4,821, lecturers 534; universities 4, students 19,762, professors and lecturers 1,684.

**Finance and Banking.**—Budget: (1949) revenue 6,091,000,000 schillings, expenditure 7,532,000,000 schillings; (1950 est.) revenue 9,617,000,000 schillings, expenditure 10,695,000,000 schillings. Internal debt (Dec. 1949) 11,826,000,000 schillings. Currency circulation (Sept. 1950): 5,863,000,000 schillings. Bank deposits (Aug. 1950) 6,864,000,000 schillings. Monetary unit: schilling, with an exchange rate (Nov. 1950) of 21.49 schillings to the U.S. dollar.

**Foreign Trade.**—(1949) Imports 4,477,200,000 schillings; exports 3,228,000,000 schillings. Main sources of imports: Germany 16%, Italy 12%, Czechoslovakia 9%, U.S. 6%. Main destinations of exports: Italy 18%, Germany 8%, Czechoslovakia 7%, Yugoslavia 7%.

**Transport and Communications.**—Roads (1947): 53,000 mi. Licensed motor vehicles (Dec. 1949): cars 37,350; commercial 54,620. Railways (Jan. 1949): 3,728 mi.; passenger-miles (1948) 2,617,000,000; freight net ton-miles (1949) 3,311,000,000. Telephones (1949): subscribers 231,857. Wireless licences (1949): 967,787.

**Agriculture.**—Main crops (metric tons, 1949): wheat 350,000; barley 197,000; oats 286,000; rye 365,000; maize 132,000; potatoes 2,008,000; sugar 52,000. Livestock: cattle (Dec. 1949) 2,200,000; sheep (Dec. 1948) 454,000; pigs (May 1950) 2,024,000; horses (Dec. 1948) 286,000; poultry (May 1950) 4,140,000.

**Industry.**—Insured persons employed (Dec. 1949): 1,896,966. Fuel and power (1949): coal 184,000 metric tons; lignite 3,816,000 metric tons; electricity 4,164,000,000 kw.hr. Raw materials (metric tons, 1949): iron ore 1,728,000; pig iron 838,000; crude steel 835,000; magnesite 521,000; lead smelter 8,600. Manufactured goods (metric tons, 1949): woven cotton fabric 12,000; cotton yarn 18,000; fertilizers 288,000; chemical and paper pulp 430,000; cement 1,098,000.

**Autobiography:** see ENGLISH LITERATURE; etc.

**Automobile Accidents:** see ACCIDENT PREVENTION.

**Automobile Industry.** The automobile industry of the United States established in 1950 a new all-time production record for the second successive year. Total 1950 production was 7,987,493 vehicles, of which 6,649,492 were passenger cars; 1,333,258, trucks; and 4,743, motor coaches.



Monthly factory sales are shown in Table I.

**Table I.—Motor Vehicle Factory Sales From Plants Located in United States, 1950**

	Passenger cars	Motor trucks	Motor coaches	Total
January	487,824	93,323	219	581,366
February	385,361	89,971	133	475,465
March	469,618	110,843	199	580,660
April	455,193	103,850	268	559,311
May	575,518	120,963	412	696,893
June	720,688	135,332	598	856,618
July	595,067	111,208	397	706,672
August	682,782	134,853	457	818,092
September	616,827	105,562	423	722,812
October	651,169	108,815	553	760,537
November	504,445	98,538	584	603,567
December*	505,000	120,000	500	625,500
Total	6,649,492	1,333,258	4,743	7,987,493

\*Estimated.  
Source: Automobile Manufacturers Association.

The 6,649,492 passenger cars represented an increase of 1,530,000 cars, or 30%, over the 1949 total. Commercial vehicle production increased by 204,000 units, or 18%. Along with total vehicles produced, the 1950 passenger car total was a new record. However, commercial vehicles fell short of the 1948 record of 1,376,155 units. In comparing the gains of passenger cars and commercial units, it is interesting to note the emphasis which was placed on truck and bus production in the years immediately after World War II (see Table II). With the needs of industry becoming less pressing, the manufacturers were able to divert a larger share of available materials to the production of passenger cars during 1949 and 1950.

**Table II.—Division of Output Between Passenger Cars and Commercial Vehicles, in the U.S.**

Year	Total Vehicles	Per Cent Passenger Cars	Per Cent Commercial Vehicles
1936	4,454,115	82.5	17.5
1937	4,808,974	81.5	18.5
1938	2,489,085	80.3	19.7
1939	3,577,292	80.2	19.8
1940	4,472,286	83.1	16.9
1941	4,840,502	78.0	22.0
1946	3,089,550	69.5	30.5
1947	4,797,922	74.1	25.9
1948	5,285,425	74.2	25.8
1949	6,253,602	81.8	18.2
1950	7,987,000	83.3	16.7

Source: Automobile Manufacturers Association.

These production records resulted in the establishment of new high levels of wholesale value for both passenger cars and total vehicles. A tabulation of estimated 1950 wholesale values along with those of preceding years appears in Table III.

**Table III.—Wholesale Value of Industry Output in U.S.**

	Wholesale Value	Per Cent Increase 1950
<b>Passenger Cars</b>		
1950*	\$8,830,000,000	—
1949	6,768,418,000	30
1941	2,567,205,996	244
1929	2,847,118,562	210
<b>Commercial Vehicles</b>		
1950*	\$1,670,000,000	—
1949	1,407,435,000	19
1941	1,069,799,855	56
1929	566,029,644	195
<b>Total Vehicles</b>		
1950*	\$10,500,000,000	—
1949	8,175,853,000	28
1941	3,637,005,851	189
1929	3,413,148,206	208

\*Estimated.  
Source: Automobile Manufacturers Association.

**Exports-Imports.**—United States automobile exports in 1950 totalled 303,000 vehicles, as compared with the 1949 total of 287,775. As shown in Table IV, the percentage of United States automobile production absorbed by the foreign market steadily declined after 1947. The 1950 figure of 3.8% represented the lowest portion of total output sold to foreign markets in the

**Table IV.—Percentage U.S. Motor Vehicle Production Exported**

Year	Passenger Cars	Trucks & Buses	Total Vehicles
1936	5.8%	17.2%	7.8%
1937	6.9	22.8	9.9
1938	9.5	27.8	13.1
1939	5.7	21.3	8.8
1940	2.9	13.4	4.6
1941	2.6	13.9	4.7
1946	6.7	19.9	10.7
1947	7.3	20.8	10.7
1948	6.0	14.8	8.3
1949	3.0	11.6	4.6
1950	1.9	11.1	3.8

Source: Automobile Manufacturers Association.

history of the industry.

Imports totalled 19,700 vehicles in 1950, more than double the 1949 volume. Although these 19,700 vehicles represented only 0.25% of the total U.S. market, it is significant that prior to 1947, U.S. imports had never reached 2,000 vehicles. Imports from 1947 through 1950 were as follows: 1947, 2,124; 1948, 29,112; 1949, 8,366; 1950, 19,700.

**Production.**—The production achievements of the industry were, of course, made possible by the general high level of business activity throughout the country. With a few exceptions, most manufacturers were unable to provide their dealers with enough cars to supply the demand—at least not until the last month or so of the year. There was a decline in new car orders during the early part of the year. At that time, general unemployment was increasing and the government designated some areas of the country as "critical"; i.e., having more than 12% of the labour force unemployed. A few manufacturers reduced production, and some alarm was expressed over the appearance of "bootlegging," the selling of new cars by used car dealers at sharply discounted prices. However, the normal spring market had already started to lengthen order lists when the North Korean Communists attacked South Korea on June 25. The decision for U.S. intervention in this conflict produced a veritable deluge of new car orders.

Production-wise, the U.S. stand against the Communist aggression had little immediate effect on the industry, and it was not until later that defense contracts and material stockpiling began to reduce the amount of nickel, aluminum, chromium and steel available to the auto makers.

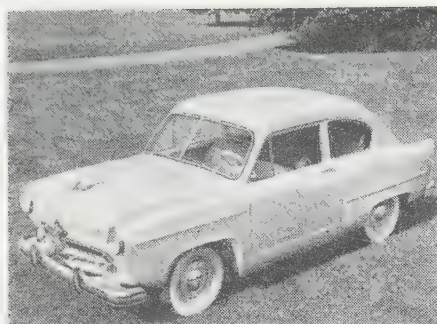
**Labour.**—The basic issue of each of the labour-management contract settlements of 1950 was the establishment of a suitable pension program. Unfortunately, negotiations between the union and one of the large producers could not be successfully concluded before a strike date in late January. The ensuing 100-day strike was the most costly in the history of the industry; it was estimated to have caused the loss of 490,000 vehicles.

Shortly after this dispute was settled, the industry's largest manufacturer announced a new agreement with the union which contained several significant features. In addition to the pension provisions, it contained an agreement for an annual improvement factor of four cents per hour. This improvement factor was granted in anticipation of further technological progress, rather than as a general pay raise which would be passed on to the consumer through an increase in car prices.

Retained from the previous contract was the cost-of-living escalator clause, which guaranteed additional wage increases should the cost of living increase appreciably. However, wage rates could not be reduced below the basic level even if prices were drastically reduced. Also provided were various social insurance benefits.

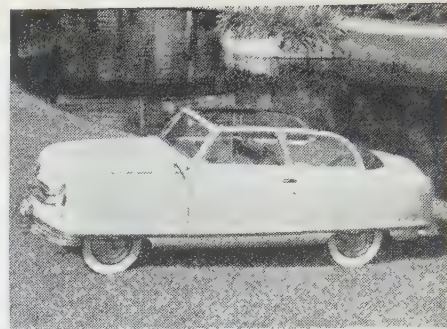
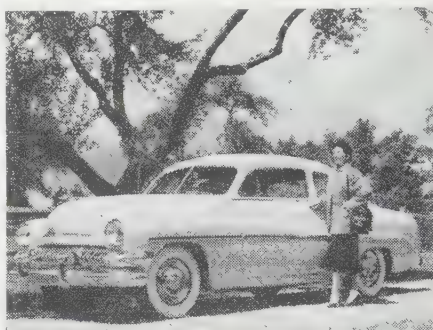
In return for these provisions, the union agreed to a five-year contract period, with no reopening clauses. This agreement, with its many advantages to the workers and guarantee of five years of labour peace for the manufacturer, immediately became the pattern for settlements by most of the smaller manufacturers of the industry. By the end of the year, practically every contract





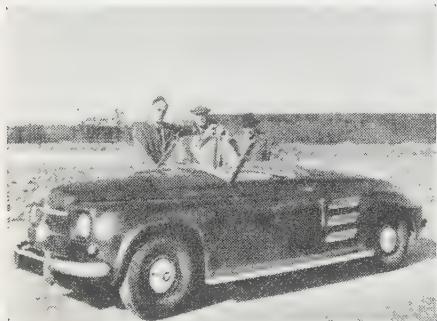
Above: THE HENRY J, a low-priced Kaiser-Frazer motor car which appeared in 1950

Below: THE 1951 MERCURY coupe featuring changes in the grille styling

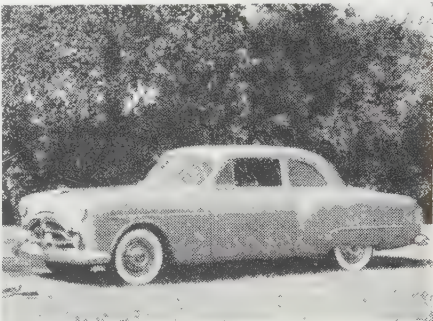


Above: THE NASH RAMBLER, a convertible introduced in 1950

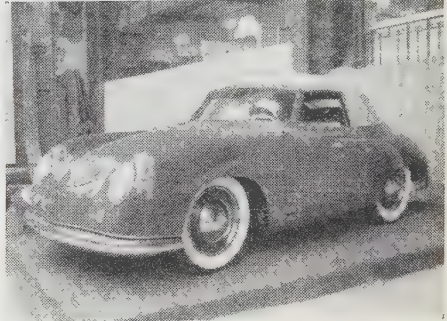
Below: FIRST AUTOMOBILE to be powered by a gas-turbine engine, manufactured by the Rover Co. Ltd., and displayed at the 1950 British motor car exhibit in New York city



Below: THE 1951 PACKARD "200" club sedan, engineered almost two inches lower than earlier models



Below: THE PORSCHE, a German-made rear-engined coupe in the small-car class exhibited at the Salon de l'Automobile in Paris in Oct. 1950



in the industry included the annual improvement factor and the cost-of-living escalator clause.

**Prices.**—In general, the introduction of the 1950 models did not result in appreciable price changes, although a few manufacturers improved their competitive position by reducing prices about \$100. With the high rate of production continuing to reduce waiting lists and to place more and more new models on a virtual immediate delivery basis, used cars continued their gradual price decline, reaching a particularly low level in March when the aforementioned bootlegging was at its height.

These prices firmed with the arrival of the normal spring market, and the advent of the Korean war sparked a dizzying climb that saw some models selling for \$1,000 more than their new list price. In less than two months, however, it became apparent that automobile production was not going to be immediately curtailed, and used car prices began to decline nearly as fast as they had increased.

The pension and wage increase agreements mentioned previously, coupled with increases in the cost of practically every material used in the manufacture of automobiles, were harbingers of the industry's own price increases. In general, as each 1951 model was introduced, the manufacturer was forced to announce a price increase of about \$100.

All independent manufacturers (that is, all producers excluding the "big three") had announced their 1951 models and new prices during the late summer and early fall. The "big three" of the industry did not reveal the price tags which their new cars would carry until December. However, on Dec. 16, less than two weeks after these increases were announced, the government ordered a rollback of automobile prices to levels existing on Dec. 1. Thus, these manufacturers were required to sell the new models at the same price levels which had applied to their 1950 counterparts.

**Sales.**—From a sales viewpoint, the most serious event of the year was the reimposition of regulation W, the government's

credit control bill which had limited purchases during and immediately after World War II. A mild form of this control, requiring a one-third down payment with the balance to be paid within 21 months (three months longer than the wartime version) was restored in September. These terms were short-lived, however, for in the middle of October the federal reserve board reduced the number of months from 21 to 15, retaining the one-third down payment provision. Both new and used car sales were hard hit by this order.

**Styling.**—From a styling standpoint, the outstanding feature of the 1950 model year was the popularity and extension of the "hardtop convertible" styling introduced in 1949. Not convertible in the true sense of the word, these cars embodied the racy lines of a convertible while retaining a fixed steel top. This body style was extended to include four-door sedans in 1950. About half of the 1950 models offered hardtop styling.

In other respects 1950 styling differed only slightly from that of 1949, since most manufacturers had provided totally new styling for the 1949 models. The majority of the 1950 changes were of the "face-lifting" variety.

**Engines.**—Two aspects of the engine field merit recounting here. One, the year's progress in the development of high compression engines; the other, the introduction of a gas turbine propelled vehicle.

In 1947 the practicability of an engine with a compression ratio of as high as 12 to 1 had been demonstrated before a meeting of the Society of Automotive Engineers. Less than two years later, the salient features of this engine were made available to the public in two new engines. These engines had compression ratios only slightly higher than the general average, since lack of a nation-wide supply of the very high octane fuel required precluded operation at a 12 to 1 ratio. However, their improved design, featuring an exceptionally rigid block, heavy crankshaft and overhead valves, resulted in increased output per cubic inch and improved gasoline mileage. Moreover, their construction was



such that major redesign would not be necessary to increase their ratios to 10 to 1 or 12 to 1.

The performance and economy of these engines, and the public's appreciation of these features, served to accelerate other manufacturers' engine programs. One totally redesigned engine, similar to the two aforementioned engines, was presented late in 1950. Of V-8 design, it had a five-bearing crankshaft, overhead valves and a block said to be sufficiently strong for operation at compression ratios as high as 14 to 1. The ratio of the engine as it was shown was 7 to 1. Several other new engines were in process.

Early in 1950 a British firm displayed a gas turbine propelled passenger car. Presented quite frankly as an experimental model, not intended as an immediate competitor of piston engines, it gave automotive engineers a chance to see some of the inherent problems which turbine installations involve. As in the case of most new developments, the car was given a large amount of publicity, not all of which took care to point out the many limitations of the unit in its existing form. Essentially, its disadvantages were poor fuel economy (especially at light load), excessive noise, lack of engine braking (and hence the need for larger capacity vehicle brakes) and the lack of a by-pass between the gas generator and the power turbine—a condition somewhat analogous to driving a car with an automatic transmission locked in the drive position.

**Automatic Transmission.**—Of even more interest than the high compression engine program was the spectacular increase in the number of automatic transmissions offered and sold during 1950. It was estimated that considerably more than 1,500,000 fully automatic units were produced during the year.

The first true automatic transmission was introduced in 1940, but had little time to prove its value before the industry converted to war production. Consisting of a fluid coupling and a four-speed planetary gear set, its operation was completely automatic. Shifting of gears was basically controlled by the speed of the car through a governor and hydraulic control system. Refinements such as the delaying of shifting action in accordance with the accelerator position were also included.

This initial step-by-step gear-shifting transmission remained

the only automatic type available for eight years, and in 1950 was still produced in greater quantities than any of the succeeding automatics. In 1948 a new type, the hydraulic torque converter, made its appearance. This unit normally employs no gears, but accomplishes its function of torque multiplication by means of a vaned hydraulic pump and turbine arrangement. Maximum torque multiplication of about 2.2 to 1 occurs at stall, the ratio decreasing to 1 to 1 at a speed between 15 and 45 mi. per hour, depending upon the road conditions. Planetary gears are provided for reverse and extra-low gear use, but are not utilized in normal operation. Since no gears are employed, this transmission gives very smooth acceleration. This smoothness and the lack of a complex control system make the torque converter type of transmission very attractive, and all of the succeeding transmission designs incorporated a hydraulic torque converter.

Some of the more recent automatics included a lock out feature which eliminated the converter's coupling action by giving a direct connection between the engine and wheels at normal driving speeds. This feature was designed to reduce power losses in the fluid coupling and thus improve fuel economy.

Two manufacturers were offering a unit which included both a torque converter and a step-by-step planetary gear arrangement. In this design, starting torque is increased by both the hydraulic converter and a step-by-step planetary gear arrangement, the unit automatically shifting into direct drive at some speed between about 20 and 60 m.p.h., depending upon the throttle opening. After the unit has shifted, the torque converter is locked out in one model and retained as an active part of the power train in another. With the combination of automatic gear shifting and a torque converter, these transmissions were said to incorporate the best features of each type into one unit.

By the end of 1950 all automatic transmission manufacturing facilities were operating at full capacity, and this feature was proving so popular that only a few makers were able to offer the new convenience to all who desired it. (See also MOTOR TRANSPORTATION.)

FILMS OF 1950.—*Our American Cross-Roads* (General Motors Corp.). (C. F. KE.)

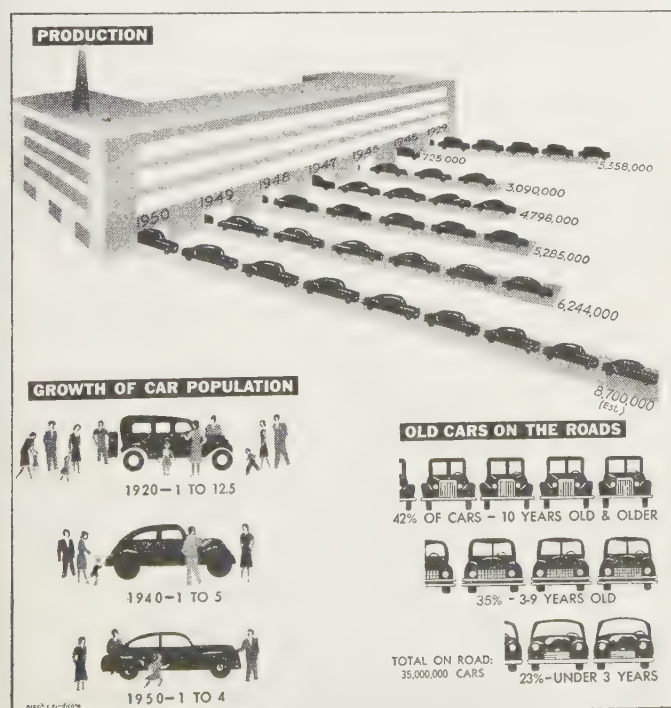
**Automobile Insurance:** see INSURANCE.

**Automobile Racing.** Johnny Parsons of Van Nuys, Calif., annexed the big prize of the sport in a year that saw United States drivers burning up old records in almost every major event. Driving his Kurtis-Kraft Wynns Special despite a cracked engine, Parsons won the 1950 Indianapolis speedway classic on Memorial day, before 150,000 spectators. A rainstorm brought a sudden end to the traditional 500-mi. grind after 345 mi., but Parsons was conceded an easy first place, a position he had held almost from the start, and his average speed of 124.002 m.p.h. was an all-time high.

The other placings did not receive official sanction because of the shortened distance. Official standings were: Bill Holland of Reading, Pa., with his Blue Crown Special, second; Mauri Rose, of South Bend, Ind., in a Howard Keck Offenhauser Special, third; and Cecil Green, Houston, Tex., in his John Zink Special, fourth.

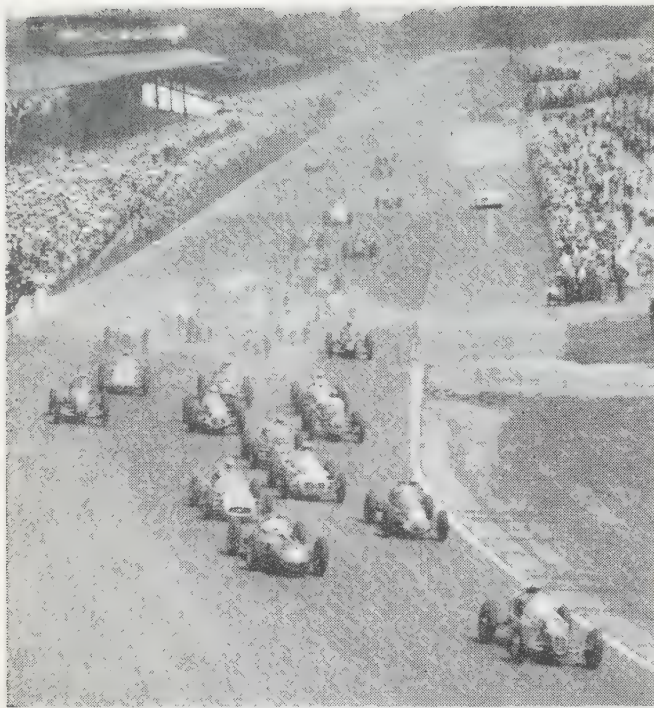
Henry Banks of Compton, Calif., carried off the scoring championship of the American Automobile association, compiling a string of victories in midget auto racing as well as in big-car tests.

The major event of the year for stock cars was the 2,178-mi. race from Juarez, Mex., on the United States border, to El Ocotil, Mex., on the Guatemalan frontier. The long grind, marking the opening of Mexico's stretch of the Pan-American highway, was won by Hershel McGriff of Portland, Ore. McGriff,



PRODUCTION AND CONSUMPTION in the U.S. automobile industry, as shown in a graphic survey published in the *New York Times* during 1950





FIRST TURN of the 500-mi. speedway classic held at Indianapolis, Ind., May 30, 1950. The race was halted by rain at the 345-mi. mark and Johnny Parsons was declared the winner for his average of 124.002 m.p.h., a record for the event

behind the wheel of a 1950 Oldsmobile, took the six-day test with an elapsed time of 27 hr. 34 min. 25 sec. Tom Deal of El Paso, Tex., in a Cadillac, was second. (T. V. H.)

**Aviation, Civil.** An analysis of 226 air lines in operation throughout the world as of April 1950, of which 55 were United States flag operators and 171 of other countries, shows that four-fifths of the world's scheduled air line services were being conducted with U.S.-built aircraft. While the U.S. share of the total scheduled aircraft-miles dropped to 48% from 52% in the previous year, U.S. flag carriers increased their revenue ton-mile capacity by 8% during the year, and by 35% since 1948. It was anticipated that still further substantial additions to the U.S. civil fleet would result from the faster and larger versions of air transports which were on order for delivery during 1951 and 1952, including more than 100 Douglas DC-6Bs and Lockheed Constellation 1049s.

**Scheduled Air Transport.**—In 1950 the U.S. civil air line industry experienced its best year since the end of World War II. International and domestic scheduled air carriers made traffic gains comparable to, or greater than, those reported in the record year of 1949. Total operating revenues increased about 8%, while operating expenses increased about 5%. This difference

largely accounted for a 47% increase in net operating income to a total of \$66,800,000, a far cry from the heavy operating deficits of 1946 and 1947.

Collectively, the industry added 16.7% in passenger miles over 1949, 11.6% in mail ton-miles and 19.7% in cargo services, including express and freight. Altogether, 18,828,000 passenger trips were reported, while total revenue loads, including passengers, mail and cargo, reached a record figure of 1,230,000,000 ton-miles, up 16.8% from 1949.

The distribution of revenues among the three major sources of traffic for the scheduled air carriers remained about the same in 1950 as in 1949, passengers accounting for 73%, mail for approximately 17.5% and cargo for 6.7%. Average unit receipts for freight dropped to slightly less than 19 cents per ton-mile for the first time, reflecting the increasing volume of back-haul freight movement at special commodity rates.

The 16 domestic trunk lines alone more than doubled their net operating income, from approximately \$25,000,000 in 1949 to more than \$51,000,000 in 1950. The 12 local service air lines had an operating net of \$500,000, in round figures, contrasted with a loss of about the same size during the previous year. The 13 international and overseas air lines, on the other hand, showed a decline of about 28%, to a net operating income of \$15,300,000 for the year. Nevertheless, Pan American World Airways reported that its 1950 traffic volume was the greatest in its 24-yr. history. The company transported more than 1,000,000 passengers and 50,000,000 lb. of cargo during the year, in addition to military contract operations on the trans-Pacific Korean air lift.

**Air Coach Operations.**—The year witnessed a continuous, gradual extension of air coach operations on the part of the scheduled carriers, while the so-called irregulars, or nonscheduled operators, found it more and more difficult to maintain their services in the face of stiffening Civil Aeronautics board restrictions. During the spring, T.W.A. (Transcontinental & Western Air, Inc.) and American Airlines began using modern high-speed Constellations and DC-6 type equipment with high-density seating in transcontinental New York-Los Angeles coach operation. In July they both reported load factors of more than 90%, with bookings several weeks in advance. Ten major air lines were offering coach service on various routes reaching 32 domestic cities in July 1950, including 16 of the 20 leading traffic-generating points. Load factors on the Los Angeles-San Francisco run were particularly heavy, with fares as low as three cents per mile.

For the first four months of 1950, revenue passenger miles on air coach showed a tenfold increase over a similar period for 1948. In fact, much of the increase in total passenger air traffic during the year came from air coach. Altogether, domestic air lines carried about 48.5% of the total U.S. first-class rail and air travel market in 1950, compared with 43% in 1949.

Table I.—U.S. Scheduled Air Carrier Operations

	(Calendar year)	1949	1950 (CAA estimate)
Revenue passengers carried—Total		16,600,771	18,828,000
Domestic		15,080,704	17,162,000
International		1,520,067	1,666,000
Revenue miles flown—Total		456,165,882	460,453,000
Domestic		351,639,998	367,184,000
International		104,525,884	93,269,000
Revenue passenger-miles flown (000)—Total		8,806,576	10,115,000
Domestic		6,752,578	7,929,000
International		2,053,998	2,186,000
Passenger-miles flown (000)—Total		9,233,945	10,600,000
Domestic		7,065,146	8,283,000
International		2,168,799	2,317,000
Ton-miles of express carried—Total		77,217,799	80,740,000
Domestic		27,773,669	37,010,000
International		49,444,130	43,730,000
Ton-miles of freight carried—Total		101,969,397	136,119,000
Domestic		95,227,983	120,519,000
International		6,741,414	15,600,000

Table II.—U.S. Scheduled Air Carrier Operating Revenues and Income

	(Calendar year)	1949	1950 (estimate)
Totals:			
Operating revenues		\$755,877,711	\$813,210,000
Operating expenses		710,402,051	746,410,000
Net operating income		45,475,660	66,800,000
Unit ratios:			
Revenue ton-mile receipts—average		57.36 cents	54.7 cents
Revenue ton-mile expenses—average		54.29 "	49.4 "
Passenger mile receipts		5.76 "	5.5 "
Mail ton-mile receipts		110.17 "	103.6 "
Express ton-mile receipts		32.78 "	33.9 "
Freight ton-mile receipts		19.46 "	19.0 "

U.S. domestic scheduled services maintained their high safety record of recent years with only four fatal accidents, the same number as in 1949. On the basis of passenger fatalities this was a rate of 1.2 per 100,000,000 passenger miles flown in domestic operations, compared with 1.3 for the previous year. One



international accident in 1950, resulting in 48 deaths, against none in 1949, brought the combined over-all rate to 1.4, compared with 1.0 in 1949.

**Other U.S. Civil Aviation Activities.**—The year 1950 marked a definite turning point in the history of the personal plane industry, which had seen sales diminish each successive year since 1946. Based on official statistics for the first 11 mo., and unofficial reports for December, the total number of personal aircraft sold during the year exceeded 3,400, with a manufacturer's value of about \$18,500,000. This compared with 3,370 personal planes sold in 1949 and valued at \$14,324,000. The increase in dollar volume reflected the demand for the larger types of four- and five-place models used primarily for executive travel. About 100 helicopters were built during the year for military and commercial purposes. The use of light aircraft for agricultural purposes continued to grow with a total of about 10,500 planes owned by farmers and ranchers.

In general, flying schools and fixed base operators found 1950 a difficult year. The number of student pilots dropped off as the number of World War II veteran applicants decreased. There was a 17% decline in the number of private pilot certificates issued, from more than 30,000 to 25,000; and a 29% reduction in the number of commercial pilot certificates issued. (See also CIVIL AERONAUTICS ADMINISTRATION.)

Table III.—Selected Statistics for U.S. Civil Aviation  
(Calendar year)

	1949	1950 (CAA estimate)
Number of certificated pilots . . . . .	525,174	550,000
Number of student pilot certificates issued . . . . .	49,575	45,400
Number of private pilot certificates issued . . . . .	30,278	25,000
Number of commercial pilot certificates issued . . . . .	7,123	5,030
Number of air-line transport pilot certificates issued . . . . .	1,060	800
Number of U.S. civil aircraft . . . . .	92,622	92,650
Number of scheduled air carrier aircraft . . . . .	1,096	1,200
Two-engine . . . . .	610	675
Four-engine . . . . .	469	490
Other . . . . .	17	35
Number of civil aircraft manufactured . . . . .	3,545	3,500
Number of civil airports . . . . .	6,131	6,060

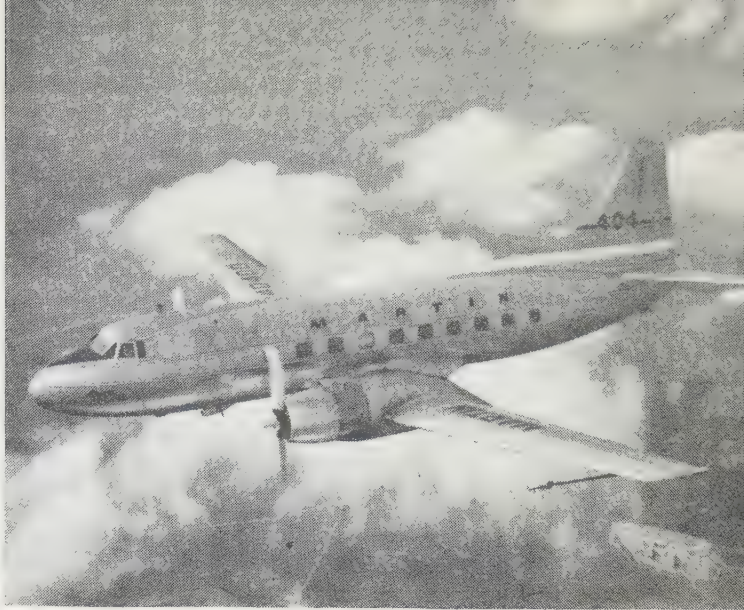
During the last half of the year, the shadow of the Korean war and the mobilization activities to which it gave rise made still more uncertain the immediate outlook for civil aviation which was not directly or indirectly related to the defense effort.

As the year closed, the Civil Aeronautics administration made mandatory the filing of flight plans for planes entering or flying within designated Air Defense Identification zones. The general areas affected were: a zone several miles in diameter around each atomic energy plant; zones surrounding the cities of San Francisco and Los Angeles, Calif.; and zones covering the Atlantic and Pacific ocean areas seaward to a line about 20 mi. offshore. Also, flight plans were required for planes entering the United States from Canada east of Wisconsin.

For the first time since the end of World War II the use of civilian aviation flight and ground schools was planned for large-scale training of air force personnel. Approximately 10,400 United States air force technicians were to be trained in civilian trade schools by July 1951; and contract training of a minimum of 2,250 basic flight cadets was announced at five fields to be operated by civilian flight school contractors.

The CAA Federal Aid Airport program went on a defense footing, with 1950-51 projects being screened to meet the government-wide cut in nondefense construction. Grant agreements entered into during 1950 numbered 598, involving \$40,600,000 in federal funds. Projects completed during the year numbered 452, with \$27,300,000 in federal funds expended.

The National Production authority at the end of the year gave the Civil Aeronautics administration authority to use DO priority ratings for construction and maintenance of civil transport



THE MARTIN 4-0-4, twin-engined commercial air liner, first flown in Oct. 1950. It had a maximum range of 2,575 mi. and a top speed of 312 m.p.h.

planes, as well as on purchases of equipment for federal airports and airways, because of their close relationship to national defense. This was the first time NPA had allowed use of the rating for any civilian purchasing.

In the meantime, employment in the basic aircraft industry, which totalled about 256,000 in June 1950, was expected to reach 500,000 by mid-1951. (See also AIRCRAFT MANUFACTURE; AIRPORTS AND FLYING FIELDS; AVIATION, MILITARY; CIVIL AERONAUTICS ADMINISTRATION; JET PROPULSION; PETROLEUM.)

(J. P. V. Z.)

**Great Britain, Commonwealth and Europe.**—In 1950 British commercial air transport began to use new aircraft which had been delayed in delivery, and so entered the phase in which more satisfactory financial results could be expected; yet in the course of the year there were unexpected setbacks. Some of the effects of the devaluation of sterling were felt and for the first half of the year, British Overseas Airways corporation was still without most of the new aircraft on which it had counted. Not until November was this handicap fully removed. At that point, the corporation ceased to operate flying boats and all its services thenceforward were flown by land aircraft. These were expected to produce economies both in the cost of operation per ton-mile and through the saving of expense on the maintenance of marine stations on the routes to the far east and to South Africa. British European Airways corporation was not due to receive the first of its new aircraft until early in 1951.

For the greater part of the year therefore both corporations were in much the same position of having to use a proportion of old-type aircraft at a time when they wished to develop and increase their services. In common with other operators they sought to increase their traffic and the hours flown by their aircraft by offering cheap return fares during "off" seasons on the long runs and at less popular hours on the short routes. The result was to increase the number of passengers and also the number of capacity ton-miles flown. Unfortunately the rise in capacity exceeded the rise in passenger ton-miles in both corporations, but the extra traffic obtained by B.E.A. through cheap fares appeared to be balancing the direct operating cost of the aircraft employed on the early and late services and so helped to spread administrative costs over a bigger total of ton-miles flown. To this extent the policy justified itself but the dual difficulty of coping with seasonal traffic and of obtaining a big enough average flow of traffic at existing rates to show a profit had still to be solved. B.O.A.C., in the financial year ended March 30, 1950, had a deficit of £7,791,887 and B.E.A.'s deficit in



the same year was £1,363,594 or about half that of the previous year. The loss suffered by B.O.A.C. included that of British South American Airways corporation (amalgamated with B.O.A.C. in 1949) and a sum of about £1,750,000 was accounted for by the grounding of the Avro Tudor aircraft which B.S.A.A. had been using.

By November B.O.A.C. was fully re-equipped. It had received its overdue Stratocruisers and Hermes IVs. It had been able in the summer to increase its trips between London and New York from seven to eight a week. From November, it used a new land-plane route between London and Johannesburg, U. of S. Af. Three times a week this route was by way of Tripoli, Kano, Brazzaville and Livingstone, and twice a week the more familiar route through Cairo, Khartoum and Nairobi was used.

Operating the home and European services, B.E.A. continued to make progress within the limitations imposed by its equipment and to prepare for further development. In the course of the year B.E.A. lost the right to carry loads to and from Lisbon, Port., through the insistence of Portugal on that country's right to carry half the available traffic between London and Lisbon. As B.O.A.C. was calling regularly at Lisbon and was able to handle all the traffic left under this arrangement B.E.A. agreed to discontinue its services. In their place it opened services to Madrid, Sp. On other European routes the corporation's business was generally bigger than in 1949. In the summer months the traffic increased by about 30%, part of the increase being accounted for by cheap fares on early and late services. Home services were much less profitable and there were signs at the end of the year that the corporation intended temporarily to resign a bigger proportion of the home routes to private operators licensed as associates of the corporation. In 1950 about 48 routes were operated by associates. The corporation announced in November that it intended to take over six of those routes but was prepared to recommend that more than 70 of the smaller routes should be allocated in 1951 to associates.

By its experimental service of helicopters between Liverpool, Eng., and Cardiff, Wales, B.E.A. showed its ultimate belief in the helicopter as the vehicle for most air services with stages of less than 200 mi. This daily helicopter service did not show a profit but as the corporation was paid a fee for some operational research work undertaken in the course of the service, the net loss was small enough to be offset reasonably against the experience gained. The six-month contract for the carriage of night mails by helicopter between Peterborough and Norwich which ended in April was both profitable and successful. This service, flown throughout the winter months, with a ban on operations when the cloud base was below 500 ft. or the visibility less than half a mile, achieved a regularity record of 96.6%.

Another hint of developments to come was seen in the use for brief periods on two routes of the new Vickers Viscount turbo-prop liner. This was operated on regular services for one week on the Edinburgh route and for two weeks on the Paris route. Soon afterward a firm order was placed for 28 Viscounts with provision for deliveries to begin late in 1952. Preparations were also made for putting the Airspeed Ambassador liners into service in the spring of 1951 for the carriage of big holiday loads particularly between London and Paris. The Ambassador was intended to carry 50% more passengers than the Viking at a cruising speed about 60 m.p.h. faster.

Independent air operators also had a year of fair activity. Besides acting as associates of B.E.A., several were engaged at times of pressure to help with the regular services or the freight-carrying of the two corporations. They were busy too with a great variety of private charters. Two independent services still run by private operators were the motorcar ferry across the English channel (which handled 4,000 cars and 1,000 motor-

cycles) and the weekly flying-boat service between England and Madeira. The charter companies in general obtained extra business through the Holy Year pilgrimages to Rome, the Council of Europe at Strasbourg, Fr., and holidays organized by tourist agents, student bodies and the Boy Scouts association. One company obtained a contract from the war office to carry troops between England and west Africa. There was some development of the dusting and spraying of crops from the air and an experiment was made in the treatment of hill land near Plynlymon with superphosphate pellets.

In the handling, supervision and control of commercial aircraft over the United Kingdom there were some important improvements. Early in the year a new radar station with a range of 140 mi. was established at London airport; its purpose was that of monitoring traffic over the southern part of England and of helping liner captains in that area with information about their position, height and bearing. A plan was also announced for creating a series of seven traffic lanes leading into the chief air traffic centres in England, Scotland and Northern Ireland, the intention being to equip each lane with radio ranges to enable pilots to fix with a high degree of accuracy their positions in the approach lanes. The first lane was brought into use in August.

Within the commonwealth there was some expansion and the promise of more. Canada was engaged for several months in negotiations with the United States arising out of Canada's proposal to run services to New York. This was resisted by the United States line already handling this traffic; but Canada, strengthened by its acquisition of Newfoundland and consequent control of Gander airport, pressed its claim and was allowed to open a service in April. About the same time Trans-Canada Air Lines had second thoughts about its plans to order Avro Jetliners (made in Canada) for its main services. Up to the end of the year the outcome of this reconsideration had not been announced. The privately owned Trans-Pacific Airways, which had already ordered two Comet jet air liners for its proposed service from Vancouver to Tokyo by way of the Aleutian Islands, found itself in some difficulty by the decision of the U.S. not to continue to maintain certain bases along that line.

Australia too showed an interest in the Comet and also in the Indian ocean route from Western Australia to Johannesburg, touching at the Cocos Islands and Mauritius, but nothing had been settled on either point by the end of the year. On its existing services Qantas Empire Airways made a profit in the previous complete year. Toward the end of the year Tasman Empire Airways of New Zealand opened a service between Sydney, Austr., and Christchurch, N.Z., and so for the first time linked New Zealand's south island with Australia by a regular line. New services with flying boats were also being organized from Australia to the Solomon Islands, the New Hebrides, New Caledonia and various other islands. Inside Australia there was little development. Australian National Airways operated a beef service between the killing station at Glenroy and the port of Wyndham, a run of 180 mi. More than 2,000,000 lb. of meat was carried in the five-month season. This company also became a minority shareholder in Air Ceylon, established to operate long distance services. In New Zealand the state-owned New Zealand National Airways was offered for sale by the new government.

The chief event in Africa was the completion of the big airport at Livingstone and the removal of flying boats from the main routes. The two corporations serving central and east Africa with their bases at Nairobi continued to expand.

India, was, if anything, overserved with air transport. Among its 16 companies there was little prosperity and a new government policy on air transport was expected. Difficulty in communications between Assam and Calcutta arising from the crea-





AVRO CANADA JETLINER, first commercial gas-turbine powered aircraft to fly on the North American continent. During 1950 test flights, it established a North American speed record for its type, cruising at 450 m.p.h.

tion of east Pakistan was relieved to a large extent by air transport. Similar enterprise was shown in Pakistan in the operation of a service from Peshawar, Pak., to Gilgit, India, following the valley of the Indus through the mountains of the northwest frontier.

European air operators generally had a difficult time during the year. For the first time in recent years K.L.M. (Koninklijke Luchtvaart Maatschappij, the Royal Dutch Airlines) failed to make a profit. There were doubts as to whether Sabena (Société Anonyme Belge d'Exploitation de la Navigation Aérienne) would show a profit. Discussions took place between these two companies and Swissair with a view to a closer pooling arrangement to embrace aircraft maintenance and stocks of spares. The three Scandinavian companies also drew closer together in search of further co-operative economies. France alone undertook expansion, acquiring additional U.S. as well as home-produced aircraft and plunging ahead with a scheme of differential fares based on aircraft seating arrangements. Air France and its associates were reported to have seven different fare scales by the end of the year.

Table IV.—Revenue Statistics for British Air Lines

(Financial years, April 1—March 31)

	B.O.A.C.		B.E.A.C.	
	1948-49*	1949-50	1948-49	1949-50
Operating revenue . . . .	£17,717,220	£19,530,584	£5,312,654	£6,884,935
Operating expense . . . .	24,962,497	26,102,495	7,820,927	8,104,285
Operating deficit . . . .	7,245,277	6,571,911	2,508,273	1,219,350
Nonoperating expense . . . .	560,697	1,219,976	226,565	91,472
Total deficit . . . . .	7,805,974	7,791,887	2,734,838	1,310,822

\*1948-49 figures are those shown in the corporation's report and accounts for 1949-50 and exclude from nonoperating expense profit on disposal of assets and redemption of stock. The total deficit for B.O.A.C.-B.E.A.C. as shown in the 1948-49 accounts is £6,977,777.

FILMS OF 1950.—*Mr. Groundling Takes the Air* (Teaching Film Custodians Inc.). (E. C. Sd.)

**Aviation, Military.** **United States Air Force.**—Participation in the Korean war as a member of the United Nations air-land-sea team took precedence over other United States air force activities during 1950.

During the first half of 1950 budgetary limitations had necessitated a downward readjustment from previously programmed strength. In spite of loss of personnel, the closing of installations and the curtailment of numerous programs, the air force sought to increase its combat capacity, and to this end advanced the program of joint training with the other military services.

When war broke out in Korea on June 25, the U.S.A.F. accomplished the evacuation of U.S. nationals from the area of conflict with troop carrier aircraft. F-80s and F-82s, based in Japan, protected the evacuation area and escorted the transport planes.

As a result of Pres. Harry S. Truman's decision on June 27 to use U.S. air and naval forces to carry out the mandate of the United Nations Security council, the far east air force began active combat operations, and during the afternoon of that day, while carrying out their assigned missions, U.S. fighters destroyed six Korean Communist planes.

F-51 (propeller-driven) and F-80 (jet) fighters helped halt the onrushing mechanized advance of the Korean Communist army, while B-26 and B-29 bombers flew far behind the enemy ground force fighting lines to blast the invader's production, supply and distribution plants and depots. Major bombing missions were carried out against Communist-held Seoul; the Communist capital, Pyongyang; and the Wonsan oil refineries and factories.

After initial resistance by North Korean aircraft of soviet manufacture, U.N. forces gradually assumed mastery of the air. The air force then concentrated on giving tactical support to the ground and naval forces and seriously disrupted the enemy's war-making capacity.

Construction funds were made available during Dec. 1949 for an Aircraft Control and Warning system, earlier authorized by congress, and in Oct. 1950 the air force announced a speed-up in production of equipment and training of men to put the system into operation well before the July 1951 dead line. The Lockheed F-94 (an adaptation from the F-80 day interceptor) was introduced into the continental air defense system as the first jet all-weather interceptor.

The strategic air command was reorganized to give each of its three air forces its own reconnaissance and bombing capabilities, enabling each to work as a separate organization in launching an immediate counterstroke when and if required. The continental air command (ConAC) was divided into three major air commands, ConAC retaining responsibility for the administration and training of the U.S.A.F. civilian components. The tactical air command had as its primary mission the development and training of tactical support aviation in conjunction with army field forces. The air defense command was to be responsible for air defense of the United States. The air force special weapons command was established for the field development and testing (within the areas of air force interest) of equipment and techniques relating to atomic energy. The air research and development command was established to provide increased emphasis on the qualitative improvement of the air force. Largely as the result of the spring exercise in the supply of large-scale operations entirely by strategic air lift, the mission of the military air transport service was revised. This service formed the nucleus of a trained military air transport service capable of necessary expansion, and gave priority to the mission of main-



taining the air transport capacity to meet the M-day aircraft requirements of the department of defense.

As an immediate result of the Korean conflict, congress passed legislation authorizing a 70-group air force, suspended the personnel ceiling and made supplementary appropriations increasing the military budget for fiscal year 1951 from \$13,000,000,000 to \$24,000,000,000. By the end of Sept. 1950 approximately 1,100 of the 2,800 rated officers previously removed from flying status were restored. Construction was expedited. There was a general acceleration of the program to meet increased defense needs, but the air force, in the second half of 1950, continued to emphasize the long-range program, especially in the field of research and development.

Significant progress was made during the year in the development of more modern types of aircraft and in the development of methods for extending the range of aircraft. The XF-91 interceptor was undergoing performance tests. The F-89 was the first jet aircraft accepted by the air force which was specifically designed as an all-weather interceptor. The F-86D was an all-weather interceptor version of the earlier F-86 day fighter.

The jet YF-93, the XF-88 and the XF-90, three new penetration fighters, were evaluated.

The F-84F was an improved version of previous F-84 models.

The XB-51, a light bomber with crew of two, was the first postwar bomber specifically designed for ground support work.

The XG-20 was a medium cargo assault glider, capable of being towed at a much higher speed than any operational gliders used in World War II.

The XC-120 medium transport was a detachable compartment version of the C-119, unique in its possibilities. It was designed to test the feasibility of detachable cargo compartments which could be preloaded for a variety of uses.

The C-124 heavy cargo transport represented a milestone in air transportation because of its capacity and adaptability.

An operational flight of the year was especially significant. On Sept. 22 two U.S.A.F. pilots, each flying an F-84 Thunderjet, took off from Manston, Eng., in a flight that made use of the drogue-probe refuelling system. Lieut. Col. William D. Ritchie was forced to bail out over Labrador, but Col. David C. Schilling completed the first nonstop transoceanic flight in a jet aircraft in 10 hr. 1 min.

On Sept. 29 Capt. Richard V. Wheeler established a new (but unofficial) high-altitude bail-out record in an experimental jump from an altitude of more than 8 mi. (42,449 ft.) in an automatic opening parachute.

The air engineering development centre authorized by the congress in Oct. 1949 to provide the military service, private institutions and industry with facilities for exploring the aeronautical field beyond the sonic barrier, which was under construction at Tullahoma, Tenn., was named the Arnold Air Engineering Development centre in honour of Gen. Henry H. Arnold, who died on Jan. 15, 1950.

By May 31, 1950, the total number of officers and airmen on duty in the U.S.A.F. had declined to 408,844. By the end of August command strength had been rebuilt to approximately 450,000 officers and airmen, with almost one-third of the total deployed overseas. As of the same date there were approximately 12,000 U.S.A.F. planes in active status. (H. S. Vg.)

**United States Navy.**—For naval aviation, as for other United States forces, the year 1950 was clearly divided down the middle. The first six months emphasized the continued effort to reach what was expected to be a permanent peacetime establishment. Then late in June a rapidly deteriorating international situation and the necessity for supporting United Nations forces in Korea caused an abrupt reversal. The navy concentrated on building



BOMBS BURSTING on an oil refinery at Wonsan, North Korea, during a raid by U.S. B-29s in Aug. 1950. More than 625 tons of bombs were dropped on the target area, a key industrial and coastal transport centre

up its aviation, including that of the marine corps, to meet any emergency.

Direct support of United Nations forces by the single United States fleet carrier then in the far east began within a few days of the opening of hostilities. By the end of the year a total of four fleet carriers and two escort carriers, the latter with marine corps squadrons aboard, had engaged in active operations. Naval patrol aircraft flying from land bases or supported by aircraft tenders conducted daily reconnaissance flights and antisubmarine patrols. The first marine air wing also operated from shore bases in Korea and Japan in support of United Nations ground forces. Transport squadrons of the navy and marine corps joined similar units of the air force in rushing men and equipment across the Pacific to meet the emergency.

New equipment and aircraft types, notably jets and new attack planes, received thorough test under combat conditions. Helicopters made their first appearance in combat with the marines and proved extremely useful in a utility role, carrying supplies to forward units and evacuating casualties.

The navy continued to press the design of improved jet-propelled fighter aircraft for carrier use. The AJ-1, a high-speed attack plane, went into service with fleet squadrons. Test flying was begun on a patrol plane (XP5Y) and a carrier plane



(XA2D), both powered by turbopropeller engines. Operational developments with helicopters and lighter-than-air ships showed great promise in the antisubmarine field. Equipment was devised for refuelling airships at sea and thus extending their usefulness in antisubmarine operations. Experiments with guided missiles aboard submarines and on the specially equipped U.S.S. "Norton Sound" were continued, and congress authorized the conversion of a cruiser to a guided-missiles ship.

The expansion of forces to meet the uncertain international situation began to show results in the last quarter of the year. There were three large "Midway"-class carriers and six fleet carriers in the active fleet. Among these was the U.S.S. "Oriskany," the first World War II type to be converted to handle the heavier aircraft which was in production and under development by 1950. Other conversions were to follow. About 3,400 officers and 24,000 enlisted men were added to the aeronautical organization of the navy and proportional increases occurred in marine corps aviation. Training of pilots was increased to produce about 1,500 yearly. At the end of the year the navy had about 13,700 aircraft in its inventory, of which 7,200 were in operating status, the remainder being assigned to logistic support or held in storage.

In addition to increasing the size of the aeronautical establishment and to the active operation in Korea, naval aviation continued to perform routine functions for the fleet. The naval aerological service, in addition to running the naval establishment, also, in co-operation with the weather bureau and air force, conducted research into aerological phenomena and assisted in furnishing a hurricane warning service which resulted in the saving of lives and property. Photographic squadrons were active in Korea and also conducted aerial surveys of value to the navy and to other agencies of government. Naval aircraft and other equipment were furnished to signatories of the North Atlantic treaty under the Mutual Defense Assistance program and a small number of foreign nationals were trained in their care and maintenance. (See also NAVIES OF THE WORLD.)

(J. H. C.)

**Air Forces of the World.**—In 1950 the world's air forces, both eastern and western, continued with the intensive development of advanced types of aircraft. The events of the summer, however, tended to shift the emphasis in all countries toward production. The rate of expansion came under security restrictions on both sides of the "iron curtain." Little was made known by governments about quantities of aircraft or the results of advanced research, but aircraft with and without pilots were undoubtedly improving in performance, and guided missiles could be assumed to be a major field for research in the larger nations. There was a strong trend toward the modification of existing types of military aircraft for tactical uses. Ground attack, photo reconnaissance, night fighter, all-weather and antisubmarine patrol duties called for tactical aircraft, and these were produced largely by the modification of existing designs.

The Atlantic pact became more realistic when the Mutual Defense Assistance program was put into effect during the latter part of the year. The program, calling for the expenditure of \$1,222,500,000, was expected to be half completed by Sept. 1951. More than \$1,113,000,000 of the funds were to come from the U.S. air force, and the rest from the navy and army.

Limited numbers of World War II piston-engined aircraft were scheduled to be transferred by the air force and navy to signatory nations, but it was expected that France and Italy would have 800 jet-powered Republic F-84 Thunderjets by the end of 1952, and about 500 North American F-86 Sabres would be in the British royal air force. A principal factor in the Mutual Defense Assistance program was the strengthening of European in-

dustry. Of \$475,000,000 intended for this purpose in 1951, \$110,000,000 was for the aircraft industry.

The licensing of U.S., British and Canadian aircraft and engines in France, Italy and other European countries continued in 1950. British Vampire and Meteor fighters were in use in more than 20 air forces, and British jet engines were being built in both hemispheres. Some of the aircraft involved in negotiations of 1950 were the Fairchild C-119 cargo plane, the Canadair DC-4M transport, the North American F-86 and possibly the Republic F-84 Thunderjet. The Canadian Avro Orenda jet engine seemed slated for production in several countries. The English Electric Canberra light bomber was to be built in Australia, and might be used in the United States in exchange for F-86 Sabres.

Standardization of types of aircraft for a United Nations air force, while by no means fully achieved, appeared to be on the way.

**U.S.S.R.**—Attention in the west was centred on the U.S.S.R. as the source of the war potential in the east. Aircraft and armament used by the Communist Chinese and the North Koreans were manufactured in the Soviet Union.

The soviet air force was placed under the soviet army in the reorganization announced in Feb. 1950. The army air organization consisted of a large force for the support of ground troops, an air defense force, principally of fighters, and a long-range air arm. The navy was equal to the army, under the reorganization, and its aircraft were administered as integral parts of the navy. The naval organization was similar to that of the army, and was reported to be entirely land based. The civil air fleet could be fitted into the military and naval picture during wartime, for logistic and other duties.

The U.S.S.R. undoubtedly had more troops, aeroplanes and submarines in service than any other nation. Western estimates placed the number of soviet first-line military aircraft in service at about 15,000. Plane production was estimated to be 7,000 planes per year early in 1950, and the country's capacity to produce planes was variously estimated at 40,000 to 50,000 planes per year. The U.S.S.R. was believed to have continued production after 1945 without the drastic cutbacks made in the west, at the same time emphasizing research on jet types, guided missiles and the atomic bomb.

At the annual parades in May each year new jet types were flown over Red square, and the Korean war brought the MIG-15 fighter into combat for Communist China. These fighters were also reported late in 1950 in numbers over Berlin and other soviet bases in Germany.

The Mikoyan and Gurevich MIG-15 was a swept-wing fighter powered by a centrifugal turbojet. Its speed was reported by U.S. pilots in Korea to be very high, particularly during bursts when power boost was used. The two standard advanced fighters in production in 1950 were the MIG-15 and the Lavochkin LA-17, both rated in the 685-m.p.h. class. With afterburning or other power boost, as in the case of the MIG-15 in Korea, they probably could travel at near-sonic speeds for short intervals. The Yakovlev YAK-17 fighter, also reported to be in production, was a third fighter using a centrifugal jet engine. It was first flown in 1947 and resembled the U.S. F-84 Thunderjet.

Earlier piston fighters such as the YAK-7 and YAK-9, reported used in Korea, the LA-7, LA-9 and LA-11 and the twin-jet MIG-9, were reported still in service in large numbers in 1950.

Bomber development in the U.S.S.R. was not emphasized up to about 1947. In World War II soviet bombers were typified by such twin-engined models as the Tupolev TU-2, Ilyushin IL-4 and the Petlyakov PE-2. Twin-jet prototypes were observed over Moscow in May 1950. The twin-jet TU-10 was an axial turbine-powered light bomber of 70-ft. wing span, estimated to be in



the 525-m.p.h. class. The IL-16 four-jet bomber, first seen in 1947, was of conventional design. The principal soviet bomber in service was the TU-4, generally considered to be a copy of the U.S. B-29. The IL-10 piston-engined Shturmovik was the standard ground support aircraft in all soviet-controlled air forces. Its maximum speed was 280 m.p.h. It was reported seen in numbers in Germany.

Rocket fighter development in the U.S.S.R. was based on the YAK-21 derived from the Messerschmitt Me-163 of World War II. It was reported capable of a climbing rate of 12,000 ft. per minute, and a top speed of 670 m.p.h., for a 15-20 minute duration. Compared with the British experimental Sapphire-powered Meteor, which climbed 40,000 ft. in less than three minutes and had a much longer operational duration, the YAK-21 did not seem practical.

*Soviet Jet Engines.*—Soviet engine design showed in 1950 a trend toward more powerful axial-flow types, corresponding to the trend in the west.

The axial-flow turbojet designs taken over by the U.S.S.R. from Germany in 1945 were developed slowly by soviet and German engineers, without conspicuous success for the first several years after World War II. The best of the soviet production fighters in 1950 were using centrifugal turbojets based on the Rolls-Royce Nene and Derwent engines sold to the U.S.S.R. in 1947. Later aircraft going into production were reported to be equipped with axial-flow types.

The German BMW-003 and BMW-018 and the Jumo-004 were the basic designs for the later soviet turbojets.

In a case probably typical, the original Jumo-004 was increased in size and number of stages, first in Germany and then in the U.S.S.R., and eventually became the M-012. The latest version in 1950 was reported to develop 7,700 lb. thrust at a dry weight of 4,850 lb. Compared with the latest British axial-flow type, the Armstrong Siddeley Sapphire, producing 7,200 lb. thrust for 2,500 lb. dry weight, the huge M-012 was not impressive. Fuel and oil consumption rates of soviet axials were reported consistently higher than those of comparable British and U.S. engines. It could be assumed, however, that soviet engines were consistently improving, and that research and development on other jet types, afterburning and guided missiles were going at full speed. Power boost of some sort was known to be very effective in accelerating the MIG-15 fighter in Korea. Unconfirmed reports of soviet jets producing more than 12,000 lb. thrust were current in Germany.

Soviet development of rocket engines was continuing. The R-509C, based on the German Walter HWK-509C, was the principal engine of this type.

**Great Britain.**—Aircraft and engine production became a problem of first importance during 1950 as plans for the defense of the British commonwealth and the North Atlantic treaty nations took form. Production began to increase in July, and by November Prime Minister Clement R. Attlee announced that orders for aircraft for the first two years of a three-year defense plan had been placed.

*Farnborough Show.*—The display at Farnborough of the Society of British Aircraft Constructors, held in Sept. 1950, again showed excellent results of intensive research and development on gas turbine-powered tactical, defense and transport aircraft. New bombers in the medium and heavy classes were again lacking, and heavy bombers above 150,000 lb. loaded weight were not planned, though some projects in the 150,000-lb. medium class and lighter were reported progressing toward the prototype stage. Vickers-Armstrongs Ltd. was said to be leading in the medium jet bomber field, and others reported in progress were the Handley Page tailless jet bomber and a Bristol light jet bomber. Delivery of new jet bombers by the middle of 1951 was antici-

pated at the end of 1950.

Two sonic fighters attracted attention at the show. The Vickers Supermarine swept-wing 535 was described as Britain's fastest aeroplane and the first British interceptor to fly at supersonic speeds. Close behind and reported superior in manoeuvrability was the Hawker P.1081, previously flown at London and Antwerp in June. The P.1081 had all swept surfaces. Both aircraft were powered by single Rolls-Royce Nene turbojets.

Night fighters shown included the Gloster Meteor NF.2, the English Electric Canberra 2 and the de Havilland Venom N.F.2, all of which had been ordered in quantity. The Venom N.F.2 was a carrier-borne fighter having a crew of two, designed for both all-weather and night fighter duties. The Canberra 2, with its two Rolls-Royce Avon turbojets, impressed observers with its performance as its predecessor had in 1949, and was scheduled for light bombing and ground attack as well as night fighter duty. In addition to the English Electric Company, Ltd., Handley Page Ltd., Short Brothers & Harland Ltd. and A. V. Roe & Co., Ltd., were manufacturing this aeroplane.

Transition of the royal navy to jet-powered equipment was well begun in 1950 with quantity orders for the Vickers Supermarine Attacker and the Hawker Sea Hawk jet fighters, and the Westland Wyvern turbine-propeller strike fighter. New antisubmarine types shown at Farnborough included the Blackburn and General Y.B.1 and the Fairey 17, both powered by coupled Armstrong Siddeley Mamba turbine-propeller engines, and the Short Brothers & Harland SB-3, powered by two Mambas. The SB-3 was a version of the Sturgeon reconnaissance bomber and naval target tower, with an underslung nose for radar equipment, and was the first aircraft using gas-turbine power to be built by Short Brothers & Harland.

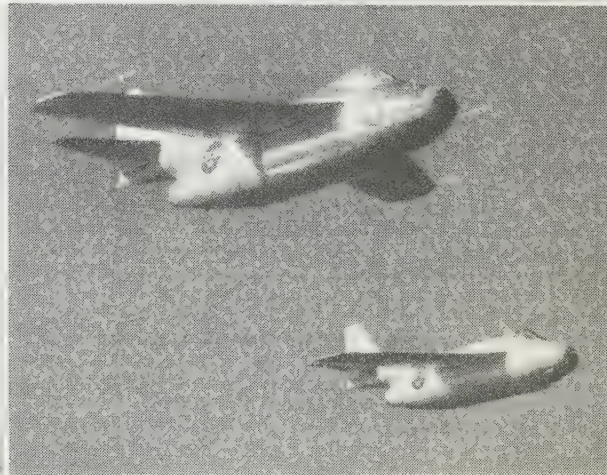
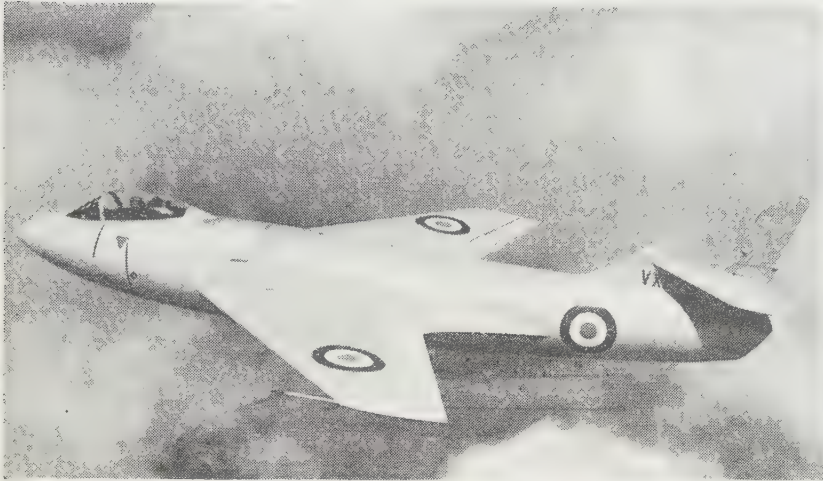
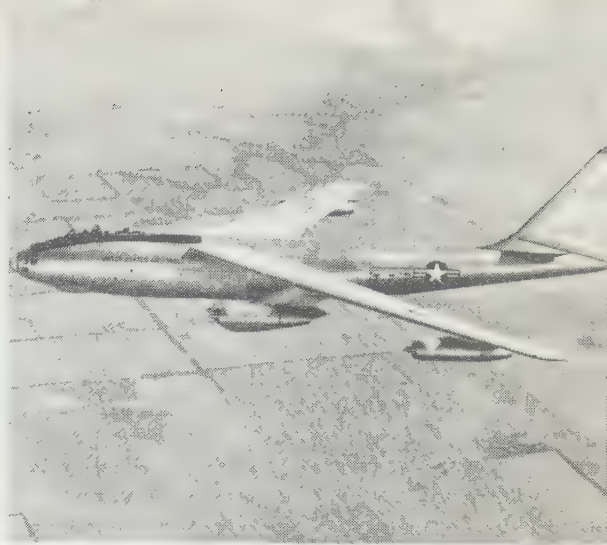
*British Jet Engines.*—More powerful axial-flow turbojets was the keynote of engine development. No new centrifugal types and no new turbine-propeller types were reported. The outstanding new turbojet engine at Farnborough was the Armstrong Siddeley Sapphire, an axial-flow type having a static thrust of 7,200 lb. at sea level. An experimental Gloster Meteor powered by two Sapphires was reported to climb 40,000 ft. in less than three minutes. The Rolls-Royce Avon, at 6,000 lb. thrust, a multistage axial type, was also flown at the show in a two-engined Meteor. A later development of the Avon, reported at 10,000 lb. thrust, was not shown. The turbojet version of the Armstrong Siddeley Mamba, the Adder, developing 550 lb. thrust, and the de Havilland centrifugal Ghost, with afterburning, were other turbojets shown. The Canadian Avro Orenda, an axial-flow turbojet rated at 6,000 lb. thrust, was reported in quantity production at home and under strong consideration for production under licence by several European countries.

The Fairey Beta two-cylinder rocket motor, which had been flown in an experimental plane, was shown at Farnborough for the first time.

*Experimental Aircraft.*—Experimental types at Farnborough included the Avro 707B delta-wing research plane, a second version of the subsonic 707 shown in 1949. Six 707Bs were reported ordered. This was the first of a planned research series intended to investigate the delta wing at all speeds, for its suitability as a bomber wing. The Nene-powered Boulton Paul P.111, not shown at Farnborough, was first flown in October. It was designed for trans-sonic speeds. Both the 707B and the P.111 were equipped with antispin parachutes. The third in this planned series would be the high-speed Fairey delta wing, possibly with a rocket engine.

The third prototype of the Saunders-Roe jet flying boat was undergoing flight tests late in 1950, after a period of inactivity. The Avro Ashton, powered by four Nene 5s, was first flown in August, and was intended for high-altitude research in both





Upper left: CONVAIR XP5Y-1, U.S. navy turboprop flying boat designed for long-range search-rescue missions and antisubmarine warfare, shown during its maiden flight in 1950

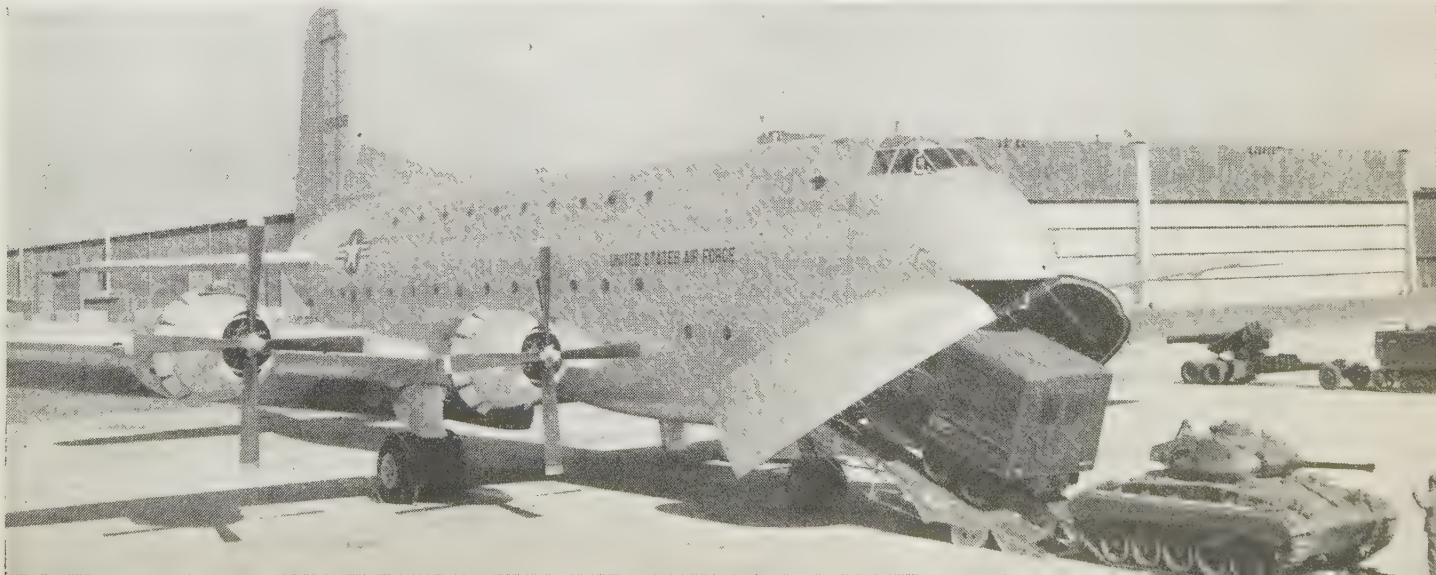
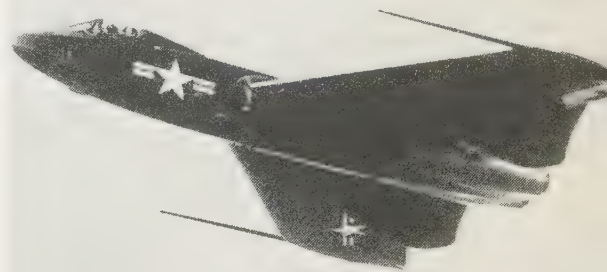
Upper right: BOEING B-47A STRATOJET, a U.S.A.F. bomber, being test-flown in 1950. The swept-wing plane had a bomb capacity of more than 20,000 lb. and a top speed exceeding 600 m.p.h.

Above, left: THE HAWKER P.1081, British jet plane powered by a single Rolls-Royce Nene turbojet engine, which made its initial flight in June 1950

Above, right: SWEDISH SAAB-29, trans-sonic jet fighter which was in quantity production in 1950; it was one of the few jet fighter planes designed and built outside of the U.S. and the British commonwealth

Right: CHANCE-VOUGHT F7U-1, U.S. navy fighter plane powered by twin-jet engines

Below: DOUGLAS C-124A GLOBEMASTER II, U.S. air force transport placed in military service in 1950; it had a self-contained loading ramp and carried as many as 200 soldiers and their field equipment





aerodynamics and engines for design data on fast heavy military and civil aircraft.

Other British experimental aircraft in various design stages, besides the jet bombers already mentioned, were Fairey and Gloster jets, a de Havilland twin-jet and the de Havilland Comet with axial jets.

**Canada.**—The Canadian-designed front-line fighter, the all-weather Avro CF-100, was first flown in Jan. 1950, powered by two Rolls-Royce Avon turbojets. The royal Canadian air force ordered ten of these in 1950, which would probably be powered with the successful Canadian Avro Orenda axial turbojet. Negotiations were reported under way for the manufacture of the Orenda in several European countries.

The Avro C.102 Jetliner attracted wide attention in its flights in 1950.

**Australia.**—A small jet research plane, designed and built entirely in Australia, was reported late in 1950. It was described as an ultimate guided missile for fighter and anti-aircraft training, capable of very high speed and rapid rate of climb to high altitudes. The Armstrong Siddeley Adder, the turbojet version of the Mamba, was used in the prototype, which was flown by a pilot. The pilotless radio-controlled version would be powered by the Viper, an expendable version of the Adder, delivering 1,500 lb. thrust. Specifications for this project were supplied by the ministry of supply and by Australian engineers.

The twin-jet long-range Australian fighter reported in 1949 to be under development at a cost of £5,000,000 was expected to reach the prototype stage late in 1950. It would have all swept-back surfaces. The Rolls-Royce Tay turbojet, which would be manufactured in Australia, was expected to furnish its power.

Production was begun on the de Havilland Drover, designed as a light civil transport for Australian flying, but capable of use as a military freighter or an ambulance. It would eventually be powered by the Australian designed Cicada seven-cylinder engine, which was expected to go into production late in 1950.

**France.**—The best military aircraft made in France in 1950 were the de Havilland Vampire and the Dassault M.D.450 Ouragan (Hurricane). One was a British fighter being built in France under licence, and the other was developed by a private aircraft company. The emphasis in France was upon defensive interceptors. There was no large production on bombers, no flying delta-wing research planes and little activity in missiles. The Rolls-Royce Nene, built under licence, was the only production turbojet. Production on the more powerful Rolls-Royce Tay was scheduled for 1951.

Aside from the Vampire, the French air forces and navy were equipped mostly with aircraft from World War II surplus, to which U.S. jet aircraft were added late in 1950.

The constantly shifting political situation in France produced plan after plan after 1945, and few tangible results for aircraft. Private companies outnumbered nationalized companies more than three to one in 1950, and were more active in both aircraft and engine development. The greater part of the military aircraft and jet engine work was still in nationalized hands, but such companies as Dassault, Breguet and Leduc were producing, developing or experimenting with aircraft of military significance.

The Dassault Ouragan, in the 525-m.p.h. class, was in quantity production and showed promise of meeting front-line aircraft requirements when fitted with the Rolls-Royce Tay turbojet. No data were available on the later M.D.452 interceptor. Breguet was developing a single-jet naval strike fighter in addition to civil and military transports and helicopters. Leduc continued work with the interesting O.10, the only man-carrying ramjet aeroplane in the world. Among the aircraft first flown in 1950 were the Fouga acrobatic glider and its advanced trainer,

the Breguet Mercure cargo plane, the Starck primary trainer and the Morane-Saulnier transport. The Fouga C.M.88 Gemeaux was the latest of this company's jet light planes, to be fitted with two new Turbomeca Piméné turbojets early in 1951.

Among the nationalized company projects, the Sud-Ouest S.O.4000 twin-jet swept-wing bomber was reported ground tested. Production was reported planned on the S.O.4000 and the S.O.-6020 Espadon (Swordfish) fighter, probably in one of its later versions first flown in Dec. 1949. Few first flights were reported in 1950 of nationalized company projects. The Nord 1601 research plane using two Derwent turbojets was reported early in the year, as was the Sud-Est 3110 civil helicopter.

There was no series production of French jet engines in 1950. The Hispano-Suiza company carried out the only active production, under Rolls-Royce licence. The French axial turbojets developed by Rateau and Aeroplanes G. Voisin (ATAR) from German designs compared favourably in weight-thrust ratio with U.S. and British axials. The ATAR 101B produced 4,850 lb. thrust, and the Rateau SRA-101, 7,275 lb. thrust. The nationalized S.N.E.C.M.A. worked closely with both the ATAR and the Rateau group, and was the manufacturing company for ATAR turbojets. S.N.E.C.M.A. announced its TB.1000 turbine-propeller unit in 1950, rated at 1,300 s.h.p.

**Italy.**—The importation of de Havilland Vampire fighters indicated how the Italian air force would replace some of its World War II surplus British and U.S. planes with new jet-powered equipment. Tooling was reported progressing late in 1950 for the production under licence of Vampire and Venom aeroplanes and Ghost and Goblin turbojets.

The Italian air force and aircraft industry could look forward to help from the Mutual Defense Assistance program in the form of aircraft, manufacturing licence agreements and aid to the industry in re-establishing itself.

The Italian aircraft industry's activity in arranging for the licensed manufacture of aircraft and engines was accompanied by design and development work on transports, light planes, trainers and fighters. Breda and Savoia-Marchetti transports, Fiat and Abrosini trainers and ventures into jet propulsion by Caproni and Fiat were the principal developments as of the end of 1950.

The Caproni Ca.195 attracted most attention in the west. It was described as a conventional modern fighter, having a slightly swept-back leading edge, powered by two axial-flow turbojets producing 2,000 lb. thrust for a maximum speed of 565 m.p.h. at 20,000 ft. The Fiat F.80 two-seat jet trainer would be powered by a de Havilland Ghost turbojet.

**Other Countries.**—According to the trend of 1950, air forces of the Atlantic pact nations and nations friendly to the west would be equipped largely with U.S. and British military aircraft, by purchase or by licensed manufacture. Soviet satellites would be largely supplied from the U.S.S.R. Construction of successful jet aircraft and engines was, however, in progress outside the U.S. and the United Kingdom. The Saab Aircraft company, supplier of numerous aircraft to the Swedish air force, was reported developing a successor to its J29 jet fighter of 1948. It was thought that the engine for this plane might be the new axial-flow turbojet of the STAL and Svenska Flygmotor companies, producing about 4,800 lb. thrust.

In the Netherlands, the Fokker Derwent-powered S.14 advanced trainer was reported nearing completion, and the S.13 twin-engined advanced trainer prototype was flown early in the year. This company was also manufacturing Gloster Meteor fighters for both the Netherlands and the Belgian air forces, and Hawker Sea Fury fighters for the Dutch navy.

From the Argentine, development was reported of the I.Ae.33 Pulqui II fighter, a swept-wing version of the first Argentine



jet aeroplane of 1947. (See also AIRCRAFT MANUFACTURE; AIRPORTS AND FLYING FIELDS; AVIATION, CIVIL; CIVIL AERONAUTICS ADMINISTRATION; JET PROPULSION; MUNITIONS OF WAR.)

FILMS OF 1950.—*Air Power* (U.S. Department of the Air Force; Castle); *America's Airpower* (March of Time Forum Films); *Gateway* (United World Films, Inc.-U.S. Office of Education).

(M. H. SM.; S. P. J.)

**Avocados:** see FRUIT.

**Azores, The:** see PORTUGAL.

**Bacteriology.** During 1950 the major part of effort and money spent on the manufacture of all ethical drugs was devoted to research and production of antibiotics derived from microorganisms. Fermentation products resulting in purified antibiotics were valued at \$250,000,000—second only to the value of fermentation alcohol—while vitamin production remained in third place. Another product of microbial growth reaching new production heights was citric acid.

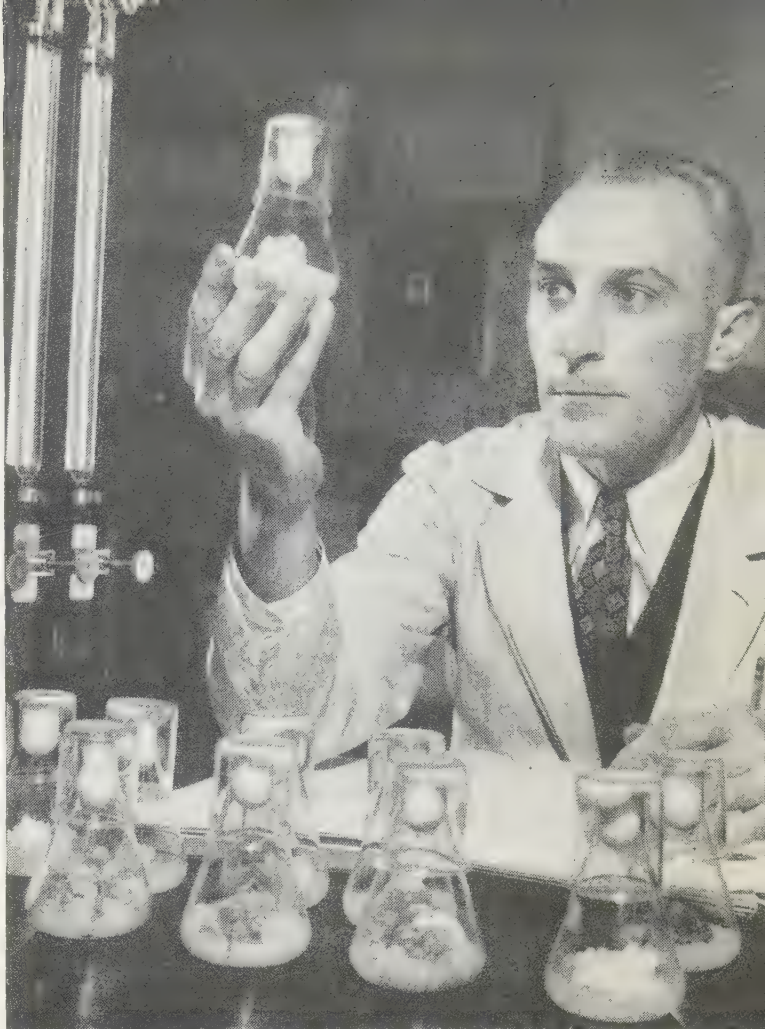
Vitamin B<sub>12</sub> simultaneously produced with streptomycin had proved of great value in the treatment of pernicious anaemia. Maximum stimulation of haematopoiesis occurs when folic acid, a bacterial metabolite, is administered with vitamin B<sub>12</sub>. It appears that both substances are produced by bacteria residing in the intestines normally, and defective absorption may result in deficient blood formation. A growth-stimulating substance present in aureomycin concentrates produced by *Streptomyces aureofaciens*, identified as "animal protein factor," was an entirely new entity in the field of fermentations. Consumption of this factor by poultry and swine results in 20% greater growth with unusually high meat quality. It also increases the vigour and growth of calves.

It was believed that the discovery might revolutionize the preparation of manufactured feed for animals and poultry and create a new industry for producing the factor.

Among the many antibiotics which inhibit the growth of numerous bacterial and viral species, few had shown any significant action on pathogenic or nonpathogenic fungi. Actidione, produced by *Streptomyces griseus* along with streptomycin, is an exception in that it inhibits the growth of many common fungi. Its toxicity to animal tissue prevents its use as a therapeutic agent in mycotic infections. However, its practical use in the prevention of the growth of mould contaminants on agar plates had been demonstrated. Suppression of mould contaminants is especially important when relatively slow-growing bacteria are involved. Concentrations of 0.1 g. per litre do not influence the growth of bacteria adversely, but uniformly inhibit the growth of most common fungi and yeasts. Actidione is not inactivated by ingredients of bacteriological media, is heat-stable and water-soluble.

Urgent problems still under investigation in 1950 included the discovery of better antibiotics for treatment of tuberculosis, others for the wider control of virus diseases, especially poliomyelitis, and a more complete understanding of bacterial metabolites which inhibit growth of tumour or cancerous tissue.

**Immunity in Syphilis.**—Laboratory studies of immunity phenomena in syphilitic infections had become more practical with the development of an *in vitro* method for demonstrating specific antibodies against *Treponema pallidum*. Hitherto, only clinical observations on susceptibility or resistance of cured individuals to reinfection by the spirochete of syphilis had yielded meagre evidence on immunological characteristics of the disease. A substance present in blood of infected individuals, called reagin, had been of inestimable value in the serological tests for diagnosis of syphilis, but reagins are not true antibodies in that they offer no protection and are of little value in the study of immunological mechanisms. Spirochetes causing syphilis are



A. C. BRAUN, of the Rockefeller Institute for Medical Research, who received the highest annual award of the American Association for the Advancement of Science on Dec. 31, 1949, for his study of the initiation and growth of plant tumour caused by the crown-gall bacterium

motile organisms possessing flagella which were demonstrated by electron microscopy and later by flagellar staining technique. A protective antibody, which has an immobilizing effect on *Treponema pallidum*, appears in the sera of experimentally infected and treated animals. The level of immunity is directly correlated with the immobilizing power of the serum. Disclosure of these data offered for the first time a research tool for more detailed studies of syphilis immunity in man.

**Antibiotic Resistance and Dependence.**—The development of resistance of many bacteria to streptomycin had been demonstrated both experimentally and in the course of therapy in human infections. Whether this is a result of natural selection according to Darwinian principles with survival and overgrowth of resistant individual cells, or the outcome of acquired resistance in the manner of Lamarckianism was still being debated in 1950. The ultimate in this tendency of the bacterial organisms to withstand streptomycin was reached when it was reported that many bacteria actually become streptomycin-dependent and fail to grow in its absence. Similar phenomena were also observed with one of the newer antibiotics. Chloramphenicol resistance and dependence were shown for *Klebsiella pneumoniae*, and bacitracin resistance was observed to develop in many strains of beta haemolytic streptococci. Since these antibiotics had already enjoyed rather extensive clinical use the isolated reports lent support to the view that the newer antibiotics would not lead to frequent development of resistant strains of pathogenic organisms as had been the common observation in streptomycin therapy.

**Poliomyelitis.**—Stimulated by funds from the National Foundation for Infantile Paralysis, research was extended during 1950



into fundamental aspects of the disease. Intracellular as well as cytoplasmic parasitism had been discovered. Competition between the virus and the nerve cell for essential nucleoproteins formed within the nucleus might explain the damage to nerve cells and resultant paralysis of muscles when the virus succeeded in obtaining the major portion of available nucleoproteins. Likewise when nucleoprotein was depleted in the nerve cell as a result of physical fatigue, an invading poliomyelitis virus might appropriate what little nucleoprotein remained and bring about cell starvation and death. Severe poliomyelitis had been observed to occur in fatigued individuals.

Attempts to develop a vaccine for poliomyelitis had been thwarted by difficulties encountered in cultivating the virus in sufficient quantity and by the existence of many unrecognized immunologically distinct strains of the virus. A report on the successful propagation of the virus in a test tube on human placental tissue might be an important step toward removing mysteries surrounding the disease and might facilitate attempts to produce a vaccine. Likewise the isolation of strains in addition to the three previously reported should be more readily accomplished. A vaccine to be successful must have immunizing potentialities against all strains of the virus. Some hope from the new data was extended to the use of ultra-violet irradiation to attenuate the virus for purposes of vaccine production as had been done so successfully with the rabies virus. That a vaccine would be discovered for active immunization against poliomyelitis seemed a foregone conclusion since recovery from the disease results in a high immunity and a majority of adults are immune, probably because of inapparent mild infection with a relatively impotent virus. The problem was to reproduce in the laboratory under more controlled conditions what already occurs naturally.

Experimental evidence disclosing a milk-borne immunity against certain virus diseases including poliomyelitis had been discovered. Animals reared by immunized foster mothers exhibited great resistance to subsequent experimental injections of poliomyelitis virus while litter mates reared by nonimmune foster or natural mothers succumbed. A virucidal antibody was demonstrated in the milk of immunized mothers which was not present in those not vaccinated. This disclosure lent further argument to the generally accepted fact that maternal milk for an infant is highly desirable since most adults are immune to many diseases and corresponding antibodies appear in the mother's milk. (See also EPIDEMICS.) (M. V. N.)

**Badminton.** Marten Mendez of San Diego, Calif., captured the national senior men's title in 1950 for the second year in a row, by turning back Joseph Alston, also of San Diego, in the championships played at Baltimore, Md. It marked the second straight season these two hard-hitting Pacific coast stars had met in the final round. After annexing the opening set handily, 15-6, Mendez was checked, 15-11, in the second. Playing cautiously, the finalists alternated in leading in the deciding chapter until Mendez ran off 5 straight points for a 15-10 victory and the match.

Ethel Marshall of Buffalo, N.Y., had an easier time in annexing the senior women's crown for the fourth successive season, conquering Mrs. Thelma Scovil of San Diego, 11-6, 12-10, in the tourney finale. Wynn Rogers of Glendale, Calif., and Barney McCay of Alhambra, Calif., repeated their triumph of the previous year in the men's doubles when they halted the challenge of Clinton Stephens of Baltimore and Bob Williams of Buffalo, 15-5, 15-10, while Mrs. Scovil and Janet Wright of San Francisco retained the women's doubles laurels by stopping Mrs. Clinton Stephens of Baltimore and Zoe Yeager of Seattle, Wash., 18-17, 15-7. Rogers and Mrs. Hulet Smith of Los Angeles again scored in the mixed doubles.

In the fourth annual national junior tournament at Boston, Mass., Judy Devlin, a 14-year-old Baltimore star, defeated Evie Talley, also of Baltimore, 11-4, 11-5, to keep the girls' crown. Steve Hinchcliffe of Hermosa Beach, Calif., won the boys' prize, defeating Peter Sherwood of Westport, Conn., 18-15, 15-4.

Miss Devlin paired with Deedy McCormick of Westport to take the girls' doubles honours. They subdued Miss Talley and Sandra Dailey, another Baltimore entry, 15-4, 15-8, in the concluding round. The boys' doubles went to Manuel Armendariz of Burbank, Calif., and Hinchcliffe, while Ronnie Ryan of Berkeley, Calif., and Miss Devlin triumphed in the mixed doubles.

FILMS OF 1950.—*Badminton Fundamentals* (Coronet Instructional Films). (T. V. H.)

**Baguio Conference:** see FAR EASTERN UNITY.

**Bahamas.** This British colony consists of an archipelago of about 700 islands, of which New Providence is the most important, outside the Gulf of Mexico and off the coast of Florida. Area: 4,375 sq.mi. Pop. (1949 est.) 78,000. Capital: Nassau. Governors: (1950) Sir George Ritchie Sandford and, from Dec. 7, Maj. Gen. R. A. R. Neville.

**History.**—Butlin's vacation village at West End, Grand Bahama, opened early in 1950, and the colony experienced a record tourist season as a result. An agreement was signed permitting the U.S. jointly with the United Kingdom to establish and operate technical and supporting facilities at selected sites in the colony for a guided-missile range to be known as the Bahamas long range proving ground. The Colonial Development corporation announced that it had launched an agricultural undertaking to make the colony to a large extent self-supporting in food; the capital authorized up to October, including the purchase of the land and buildings on Eleuthera, was £1,034,000.

**Finance and Trade.**—Currency: pound sterling; U.S. currency is also generally accepted. Budget: revenue (1950 est.) £1,315,760; expenditure (1950 est.) £1,649,573. Foreign trade (1949): imports £4,775,789; domestic exports £488,365; re-exports £172,448. The economy of the colony was primarily dependent on the tourist industry. (Jo. A. HN.)

**Bahrein Islands:** see COMMONWEALTH OF NATIONS.

**Balearic Islands:** see SPAIN.

**Balkan States:** see ALBANIA; BULGARIA; GREECE; ROMANIA; TURKEY; YUGOSLAVIA.

**Ballet:** see DANCE.

**Baltic States:** see ESTONIA; LATVIA; LITHUANIA.

**Baltimore.** Baltimore is the metropolis of Maryland and had a population of 940,205 in 1950 (preliminary census). The land area of the city is 78.72 sq.mi.; the water area, 13.21 sq.mi. Mayor: Thomas D'Alesandro, Jr., Democrat.

Budget appropriations for 1951 were \$141,236,789.76; for 1950, \$122,620,039.97. The city tax rate for 1951 was \$2.62 per \$100 of assessed valuation and the rate for 1950 was \$2.88. The taxable basis for 1951 was \$2,441,210,616 and for 1950 it was \$2,327,049,041. The gross funded debt as of Nov. 30, 1950, was \$203,179,900; the sinking funds amounted to \$43,460,799.50, leaving a net debt of \$159,719,100.50 as of Nov. 30, 1950, not including accrued income. The percentage of net debt to the taxable basis (excluding self-supporting indebtedness) was 4.12% for the year 1950.

The net enrolment on Oct. 31, 1950, in the public schools of the city was 77,779 white students and 40,948 Negro students; and, in addition, 11,006 white and 4,399 Negro students were enrolled in adult education classes. William H. Lemmel had been superintendent of the Baltimore city schools since July 1946. The public schools of Baltimore are a separate and distinct unit, and are not under the jurisdiction of the state department of education.



Ranking as the second United States port in foreign-trade tonnage, the combined exports and imports at the port of Baltimore during the year 1949 amounted to 17,001,355 tons, an increase of more than 400,000 tons over the previous year. Domestic coastwise and intercoastal shipments and receipts amounted to 7,422,687 tons for the year 1949.

Manufacturing activity in the Baltimore area during 1950 receded slightly from that of 1949. During the first nine months of the year, employment in manufacturing averaged approximately 161,800, representing a decrease of nearly 1,000 from the similar period of 1949. The leading industries, based upon the volume of employment, included iron and steel products, shipbuilding and repairing, aircraft, communications equipment, men's clothing, bakery products, beverages, metal stampings, tin containers and meat products. Total nonagricultural employment, exclusive of self-employed, domestic servants and unpaid family workers in the January–September period of 1950 averaged about 464,000, an increase of more than 3,000 over the first nine months of the previous year.

(H. E. F.)

**Bananas:** see FRUIT.

**Banking.** Banking developments in the United States during 1950 were dominated by the gradual rise in business activity during the first part of the year, the sharp upswing in demands for credit after the outbreak of the Korean war and efforts to restrain inflationary credit expansion. New all-time records were set in many banking activities, such as total loans and investments of commercial banks, total loans, total privately-held money supply, home mortgage indebtedness and consumer credit outstanding.

In 1950 the privately-held money supply, which includes total bank deposits, other than interbank and United States government, and currency outside banks, rose by \$6,400,000,000 to reach a new all-time high level of about \$176,200,000,000 at the end of the year. Most of the increase was in demand deposits adjusted, in contrast to the preceding year when such deposits had shown little change. Currency outside banks declined another \$200,000,000. Time deposits in commercial banks, mutual savings banks and the postal savings system rose about \$300,000,000 during the year, with sharp withdrawals during July, August and September being more than offset by net gains later in the year.

Factors responsible for the renewed increase in the privately-held money supply to a new peak included an increase of \$11,300,000,000 in loans of commercial and mutual savings banks and an increase of \$1,900,000,000 in holdings by such banks of state and local government obligations. These factors were offset in part by a decrease in holdings of United States government securities by the banking system amounting to \$3,900,000,000, by a decrease during 1950 in the gold stock of \$1,600,000,000 and by other factors. Almost all of the increase in the money supply came about in the second half of the year.

The year saw such large expansion in private bank credit that several new all-time peaks were reached by Dec. 31, 1950, in earning assets of all commercial banks. Total loans and investments reached a new record high of \$127,200,000,000, an increase of \$7,000,000,000 during the year. Total loans of all commercial banks rose almost \$10,000,000,000, to a new peak of \$52,700,000,000. Holdings of other securities reached an all-time high of \$12,200,000,000, after an increase of \$2,000,000,000. Holdings of United States government obligations by all commercial banks declined \$4,700,000,000 and stood at \$62,300,000,000 at the end of the year.

The sharp increases in total loans and in holdings of state and local government and other securities continued the basic changes

which had been under way since the beginning of the postwar period in the pattern of earning assets held by commercial banks. By Dec. 31, 1950, commercial bank earning assets other than United States government securities exceeded commercial bank holdings of government securities.

On June 30, 1950, national banks, which numbered almost 5,000, held \$82,400,000,000 of total deposits. State banks, which numbered somewhat more than 9,000, had total deposits of \$61,400,000,000.

An act of congress, approved Sept. 21, 1950, increased the legal maximum of insurance for each depositor to \$10,000 from the previous \$5,000. A study by the Federal Deposit Insurance corporation (*q.v.*), released early in the year, indicated that on Sept. 30, 1949, the 13,440 insured commercial banks reported 91,000,000 accounts with total deposits of \$139,000,000,000. About 88,000,000 accounts, or 96% of the total number, were fully protected under the \$5,000 maximum coverage per depositor, while the insured deposits amounted to \$62,000,000,000 or 45% of total deposits. The study showed that as of Sept. 30, 1949, there were about 2,250,000 accounts of between \$5,000 and \$10,000, and that additional insured deposits with a coverage of \$10,000 amounted to \$10,600,000,000.

Consumer credit expansion played a very important role in business developments during the year. By Dec. 31, 1950, total consumer credit reached an all-time peak of about \$20,000,000,000, an increase of \$3,200,000,000 from the end of Dec. 1949. The rise in automobile sale credit and in instalment sale credit for the purchase of other durable consumer goods dominated the expansion. Instalment credit outstanding rose at a record rate during the third quarter of 1950, when buying of consumer durables reached extraordinary heights, but levelled off in the fourth quarter, as the anticipatory buying of durable goods slackened and federal reserve restrictions on consumer credit took hold. In November, for instance, consumer instalment credit outstanding declined an estimated \$74,000,000 as compared with increases of more than \$300,000,000 in each month of the period May through September of 1950. (See also CONSUMER CREDIT.)

Housing credit terms were tightened in the second half of the year. Under authority granted by the Defense Production act, in October the federal reserve issued regulation X which prescribed minimum down payments and maximum loan maturity periods for new conventionally financed one- and two-family houses, with the severity of the terms increasing progressively with the price of the house. The same terms, with some preference for veterans, were applied to new and existing houses insured by the Federal Housing administration and guaranteed by the Veterans' administration. (See also HOUSING.)

Corporate security issues for new capital decreased in 1950 as compared with the preceding year, but nevertheless remained at a high level. Increased availability of funds from internal sources reduced the need for external financing. Private placement of securities continued to be important, accounting for an estimated 40% of all corporate financing in the first nine months of the year.

New state and municipal financing in 1950 reached a new record. The outlook for increased taxes kept municipal bond prices strong. In the November elections, voters evidenced less willingness to approve proposed state and local government bond issues than a year before.

The decline in the U.S. gold stock, which had started after devaluation of the British pound and other currencies in Sept. 1949, continued at an intensified rate. At the end of Dec. 1950, the gold stock stood at \$22,800,000,000, about \$1,900,000,000 less than the all-time high of about \$24,700,000,000 reached just before devaluation of the pound. Most of the gold sold net by the United States to foreign countries was held earmarked for



the account of foreign monetary authorities at the federal reserve bank of New York, where gold under earmark for the account of foreign central banks and international institutions amounted to more than \$5,600,000,000 on Dec. 29, 1950, compared with \$4,000,000,000 on Sept. 30, 1949. The accelerated United States gold sales reflected in part a more rapid conversion into gold of dollar balances acquired by foreign nations, but chiefly the more rapid acquisition of dollars by foreign countries which resulted from the sharp increase in United States imports at very high prices subsequent to the outbreak of the war in Korea. (See also GOLD.)

During 1950 as a whole the gross federal debt declined by about \$400,000,000 to \$256,700,000,000 on Dec. 31, 1950. Total marketable obligations were reduced by \$2,700,000,000. The amount outstanding of treasury notes rose sharply and that of certificates of indebtedness and marketable bonds fell, reflecting issuance of notes for certificates and bonds in exchange operations. Nonmarketable public issues outstanding continued to rise, with increases of \$1,300,000,000 in United States savings bonds of all series including accrued discount and \$1,000,000,000 in treasury savings notes. Redemptions of series E savings bonds exceeded sales after May, however, and growing attention was being given to the problem of refunding the series E bonds when they start maturing in May 1951. Special issues, held by government trust funds and corporations, rose during the year by \$700,000,000. (See also DEBT, NATIONAL.)

The volume of bank debits of the banks in 333 reporting centres reached another high level in 1950. The annual rate of turnover of demand deposits, except interbank and government, showed a substantial increase, from 27.3 in Oct. 1949 to 30.7 in Oct. 1950 for New York city banks, and from 18.5 in Oct. 1949 to 20.9 in Oct. 1950 for banks in other leading cities. The increase in velocity of circulation of the privately-held money supply as well as the increase in the quantity of deposits and currency financed the post-Korea increase in money expenditures throughout the economy. (See also BUSINESS REVIEW; EXPORT-IMPORT BANK OF WASHINGTON; FEDERAL RESERVE SYSTEM; INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT.) (J. K. L.)

**Mutual Savings Banks.**—For the year ended July 1, 1950, assets of the mutual savings banks in the United States increased \$1,180,947,148 or 5.6% to a total of \$22,293,089,195, and deposits increased \$991,292,834 or 5.2% to a total of \$19,939,312,945. In the year ended July 1, 1949, the increases were \$849,184,942 or 4.2% and \$738,588,044 or 4.1% respectively. On July 1, 1950, the combined surplus was \$2,209,947,477, equivalent to 11.1% of deposits. On July 1, 1949, the combined surplus was \$2,062,634,259, or 10.9% of deposits. Accounts increased 1.8% or 345,115 to a total of 19,531,373 as of July 1, 1950. In the fiscal year 1949 the gain was 432,579 or 2.3%. In 1950 the average rate of dividends paid was 1.97% compared with 1.90% in 1949.

On Dec. 1, 1950, there were 529 mutual savings banks with 212 branches in operation. There was a decrease of 2 banks and an increase of 14 branches during 1950.

The combined assets of all mutual savings banks on July 1, 1950, were invested as follows: U.S. government securities 51.91%; other securities 10.91%; mortgage loans 31.82%; cash and other assets 5.36%. On July 1, 1949, the investment classification was: U.S. government securities 55.22%; other securities 11.21%; mortgage loans 28.18%; cash and other assets 5.39%. Despite the decrease in U.S. government securities owned as a percentage of total assets, the savings banks were, next to the commercial banks and life insurance companies, the largest private group holding United States government securities.

Forty-four per cent of all new real estate mortgage loans made, and 30% of all such loans outstanding, were Federal Hous-

ing administration or Veterans' administration insured loans. The volume of new loans made during the year was double in amount the net gain in the amount of real estate mortgage loans outstanding. The excess was required to offset the large volume of current amortization payments which resulted from the systematic efforts to place conventional as well as insured mortgage loans on a regular amortizing basis.

**Savings Bank Life Insurance.**—At the end of Oct. 1950 there were 259 savings banks in the states of Connecticut, Massachusetts and New York selling savings bank life insurance; of these 82 were issuing banks and 177 were agency banks. The amount of savings bank life insurance in force and number of policies represented were: Connecticut \$14,015,028 in force, representing 14,772 policies; Massachusetts \$392,869,673 in force, representing 423,345 policies; and New York \$171,752,816 in force, representing 124,445 policies. Combined there was \$578,637,517 in force, representing 562,562 policies.

**British Trustee Savings Banks.**—Total deposits in the trustee savings banks in Great Britain exceeded £1,000,000,000 at the close of the fiscal year, Nov. 20, 1950, an increase of more than £58,000,000 during that year. Since the end of World War II the growth in deposits had averaged £60,000,000 a year. The latest complete financial report released was as of Nov. 20, 1949. On that date there were 85 separate banks operating 1,065 offices. (HE. BR.)

**Great Britain.**—The approximate stability in the credit framework established through Sir Stafford Cripps's disinflation policy in 1947-48 was fully maintained during the first part of 1950, the rising trend of import prices being neutralized by higher productivity. Bank deposits reflected fully the downward pressure normally exerted in the early part of the year by the movement of tax money into the exchequer: the decline between January and June in the deposits of the London clearing banks was nearly £100,000,000 more than in 1948. In the second half of the year, however, a rise in internal prices caused mainly by developments overseas produced a marked distortion of the credit structure. This, aided by an extensive movement of so-called "hot" money into London, inspired by talk of a possible revaluation of sterling, caused a sharp expansion in the volume of bank resources. Deposits after deduction of "balances in course of collection" were approximately £140,000,000 higher in 1950 than in 1940.

Eleven London Clearing Banks  
(£ million)

	Oct. 1948	Oct. 1949	Oct. 1950
Deposits . . . . .	6,040	6,050	6,204
Deposits, less balances in collection . . . . .	5,855	5,868	6,006
Cash . . . . .	485	499	509
Call money . . . . .	497	556	557
Bill holdings . . . . .	802	1,162	1,414
Treasury deposit receipts . . . . .	1,313	744	496
Investments . . . . .	1,475	1,517	1,505
Advances . . . . .	1,355	1,466	1,598
Acceptances, etc. . . . .	243	261	346

The switch in bank lending from the governmental sector to the private sector of the economy, in progress throughout 1949, was vigorously continued in the first half of 1950. In the five months to the end of May the rise in bank loans to industry and commerce was the largest in British banking history. Over the same period, extensive repayment of official indebtedness to the banking system found a reflection in a sharp net decline in the banks' holdings of money-market assets. But after the upward turn in the total of bank resources the banks' loans figure had, by the end of October, receded about £50,000,000 from the level reached at the end of June; and the amount of bank lending to the government had sharply increased. The downward turn in loans was in large measure the result of marked improvement in conditions in the London capital market; the expansion in lending to the government was in part the result of seasonal



factors and in part of the inflow of capital from abroad. To the extent that the inflow of capital had the effect of swelling the London reserves of overseas central banks, the authorities supplied the sterling required by selling Treasury bills to the banks concerned, that is, without recourse to the commercial banking system. But where the sterling proceeds of the capital transfer remained on deposit with the commercial banks, the authorities obtained finance to acquire the foreign exchange by borrowing from the commercial banking system.

It was officially decided to continue the process begun in 1949 of enabling the banks to reduce their holdings of the inflexible treasury deposit receipt and so to enlarge their holdings of the flexible treasury bill.

FILMS OF 1950.—*How Banks Serve* (American Bankers Association). (C. H. G. T.)

**Bankruptcy:** see SECURITIES AND EXCHANGE COMMISSION.

**Bao Dai** (1913– ), 13th emperor of former Annam, was born at Hué, Oct. 22. He succeeded to the throne in Jan. 1926 at the age of 13, shortly after the death of his father, Emperor Khai Dinh. Having completed his studies in France, he assumed power in Sept. 1932 under the name of Bao Dai ("he who maintains greatness"). Up to the proclamation of Annamese independence by Japan on March 11, 1945, his position was unaffected by the world situation. On June 30, 1945, he renamed his state Việt-Nam which suggested an idea of reunifying Tonkin and Cochinchina with Annam. Shortly after the Japanese surrender he abdicated under Communist pressure on Aug. 24, becoming citizen N'Guyen Vinh Thuy, "supreme adviser" to Ho Chi Minh, leader of the Việt-Minh (Communist) party and president of a republic of Việt-Nam proclaimed at Hué on Aug. 28. He went to Hong Kong in July 1946 and remained there when, in December, fighting between Việt-Name and the French began. He expressed readiness to negotiate with France "an honourable and lasting peace," and to break with Việt-Minh. Negotiations began in Dec. 1947 and culminated on June 5, 1948, in the protocol of the Bay of Along, by which France recognized the independence of Việt-Nam. On April 28, 1949, Bao Dai returned to Việt-Nam where he was declared an outlaw by Ho Chi Minh. On June 30 he formed a government with himself at the head. In June 1950 Bao left his mountain headquarters at Dalat, 300 mi. N.E. of Saigon, for Cannes, France, in order to be in France while a conference (which opened at Pau on June 29) discussed the setting up in Indochina of a federal administration and the settlement of financial and economic relations between France and Việt-Nam. On Oct. 20 he was back at Dalat.

**Baptist Church.** The major event for world Baptists in 1950 was the eighth congress of the Baptist World alliance at Cleveland, O., during July. The registration of 45,000 from 48 nations was exceeded only by the 57,000 who had attended the sixth congress, Atlanta, Ga., in 1939. Representing 18,000,000 Baptists throughout the world, the congress demanded freedom of peoples everywhere and, under the conviction that all nations are guilty under God for war, called for the practice of religious good will and co-operation as the only assurance of peace. F. Townley Lord, London, Eng., succeeded C. Oscar Johnson, St. Louis, Mo., as president. The ninth congress was planned for London in 1955.

The Australian Baptists faced serious missionary handicaps resulting from the depreciation of the pound. Following Youth month in July, Australian Baptists announced that youth responds to adequate leadership, respects self-evident authority and prefers to choose its own allegiance. Educational films emphasized Christian home life and churches held father-and-son and mother-and-daughter banquets.

The assembly of the Baptist union of South Africa, in September, resolved to establish a Baptist theological college in 1951 at Johannesburg to utilize facilities of the University of the Witwatersrand. The union reported 24,391 members; 700 baptisms in the European churches, 125 in the non-European and 1,168 in the Bantu.

The Baptist Missionary society of London, reporting on the progress of work in Ceylon, announced that the enrolment at Carey Boys college, Colombo, had increased during 1945–50 from 300 to 1,000, and that the girls' schools, as in Colombo, Matale and Ratnapura, had increased similarly in numbers. Protestant bodies discussed closer union in the island. The Baptist Missionary society of London also announced that the officers and staff of Whitewright institute, established in China in 1910, were all Chinese in 1950. During the year 30,500 people heard the gospel at this preaching station. Civil authorities made no effort to close the institute, Christian work was unopposed and it was hoped that Protestant missions' higher education activities could continue.

The Foreign Mission board of the Southern Baptist convention in 1950 opened a theological seminary in Zürich, Switz., with 30 students from 16 nations. All the trustees were European Baptists. The faculty was international—the president Scandinavian, the professors Swiss, British and American. Sixty ministers and students attended the European Baptist Ministers conference at the seminary in June.

The Southern Baptist convention met in Chicago, Ill., with a registration of 8,151 messengers from a membership of 6,761,265.

The Northern Baptist convention meeting at Boston, Mass., changed its name to the American Baptist convention. The registration of 12,182 at the convention broke all records. A membership of 1,561,073 was reported. (See also CHURCH MEMBERSHIP.) (R. E. E. H.)

**Barbados.** Barbados is a British colony consisting of the most easterly of the Caribbean islands. Area: 166 sq. mi. Pop. (1950 est.): 202,669. Capital and chief port: Bridgetown (pop. 1948, 13,345). Governor in 1950: A. W. L. Savage.

**History.**—The most important pieces of legislation passed during 1950 were probably the Adult Suffrage act, giving the franchise to men and women over 21 years of age without any property qualifications, and the Petroleum act, granting a prospecting licence to the Gulf Oil company. The latter act renewed possibilities which had been debated for many years of establishing another major industry in the island besides the cultivation of sugar on which the economy of Barbados had largely depended for three centuries.

Long known as a winter resort, Barbados witnessed during the year a considerable development in the summer tourist trade, the majority of the visitors being Venezuelans. The increased popularity of the colony for tourists at all times of the year was underlined by the beginning of operations by the Trans-Canada Air Lines, which started regular scheduled flights from Montreal, Que. To accommodate these and other long-distance planes a new runway of 6,000 ft. in length was put into use at Seawell airport.

**Finance and Trade.**—Currency: British West Indian dollar set at 4.8 to the pound and valued at 58.33 cents U.S. Budget (1949–50): revenue B.W.I. \$12,150,990; expenditure B.W.I. \$12,095,842. Foreign trade (1949): imports B.W.I. \$33,948,619; exports B.W.I. \$22,341,775. Principal exports: sugar, molasses and rum. (P. H. My.)

**Barkley, Alben William** (1877– ), vice-president of the United States, was born on a farm in Graves county, Ky., on Nov. 24, and attended Marvin college, Clinton, Ky., Emory college, Oxford, Ga., and the University of Virginia law school in Charlottesville, Va. He was elected prosecuting attorney of McCracken county, Ky., in 1905 and was



judge of McCracken county court, 1909-13. He was elected to the U.S. house of representatives in 1913 and after 14 years there was elected to the U.S. senate. He was keynote speaker at the 1936 Democratic national convention, permanent chairman of the 1940 convention, and delivered the speech nominating Franklin D. Roosevelt for a fourth term at the 1944 convention.

Throughout much of World War II he was senate majority leader, and as such shepherded numerous wartime and emergency acts through that body. In 1946 when the Republicans gained control, he became senate minority leader. He was keynote speaker again at the 1948 party convention in Philadelphia, and there was nominated for the vice-presidency, being elected with Pres. Harry S. Truman and taking office in 1949.

As president of the senate Barkley in 1950 twice used his vote to break ties on important issues. On May 3 he voted for a resolution to set up a special committee to investigate crime, rather than leave the investigation to an existing senate judiciary committee. On June 26 he again broke a tie to authorize additional farm price-support funds. Barkley made numerous political appearances in favour of Democratic candidates in connection with the Nov. 1950 elections.

**Barley.** The U.S. barley crop of 1950 was estimated at 301,000,000 bu., 27% larger than the small crop of 1949, but slightly less than the ten-year average production of 310,668,000 bu. California was the leading producer with 57,600,000 bu., North Dakota second (50,688,000 bu. compared with only 25,776,000 bu. in 1949) and Minnesota third with 36,934,000 bu. Colorado, because of winter kill and low yields, produced only 9,555,000 bu., or 41% as much as in 1949. The national average yield was 26.9 bu. per acre, compared with 24.0 bu. in 1949, and 24.2 bu. average for 1939-48.

Barley shared very modestly in the general upward price trend of 1950; the national average price received by farmers late in 1950 was \$1.14 per bushel as compared with \$1.10 in Jan. 1950 and a 1949 average of \$1.04 per bushel. The value of the 1950 crop was preliminarily estimated at \$339,063,000, as compared with \$245,523,000 in 1949. Nonmandatory government price supports were available in the form of loans or purchase agreements at a national average of \$1.10 per bushel, or 75% of the barley parity price as of July 1, 1950.

The world crop of barley was estimated preliminarily at 2,430,000,000 bu., the largest since 1942, compared with 2,260,000,000 bu. in 1949 and an average of 2,357,000,000 bu. for 1935-39. Harvested acreage, estimated at 116,630,000, was 4,000,000 more than in 1949 and slightly more than the prewar average. Yields also were somewhat larger. Canadian production of 171,328,000 bu. was fully 50,000,000 bu. more than in 1949. European production was 690,000,000 bu., approximating the 1949 crop.

The 325,000,000 bu. crop of the U.S.S.R., slightly larger than in 1949, apparently was sufficient to permit exports.

(J. K. R.)

**Baseball.** Connie Mack (Cornelius McGillicuddy), the Philadelphia Athletics' only manager in their 50 years in the American league, retired as pilot of the club on Oct. 18, 1950. He had been associated with the game since joining Meriden of the Connecticut State league in 1884.

In closing out his half-century at the helm of the Athletics, the 87-year-old Mack, who remained as president of the club, named as his successor Jimmie Dykes, third baseman on the team's last pennant-winning clubs in 1929, 1930 and 1931, and manager of the Chicago White Sox, 1934-46.

Dykes had started the season as coach for the club, but on May 26 he was elevated to the job of assistant manager, replac-

ing Earle Mack, Connie's son, who was appointed chief scout. At the same time, Gordon (Mickey) Cochrane, former catcher for the Athletics and later manager of the Detroit Tigers, was promoted from coach to the newly created post of general manager.

Three months later, on Aug. 28, Earle Mack and his brother Roy, club vice-president, gained control of the club stock by purchasing 1,198 shares for \$1,750,000. The remaining 302 shares were held by Connie Mack.

On Sept. 2, Mickey Cochrane resigned as club general manager and Arthur Ehlers, supervisor of the team's farm system, was promoted to the job.

In addition to the transfer of control of the Athletics, important stock change-overs occurred in the Washington Senators, Pittsburgh Pirates and Brooklyn Dodgers.

John J. Jachym, who had acquired 40.4% of the Washington stock a few months earlier, sold his holdings to H. Gabriel Murphy, a Washington insurance broker, on June 22. On July 19 John Galbreath and Tom Johnson, treasurer and secretary, respectively, of the Pirates, purchased the 40% of the Pittsburgh stock which was owned by Frank McKinney, with Galbreath becoming president of the club. On Oct. 26, Walter F. O'Malley and Mrs. John L. Smith, who already owned one-quarter interest apiece, bought another 25% of stock in the Brooklyn Dodgers from Branch Rickey, general manager of the club since Oct. 29, 1942. Rickey later was appointed general manager and executive vice-president of the Pittsburgh Pirates.

The change in the Athletics' field management was one of seven shifts which occurred in the major leagues during the year. On May 26 John (Jack) Onslow was released as pilot of the Chicago White Sox and was replaced by John (Red) Corriden, who had been a coach. Corriden, in turn, was ousted on Oct. 10, giving way to Paul Richards, a former major league catcher who had managed Seattle of the Pacific Coast league in 1950.

Another managerial head to roll was that of Joe McCarthy. On June 23 McCarthy, who had won one flag with the Chicago Cubs (1929) and eight with the New York Yankees (1932, 1936, 1937, 1938, 1939, 1941, 1942, 1943) in a major league piloting career that began in Oct. 1925, stepped down as head man of the Boston Red Sox and was replaced by Steve O'Neill, who started the season as a coach of that club after serving previously as manager at Cleveland and Detroit.

On Oct. 16 Eddie Dyer tendered his resignation as skipper of the St. Louis Cardinals. Dyer had produced one pennant and world championship (1946), three second-place finishes (1947, 1948, 1949) and one fifth-place windup (1950) in five years. Named to succeed him was Marty Marion, veteran Cardinal shortstop.

Lou Boudreau also felt the managerial axe, being ousted as manager of the Cleveland Indians on Nov. 10 after holding the reins for nine years, during which he produced one pennant and world championship (1948). The one-time University of Illinois star, who subsequently signed with the Boston Red Sox as a player, was succeeded by Al Lopez, former major league catcher who guided Indianapolis to one American association pennant and two second-place finishes in three years of managing.

Burt Shotton, who had produced two pennants and one second-place finish in three full seasons as manager, was let out by the Brooklyn Dodgers Nov. 28 and was succeeded by Charles Dressen. The new pilot was a former manager at Cincinnati, coach of the Dodgers and, in 1950, piloted Oakland to the Pacific Coast league championship.

Major league owners, at their meeting in St. Petersburg, Fla., voted Dec. 11 not to renew the contract of Commissioner A. B. Chandler when it would expire on May 1, 1952. The vote was 9 to 7 in favour of a renewal, but a three-fourths' majority, or 12 votes, was necessary.



Also at the annual meeting, the minors and majors repealed the controversial bonus rule. Under the legislation, a free agent who received more than stipulated maximums for signing, ranging from \$6,000 in the majors to \$3,000 in the lower classifications, was ruled a bonus player and could not be optioned without other clubs' first having the opportunity to waive on him.

At the same time, the high school rule, which prohibited a club from contacting a youngster before he or his original high school class had graduated, was wiped off the books. To prevent the wholesale raiding of high school talent, a new rule which would permit contacting a young player while prohibiting the actual signing was scheduled for enactment at an early date.

In the top player deal of the year, the Yankees sent pitchers Duane Pillette and Don Johnson, second baseman George (Snuffy) Stirnweiss, outfielder Jimmy Delsing and \$50,000 to the Browns for pitchers Tom Ferrick and Joe Ostrowski and the assignment of two St. Louis players to New York's farm club at Kansas City, Mo. The Washington Senators and Chicago White Sox figured in a six-player transaction, the Senators sending pitcher Ray Scarborough, first baseman Eddie Robinson and infielder Al Kozar to the Sox for pitcher Bob Kuzava, second baseman Cass Michaels and outfielder John Ostrowski.

Elsewhere the Giants claimed pitcher Jim Hearn from the Cardinals on waivers in midseason and the righthander, who had a 0-1 hill record with the St. Louis club, went on to post an 11-4 mark for the campaign. Late in June the Yankees recalled pitcher Edward (Whitey) Ford from their Kansas City farm and the 21-year-old lefthander hung up nine victories against only one defeat to highlight the Bombers' drive to the American league championship.

In the outstanding transaction of the off season, the Boston Red Sox sent pitchers Joe Dobson and Dick Littlefield and outfielder Al Zarilla to the Chicago White Sox for pitchers Ray Scarborough and Bill Wight. The White Sox also shipped outfielder Myron (Mike) McCormick to Washington for outfielder Ed Stewart. Boston sold catcher George (Birdie) Tebbetts to Cleveland and Pittsburgh signed outfielder Harold (Pete) Reiser, released by Brooklyn.

In postseason polls, Ford was selected "rookie of the year" by the *Sporting News* while the Baseball Writers' Association of America, picking an outstanding first-year player in each league, chose Sam Jethroe, Negro outfielder with the Braves, as the best in the National league, and Walter Dropo, Red Sox first baseman, for the American league honour.

In the balloting for the most valuable players of the major leagues, Phil Rizzuto, New York shortstop, captured the American league honour, and Jim Konstanty, Philadelphia pitcher, triumphed in the National.

**Records.**—Albert (Red) Schoendienst of the St. Louis Cardinals set a major league record for second basemen when he played 57 consecutive games and handled 320 successive chances without an error. Schoendienst's streak surpassed his own record of 44 games and 268 chances set in 1949.

Jim Konstanty of the Phillies broke the major league standard for games appeared in by a pitcher in one season when he took part in 74 contests, all in relief, eclipsing the mark of 65 games established by Ace Adams of the Giants in 1945.

Phil Rizzuto, Yankee shortstop, set two American league records when he played 58 games and handled 288 chances without a bobble, outmoding the marks of 42 games and 226 chances set by Eddie Joost of the Athletics in 1949.

The Boston Red Sox set six major league records in their 29-to-4 victory over St. Louis, June 8. The new marks included most runs in a game by one club, 29; most total bases by one club, game, 60; most extra-base hits, one club, game, 17; most

extra bases on long hits by one club, game, 32; total runs for two games, one club, 49 (following 20-to-4 win the previous day); and most hits, two consecutive games, one club, 51 (23 and 28).

Cleveland broke the major league record for runs scored in the first inning of a game, tallying 14 times in the opening frame of a 21-to-2 conquest of the Athletics, June 18. Brooklyn and Pittsburgh set a major mark, Aug. 23, when they played the longest night game on record, going 17 innings before the Dodgers won, 7 to 5.

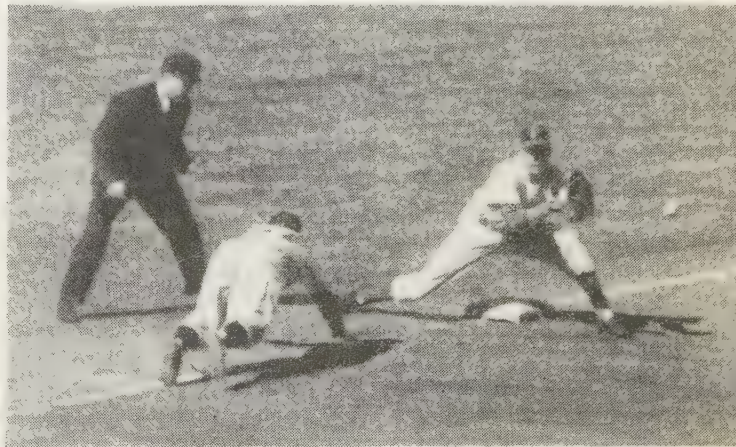
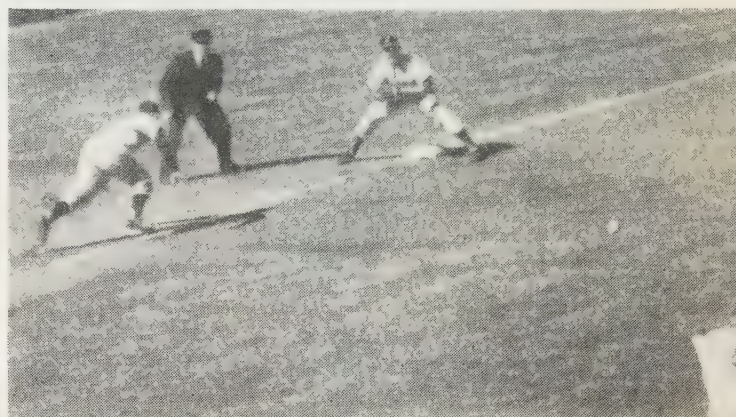
Vic Raschi of the Yankees set a major mark on May 3, when he committed four balks in beating Chicago, 4 to 3. On Aug. 31, Gil Hodges, Brooklyn first sacker, belted four homers against the Braves, tying a record set in 1894 by Bobby Lowe of the Braves and equalled by Ed Delahanty of the Phillies (1896), Lou Gehrig of the Yankees (1932), Chuck Klein of the Phillies (1936) and Pat Seerey of the White Sox (1948).

The major leagues' only no-hit game of the season was registered on Aug. 11 by Vern Bickford, Boston Braves' righthander, who set down the Dodgers, 7 to 0.

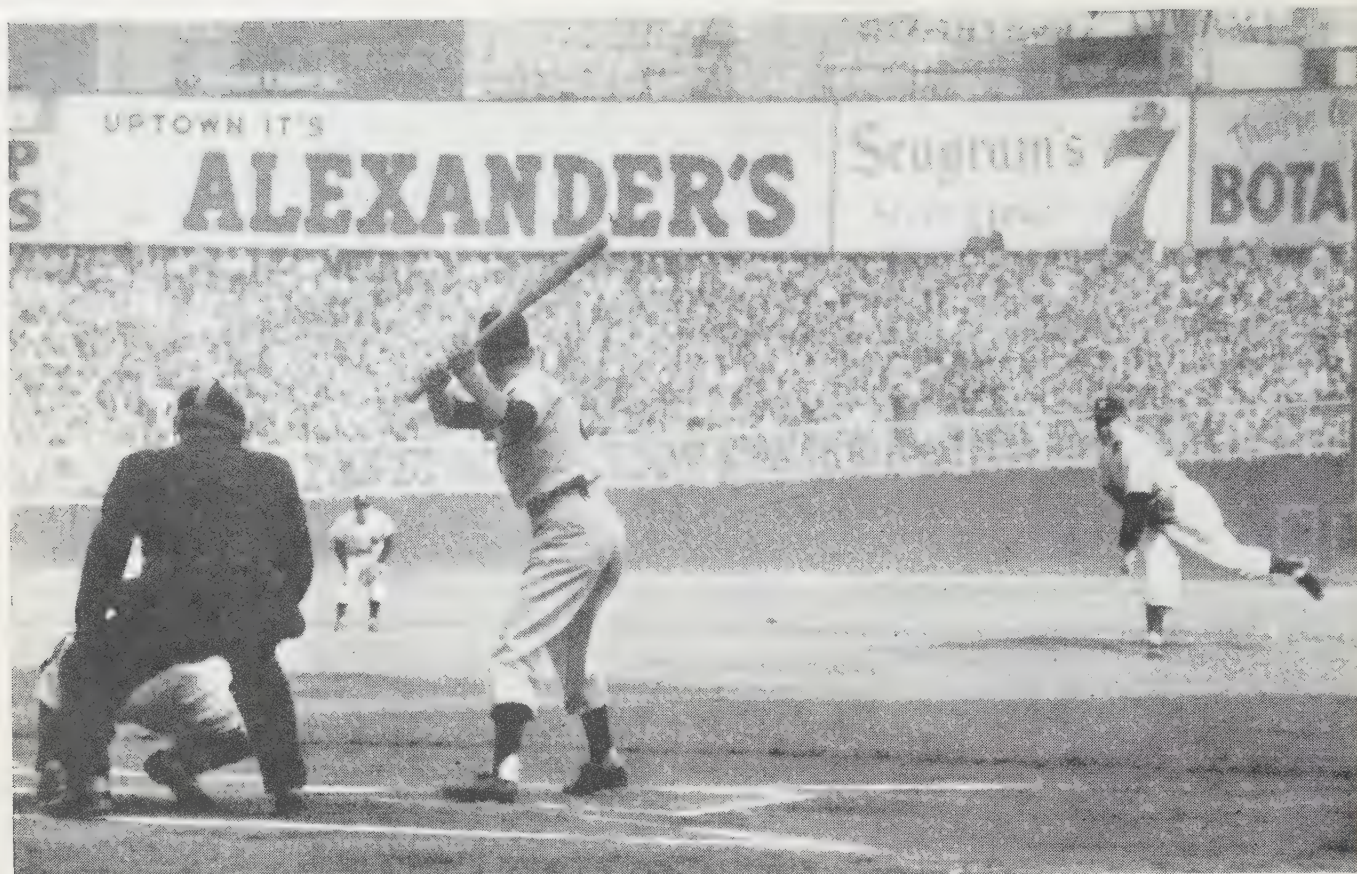
**Major League Races.**—After a 35-year lapse, the Phillies captured the second National league pennant in their history with a dramatic, last-day victory over the Brooklyn Dodgers.

Paced by their bonus hurlers, righthander Robin Roberts and

YANKEE LEFT FIELDER Gene Woodling regaining third base after Joe DiMaggio had gone out on a short fly ball during the second game of the 1950 world series played at Philadelphia on Oct. 5. The New York Yankees defeated the Philadelphia Phillies 2 to 1 in ten innings







OPENING PITCH by Eddie Lopat of the New York Yankees to leadoff batter Eddie Waitkus in the third game of the 1950 world series played at New York city, Oct. 6. On Oct. 7, the Yankees clinched the championship with their fourth straight victory over the Philadelphia Phillies

lefthander Curt Simmons, and relief specialist Jim Konstanty, the Whiz Kids moved into first place on July 25 and remained there until the finish, despite a near collapse in the waning days of the season.

Entering the final day of the season, the Phils held a one-game margin and were faced with the prospects of a three-game play-off for the title if the Dodgers should win the concluding game, thereby throwing the race into a tie. With Roberts hurling a five-hitter, however, and Dick Sisler providing the pay-off blow with a three-run homer, the Phillies posted a ten-inning, 4-to-1 triumph to annex their first pennant since 1915.

The Yankees nailed down their 17th American league championship on Sept. 29, backing into the title when the runner-up Tigers lost to Cleveland, thereby erasing their last mathematical chance for the flag.

**Individual Performances.**—Billy Goodman, who received his opportunity to play regularly with the Red Sox after Ted Williams suffered an elbow fracture in the All-Star game, ousted George Kell of Detroit as the American league batting champion with an average of .354. Stan Musial of St. Louis captured the National league honours with .346.

Five hurlers reached the 20-win circle. Bob Lemon notched 23 victories for Cleveland, Vic Raschi 21 for the Yankees, Warren Spahn 21 and Johnny Sain 20 for the Braves and Robin Roberts 20 for the Phillies.

Ralph Kiner retained his major league home-run crown, clouting 47 roundtrippers for the Pirates. Al Rosen, rookie Cleveland third baseman, led the American league with 37 homers. Vern Stephens and Walt Dropo of the Red Sox shared the American league runs-batted-in diadem with 144 apiece while Del Ennis of the Phils paced the National league with 125.

**All-Star Game.**—Albert (Red) Schoendienst, St. Louis Cardi-

#### Final Standings

AMERICAN LEAGUE				NATIONAL LEAGUE			
Club	Won	Lost	Pct.	Club	Won	Lost	Pct.
New York . . . . .	98	56	.636	Philadelphia . . . . .	91	63	.591
Detroit . . . . .	95	59	.617	Brooklyn . . . . .	89	65	.578
Boston . . . . .	94	60	.610	New York . . . . .	86	68	.558
Cleveland . . . . .	92	62	.597	Boston . . . . .	83	71	.539
Washington . . . . .	67	87	.435	St. Louis . . . . .	78	75	.510
Chicago . . . . .	60	94	.390	Cincinnati . . . . .	66	87	.431
St. Louis . . . . .	58	96	.377	Chicago . . . . .	64	89	.418
Philadelphia . . . . .	52	102	.338	Pittsburgh . . . . .	57	96	.373

nal second baseman, clouted a home run in the 14th inning to enable the National league stars to defeat the American league representatives, 4 to 3, in the midsummer classic at Comiskey park in Chicago, July 11. The victory was the 5th for the senior circuit in 17 All-Star battles.

Burt Shotton of Brooklyn piloted the winning club while Casey Stengel of New York was at the helm of the losers.

The extravaganza was witnessed by 46,127, who contributed a record \$126,179.51 to the Major League Central fund. It is from this fund that premiums on the players' annuities are paid. Previously the top receipts were \$105,314.91 for the 1947 game at Wrigley field in Chicago.

The game was marred by an injury to Ted Williams, Red Sox slugger, who fractured his left elbow in a collision with the fence in the first inning.

**World Series.**—In the lowest scoring series in history, the Yankees defeated the Phillies in four straight games to register their 13th world championship and mark the sixth time they had accomplished the feat in the minimum number of contests. By totalling only 16 runs, the two clubs lowered the record of 18 tallies set by the Giants and Athletics in 1905.

Vic Raschi held the Whiz Kids to two hits in chalking up the opening game victory. Singles by Willie Jones and Andy Seminick in the fifth inning were the only safeties allowed by the big righthander, although he permitted Eddie Waitkus to get on base on a walk in the sixth inning.

Manager Eddie Sawyer of the Phillies surprised the critics



by starting Jim Konstanty, his relief artist, on the hill, and the bespectacled righthander held the New Yorkers to four hits before bowing out for a pinch hitter in the eighth inning. One of the blows off Konstanty was a fourth-inning double by Bobby Brown, who subsequently scored the game's only run on a pair of outfield flies. The final score was 1 to 0.

Allie Reynolds and Robin Roberts duelled for ten innings in the second tilt before Joe DiMaggio, who had been hitless previously in the series, clouted his seventh homer in classic competition to give the Yankees a 2-to-1 triumph.

The Phillies staged their biggest offensive of the series in the third game, outhitting their rivals, 10 to 7, but they lost 3 to 2. Ken Heintzelman held the Bombers to four hits in seven and two-thirds frames, but he was replaced by Konstanty after issuing three walks in the eighth inning. Shortstop Gran Hamner's error then permitted the Yanks to tie the score and they produced the deciding run in the ninth inning on singles by Gene Woodling, Phil Rizzuto and Gerry Coleman against Russ Meyer.

Edward (Whitey) Ford registered the victory in the deciding game, 5 to 2. Ford held the Phils scoreless until the ninth inning when Woodling's error led to the losers' two runs. With two runners on base, Manager Casey Stengel withdrew Ford in favour of Reynolds, who fanned pinch hitter Stan Lopata for the final out.

The four games attracted 196,009 spectators, with receipts, exclusive of \$175,000 for radio rights and \$800,000 for television privileges, totalling \$953,669.03. The winners' shares amounted to \$5,737.96 apiece while the losers' portions came to \$4,081.34.

**Attendance.**—Although major league turnstile figures showed a 19% decline, slipping from 20,215,365 in 1949 to 17,462,977 in 1950, two clubs, the Philadelphia Phillies and the Detroit Tigers, registered individual club records. The National league champions attracted 1,217,035 spectators to Shibe park while the American league runners-up played to 1,951,474 at Briggs stadium.

The New York Yankees again overshadowed the field at the gate, with a mark of 2,081,380, representing the fifth consecutive season the club topped the 2,000,000 level.

Following are the 1950 attendance figures compared with those of 1949:

AMERICAN LEAGUE			
Club	1950	1949	Change
New York	2,081,380	2,283,676	-202,296
Detroit	1,951,474	1,821,204	+130,270
Cleveland	1,727,464	2,233,771	-506,307
Boston	1,344,080	1,596,650	-252,570
Chicago	781,330	937,151	-155,821
Washington	699,697	770,745	-71,048
Philadelphia	309,805	816,514	-506,709
St. Louis	247,131	270,936	-23,805

NATIONAL LEAGUE			
Club	1950	1949	Change
Philadelphia	1,217,035	819,698	+397,337
Brooklyn	1,185,896	1,633,747	-447,851
Pittsburgh	1,166,267	1,449,435	-283,168
Chicago	1,165,944	1,143,139	+22,805
St. Louis	1,093,411	1,430,676	-337,265
New York	1,008,878	1,218,446	-209,568
Boston	944,391	1,081,795	-137,404
Cincinnati	538,794	707,782	-168,988

**The Minor Leagues.**—A total of 58 minor leagues, one less than the record number in 1949, started the 1950 season, but only 57 finished their schedules as a result of the Class B Colonial circuit's folding up on July 14 because of financial difficulties.

In other changes necessitated by dwindling attendance, Vandergrift (Pa.) dropped out of the Middle Atlantic league; Gadsden, (Ala.) and Anniston (Ala.) from the Southeastern; Bryan and

Paris from the East Texas and Robstown (Tex.) and Donna-Weslaco (Tex.) from the Rio Grande Valley.

Minor league pennant and play-off winners for 1950 follow:

Class	League	Pennant Winner	Play-off Winner
AAA	American association . . . . .	Minneapolis (Minn.)	Columbus (O.)
	International . . . . .	Rochester (N.Y.)	Baltimore (Md.)
	Pacific Coast . . . . .	Oakland (Calif.)	(no play-offs)
AA	Southern association . . . . .	Atlanta (Ga.)	Nashville (Tenn.)
	Texas . . . . .	*Beaumont (Tex.)	*San Antonio (Tex.)
A	Central . . . . .	Flint (Mich.)	Flint
	Eastern . . . . .	Wilkes-Barre (Pa.)	Wilkes-Barre
	Sally . . . . .	Macon (Ga.)	Macon
	Western . . . . .	Omaha (Neb.)	Sioux City (Ia.)
B	Big State . . . . .	Texarkana (Tex.)	Texarkana
	Carolina . . . . .	Winston-Salem (N.C.)	Winston-Salem
	Florida International . . . . .	Havana (Cuba)	Miami (Fla.)
	Inter-State . . . . .	Wilmington (Del.)	Wilmington
	Piedmont . . . . .	Portsmouth (Va.)	Roanoke (Va.)
	Southeastern . . . . .	Pensacola (Fla.)	Pensacola
	Three-I . . . . .	Terre Haute (Ind.)	Terre Haute
	Tri-State . . . . .	Knoxville (Tenn.)	Rock Hill (S.C.)
	Western International . . . . .	Yakima (Wash.)	(no play-offs)
C	Arizona-Texas . . . . .	Juarez (Mex.)	El Paso (Tex.)
	Border . . . . .	Orlando (Ont.)	Ogdensburg (N.Y.)
	California . . . . .	Ventura (Calif.)	Modesto (Calif.)
	Canadian-American . . . . .	Quebec (Que.)	Quebec
	Cotton States . . . . .	Pine Bluff (Ark.)	Hot Springs (Ark.)
	East Texas . . . . .	*Gladewater (Tex.)	*Marshall (Tex.)
	Evangeline . . . . .	Lafayette (La.)	Baton Rouge (La.)
	Gulf Coast . . . . .	Crowley (La.)	Jacksonville (Tex.)
	Middle Atlantic . . . . .	Oil City (Pa.)	Butler (Pa.)
	Northern . . . . .	St. Cloud (Minn.)	Sioux Falls (S.D.)
	Pioneer . . . . .	Pocatello (Ida.)	Billings (Mont.)
	Provincial . . . . .	St. Johns (Que.)	St. Johns
	Rio Grande Valley . . . . .	Harlingen (Tex.)	Corpus Christi (Tex.)
	Sunset . . . . .	Mexicali (Mex.)	El Centro (Calif.)
	Western association . . . . .	Joplin (Mo.)	Hutchinson (Kan.)
	West Texas-New Mexico . . . . .	*Pampa (Tex.)	*Albuquerque (N.M.)
D	Alabama State . . . . .	Enterprise (Ala.)	Dothan (Ala.)
	Appalachian . . . . .	†Bluefield (W.Va.)	†Bristol (Va.)
	Blue Ridge . . . . .	Elkin (Va.)	Mt. Airy (Va.)
	Coastal Plain . . . . .	Roanoke Rapids (N.C.)	New Bern (N.C.)
	Far West . . . . .	Klamath Falls (Ore.)	Redding (Calif.)
	Florida State . . . . .	Orlando (Fla.)	DeLand (Fla.)
	Georgia-Alabama . . . . .	LaGrange (Ga.)	LaGrange
	Georgia-Florida . . . . .	Albany (Ga.)	Tallahassee (Fla.)
	Georgia State . . . . .	Dublin (Ga.)	Eastman (Ga.)
	K-O-M . . . . .	Ponca City (Okla.)	Ponca City
	Kitty . . . . .	Mayfield (Ky.)	Mayfield
	Longhorn . . . . .	Odessa (Tex.)	Odessa
	Miss.-Ohio Valley . . . . .	Centralia (Ill.)	(finals cancelled)
	Mountain States . . . . .	Harlan (Ky.)	Harlan
	North Atlantic . . . . .	Lebanon (Pa.)	Lebanon
	North Carolina State . . . . .	Salisbury (N.C.)	Landis (N.C.)
	Ohio-Indiana . . . . .	Marion (O.)	Marion
	Pony . . . . .	Hornell (N.Y.)	Olean (N.Y.)
	Sooner State . . . . .	Ada (Okla.)	McAlester (Okla.)
	Tobacco State . . . . .	Lumberton (N.C.)	Rockingham (N.C.)
	Virginia . . . . .	Emporia (Va.)	Emporia
	Western Carolina . . . . .	Newton-Conover (N.C.)	Lenoir (N.C.)
	Wisconsin State . . . . .	Oshkosh (Wis.)	Oshkosh

\*Play-off winner awarded league championship.

†Bluefield won both halves of split season; Bristol was second in final half and in over-all standing.

The 1950 interleague champions were: junior world series—Columbus (American association) 4, Baltimore (International) 1; Dixie series—San Antonio (Tex.) 4, Nashville (Southern) 3; Gulf Coast-Rio Grande valley—Corpus Christi (Rio Grande valley) 4, Jacksonville (Gulf Coast) 3; Arizona-Texas-Sunset—Juarez (Arizona-Texas) 5, Mexicali (Sunset) 5 (tie scores).

FILMS OF 1950.—*Baseball Fundamentals and Techniques*—N.Y. Giants (Ideal Pictures Corp.); *Baseball Today* (Association Films, Inc.) (L. RE.)

**Basketball.** A sharpshooting band of players representing the City college of New York city proved a real "Cinderella" team of the college court campaign during 1950 by carrying off laurels in the National Invitation tournament and the National Collegiate Athletic association championship to become the first five ever to capture both tourneys in the same year. The Beavers, who were not ranked among the nation's top ten clubs during the regular season, closed out their campaign with a winning streak that completely upset the experts.

Going into the final round of the national invitation test at Madison Square Garden against Bradley university as a three-point underdog, City college staged a second-half drive that subdued the Braves from Peoria, Ill., 69-61, to thrill a gathering of





CITY COLLEGE OF NEW YORK v. BRADLEY during the 1950 National Intercollegiate Invitation tournament in New York city. Bradley was defeated in the final game, making C.C.N.Y.'s the first basketball team to win both this and the National Collegiate Athletic association tourney in the same year

18,000 that saw the Beavers fall behind 30-27 in the opening half. City had earned the right to play in the final by eliminating San Francisco, 65-46; Kentucky, 89-50; and Duquesne, 62-52. After drawing a first-round bye, Bradley halted Syracuse, 78-66, and St. John's of Brooklyn, 83-72.

The same fives survived their regional play-offs to make their way into the final for the N.C.A.A. championship and once again City college checked Bradley, 71-68, after gaining a 39-32 advantage in the initial half. City earned the right to play for the title by conquering Ohio State, the Big Ten king, 56-55, and North Carolina State, 78-73, in the Eastern regional play-offs, while Bradley turned back the University of California at Los Angeles, 73-59, and Baylor, 68-66, in the Western eliminations.

The second annual national Catholic tournament was played at Siena college in Albany, N.Y., and the host five captured the title when it set back St. Francis of Brooklyn, 57-50, in the final contest after overcoming a 32-28 half-time deficit. North Carolina college won honours in the fifth annual tournament of the Negro Intercollegiate association played at Washington, D.C., when it subdued West Virginia State 74-70. The losers had annexed honours in the association's regular campaign.

Ohio State set a blistering pace in the Western conference to gain the Big Ten laurels. The Buckeyes rolled up a total of 787 points in 12 contests to break the conference team scoring record. The former mark of 783 points had been established by Illinois in 1949. Princeton, after losing its opening league contest, swept through ten straight games to win the Eastern Intercollegiate (Ivy) league championship for the first time since 1932. Kentucky rolled to its seventh straight Southeastern conference title and Adolph Rupp, veteran mentor of the high-scoring Wildcats, won general acclaim as the "coach of the year."

Among other college champions during the campaign were: U.C.L.A., Pacific Coast conference; North Carolina State, Southern conference; Bradley, Missouri Valley conference; Arkansas and Baylor (tied), Southwest conference; Kansas, Kansas State and Nebraska (tied), Big Seven conference; Brigham Young, Skyline Six conference; and Indiana State, National Association

of Intercollegiate Basketball.

The Phillips "66" Oilers of Bartlesville, Okla., regained the men's national Amateur Athletic union championship and the Nashville Business college of Tennessee came through to victory in the women's tournament.

The long professional campaign featured high-scoring games, the deciding contest of the final play-offs for the National Basketball association crown being no exception as the Minneapolis Lakers conquered Syracuse 110-95 on the victors' court. George Mikan accounted for 40 markers as the Lakers retained their title by a margin of 4 games to 2.

Scranton, Pa., came through to the top in the American league race, turning back Bridgeport, Conn., 3-2 in the best-of-five series for the championship of that organization. (T. V. H.)

**Basutoland:** see BRITISH SOUTH AFRICAN PROTECTORATES.

**Baudouin** (BAUDOUIN ALBERT CHARLES LEOPOLD AXEL MARIE GUSTAVE, DUKE OF BRABANT) (1930- ), prince royal of Belgium, was born at Stuyvenberg castle, near Brussels, on Sept. 7, elder son of King Leopold III (*q.v.*) and Queen Astrid. Just before he was five he lost his mother in a motor accident and was almost ten when Belgium was invaded by the Germans. He accompanied his father during his internment in Germany (June 1944-May 1945) and his subsequent voluntary exile in Switzerland. He was for the most part privately educated but during his father's stay at Pregny, near Geneva (1945-50), he attended a state college at Geneva. On Aug. 11, 1950, before a joint session of the senate and the chamber of representatives, he was informed that parliament had granted him power to exercise the royal prerogatives, to which he answered in French and Flemish, "I accede to the wish of parliament." He took the oath to observe the constitution and the law.

By the terms of his father's abdication he was to ascend the throne on Sept. 7, 1951.

**Bauxite:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Bayar, Celâl** (1884- ), president of Turkey, was born May 15 at Umurbey, near Bursa, the son of a Turkish immigrant from Bulgaria. He was educated at a French school at Bursa. Later, imbued with the western outlook, he entered the *Deutsche Orient Bank*. After the Young Turk revolution in 1908 he became secretary of the Committee of Union and Progress in Izmir, in which capacity he worked for Turkish nationalism. In the revolution of Kemâl Atatürk and the war against the Greek invasion he took an active part, placing himself at the head of the resistance movement. From Feb. 27, 1921, to Jan. 15, 1922, he was minister of national economy. On March 6, 1924, he was appointed minister for exchange and rehabilitation of refugees. He resigned on July 7, 1924, to become head of the newly founded İş (Business) bank. In 1932 he returned to the government as minister of national economy; he became acting prime minister on Sept. 20, 1937, and succeeded İsmet İnönü as prime minister on Oct. 25, 1937. Following the death of Atatürk (Nov. 1938) and the election of İnönü as second president of the republic. Bayar resigned on Jan. 25, 1939. Re-elected deputy, he became the leader of a minority within the Republican People's party who warned their colleagues against the dangers of a one-party system. In June 1945 he resigned from the R.P.P. and on Jan. 7, 1946, formed the Democratic party, which won 62 seats in the elections on July 21, 1946, and which under his leadership secured an overwhelming victory in the elections of May 14, 1950. He was elected third president of the Turkish republic by the new parliament by 387 votes against 64 for İnönü. (MA. B.)



**Bechuanaland Protectorate:** *see* BRITISH SOUTH AFRICAN PROTECTORATES.

**Beef:** *see* MEAT.

**Beer:** *see* BREWING AND BEER.

**Belgian Colonial Empire.** The Belgian colonial empire consists of the colony of the Congo in central Africa and the adjacent trust territory of Ruanda-Urundi. The accompanying table gives material relative to all territories administered by Belgium. Total area: about 925,094 sq.mi. Total pop. (1949 est.): about 14,810,500. Chief towns (white pop. only, Dec. 1948 est.): Léopoldville (cap., 7,244); Elisabethville (6,240); Stanleyville (1,517); Costermansville (1,511). Governor general: Eugène Jungers.

**Belgian Congo.**—The ten-year plan for the Congo's economic and social development, published in 1949, formed the starting point for 1950. Pierre Wigny, minister for the colonies, obtained approval for his schemes from the Belgian cabinet in February and visited London and Paris to obtain informal co-ordination from two governments with neighbouring colonial interests. Eugène Jungers, governor general of the Congo, expounded aspects of the program to the annual meeting of the Congo government council at Léopoldville (July 17-22).

Two important steps to raise native standards were the opening of the first all-native co-operatives of many types (planters, fishermen, artisans, etc.) under government supervision and the creation of a savings bank in which natives were for the first time allowed to deposit both personal and corporate funds. A decree was passed prohibiting polygamy after the end of 1950.

Representations by the principal organization of white settlers (U.C.O.L.), asking for the exclusion of natives from the nominated and consultative government council were rebuffed by Jungers. Proposals to create a Congo legislative council, with powers comparable to those of the Belgian parliament, he referred to the government council, which rejected them. The government council, however, asked that it should be compulsory for the government to submit proposed decrees of importance to the council or its standing committee and to justify before its members any failure to introduce such legislation as the council might twice request. At the same time the council reaffirmed the governor general's duty to issue urgent decrees on his own responsibility.

Under the ten-year plan the colony's 44,000 European population was to be doubled. A propaganda campaign was opened in Belgium to attract professional skill to the Congo, especially engineers, agricultural technicians and doctors. Plans were approved

for a new airport 20 km. east of Léopoldville, and arrangements made for the Belgian air force to do much of its training in the Congo. Additional hydroelectric plants were erected, chiefly in the Katanga province and the neighbourhood of Stanleyville. In both these areas there was an extension of private building.

In October a 4% Congo loan of 60,000,000 Swiss francs, to be repaid in ten annual instalments from the end of 1959, was floated. Other financial developments included the raising of the official rate for "free" gold sales from the Congo from 64,000 to 66,000 Belgian francs a kilogram. A number of natives in the Kivu province and Ruanda-Urundi were arrested on a charge of illicitly extracting and exporting alluvial gold.

**Ruanda-Urundi.**—In February the U.N. Trusteeship council approved the administration of this territory, but recommended steps to abolish flogging. They rejected the claim of Mwambutsa, *mwami* (king) of Urundi, to the legal sovereignty of 60,000 inhabitants of the Bugufi district of Tanganyika. Accompanied by his brother and three other chiefs, Mwambutsa visited Belgium in July (as the *mwami* of Ruanda had done the year before). He was received by the regent and subsequently by King Leopold III and Queen Elisabeth.

**Education.**—Belgian Congo (Jan. 1949): European schools 44, pupils 6,470; native schools 26,293, pupils 878,972. Ruanda-Urundi (Jan. 1949): state schools 2, pupils 1,240, native teachers 21. Roman Catholic schools 3,549, pupils 289,835, native teachers 4,749; Protestant schools 437, pupils 34,322, native teachers 638. (H. D. Z.)

**Belgian Congo:** *see* BELGIAN COLONIAL EMPIRE.

**Belgium.** A kingdom in western Europe, Belgium is bounded S.W. by France, N. by the Netherlands and E. by Germany and Luxembourg. Area: (incl. some German frontier localities annexed on April 15, 1949) 11,783 sq.mi. Pop.: (1947 census) 8,512,195; (1949 est.) 8,614,000. Languages (1930): Flemish (Dutch) 42.92%, French 37.56%, German 0.85%, Dutch and French 12.92%, German and French 0.83%. Religion: mainly Roman Catholic. Chief towns (pop., 1948 est.; first figure including suburbs, second figure commune only): Brussels (cap., 1,296,687; 185,112); Antwerp (chief port, 794,280; 266,636); Liège (573,176; 156,664); Charleroi (445,229; 26,262); Ghent (442,792; 166,797); Namur (215,069; 31,637); Bruges (200,850; 52,984). Ruler: King Leopold III (*q.v.*); regents in 1950: Prince Charles and (from Aug. 11) Prince Baudouin (*q.v.*); prime ministers in 1950: Gaston Eyskens, Jean Duvieusart (from June 8) and Joseph Pholien (*q.v.*, from Aug. 15).

**History.**—Belgian politics in 1950 were wholly dominated by

Belgian Colonial Empire

Country and Area (In sq.mi.)	Population (Feb. 28, 1949, est.)	Capital, Status and Governor	Principal Products (1949) (Including Ruanda and Urundi)	Foreign Trade (Francs†, '000,000) (Including Ruanda and Urundi)	Road, Rail and Waterways (Including Ruanda and Urundi)	Budget (Francs† '000)
Belgian Congo, 904,974	Native: 10,914,208 White: 51,639* (Including 36,510 Belgians)	Léopoldville, colony. Governor General: Eugène Jungers	Diamonds 9,884,000 carats Gold 10,383 kg. (In metric tons) Silver 141 Copper (metal) 141,399 Tin (metal) 13,365 Cobalt 1,976 Manganese ore 12,247 Tungsten 169 Cadmium 25 Zinc (concentrates) 109,263 Coal 152,370 Palm oil 121,226 Palm kernels 80,034 Gum copal 10,721 Cotton 46,806 Coffee 31,434 Maize 17,271 Timber 71,359	1949 Imports 10,346 (931,500 metric tons) Exports 11,155 (836,700 metric tons) (1950, six months) Imports 4,574 (438,000 metric tons) Exports 5,845 (407,800 metric tons)	Roads (1949): 116,303 km. Railways (1948): 4,747 km. Waterways (1948): 25,412 km. (including 12,284 km. for barges of 40 tons only) Motor vehicles (Dec. 1949): (Excluding Ruanda and Urundi) Cars 8,000 Commercial vehicles 12,000	Belgian Congo (1949) Rev. 4,562,602 Exp. 4,460,764 (1950 est.) Rev. 4,032,220 Exp. 4,008,982  Index number of the cost of living (July 1935=100) (July 1950=258)
Ruanda and Urundi, 20,120	(1949 est.) Native: 3,808,191	Nianza (Ruanda), Kitega (Urundi), trust territory administered with Congo				Ruanda - Urundi (1949 actual) Rev. 232,062 Exp. 347,504 (1950 est.) Rev. 276,919 Exp. 225,164

\*Including Ruanda and Urundi.

†Although the Congolese franc was technically an independent currency it was equal to the Belgian franc and in Sept.1949 was equally devalued† by 12.34% to the U.S. dollar.



the royal question. The bill, already passed by the senate, to authorize a referendum on the desirability of King Leopold's resuming his prerogatives was debated in the chamber of representatives throughout January and finally passed (117 votes to 92) on Feb. 8. The referendum, at which voting was compulsory, was to be purely advisory. The king had indicated beforehand that if he received less than 55% of the votes cast he would withdraw in Prince Baudouin's favour. The Socialists, with some Liberal support, maintained that only a Leopoldist vote of 66% or 70% in the country as a whole, with at least a bare majority in each of the three regions—Flanders, French-speaking Wallonia and Brussels—would justify his return.

The referendum passed off quietly on March 12. It showed a 57.68% majority for the king (2,933,745 against 2,151,099). But whereas Flanders produced a 72% Leopoldist result, the Walloon vote was 57.8% hostile and Brussels polled 51.8% against the king. Summoning the Social Christian (Catholic) premier, Gaston Eyskens, and the presidents of the two houses of parliament to his home at Pregny, near Geneva, Switz., King Leopold issued a statement showing that while he would not take action in advance of parliament's verdict, he himself interpreted the results as a signal for his recall.

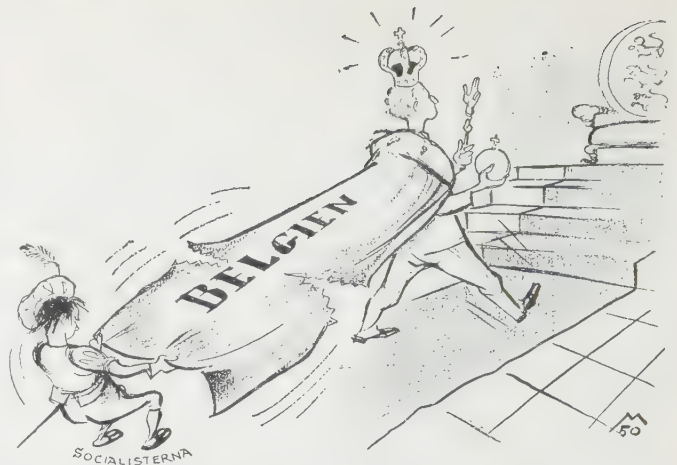
The Social Christian majority of the government was now anxious to summon a joint session of the two houses to end the regency. The Liberals, however, withdrew their eight representatives from the two-party cabinet, which resigned on March 18. The Socialists gave notice that they would oppose the king's return by every means, including a general strike.

After the 81-year-old Count Henri Carton de Wiart, a former Catholic premier, had failed to form a government on March 24, and after successive failures by Albert Deveze, the outgoing Liberal vice-premier and minister of defense, and Paul van Zeeland, the outgoing Social Christian foreign minister and former premier, Zeeland and the king's secretary, Jacques Pirenne, went to Geneva to see King Leopold, who (by a recording made in Switzerland) broadcast to his people on April 15 for the first time since 1940. His message contained a suggestion, previously mooted both by Liberals and by Socialists, that he might return to the throne but "delegate the exercise of his powers temporarily" to his 19-year-old heir.

At the suggestion of Paul-Henri Spaak, the former Socialist premier, three-party talks were held to discuss how this offer, criticized by the more extreme Leopoldists, might be implemented. The opposition's misgivings lest the king should ultimately resume his original powers from Prince Baudouin were increased when a further visit of Zeeland to Geneva produced a refusal from the king to leave Belgium after transferring his prerogatives. The Socialists withdrew from the negotiations, and after fresh friction with the Liberals, Eyskens and Zeeland jointly persuaded the regent to grant a dissolution.

Elections were held on June 4. The Social Christians, gaining 47.68% of the votes (just 10% below the Leopoldists' results in the referendum), returned with 108 out of 212 seats in the chamber—the first clear parliamentary majority since 1914. The Socialists had 77 seats, Liberals 20, Communists 7. Jean Duvieusart, 50-year-old minister for economic affairs in the Eyskens government, formed a new all-Catholic cabinet of eight Flemings and seven Walloons. Duvieusart visited King Leopold and, having announced his intention of calling a joint session of the two houses to repeal the Regency law, obtained a vote of confidence from each house separately.

On July 20, the bill ending the regency passed by 198 votes to none, the Socialists, Communists and almost all the Liberals having walked out. In the early morning two days later—time and place being kept secret—King Leopold, Prince Baudouin and Prince Albert landed at Evere military airport and drove straight



"CAREFUL, YOUR MAJESTY!" Swedish cartoon by Malachowski which appeared in the *Stockholms-Tidningen* in 1950

out to Laeken palace.

A few hours later King Leopold broadcast to the nation, sent messages to parliament, confirmed the Duvieusart cabinet in office and summoned to a crown council the ministers of state. Count Hubert Pierlot, the wartime Catholic premier, declined to attend. The Socialists had already resigned their honours. The Liberals left without meeting the king, and their executive issued a statement refusing political co-operation with him and urging his "voluntary and honourable abdication." On the other hand, an immense quantity of flowers, chiefly from Flemish supporters of the king, began to arrive at the palace.

A campaign of sabotage by explosives, chiefly directed against railway and telephone lines, and widespread strikes in Wallonia, were described by Spaak in the chamber as "having the character of an insurrection, though they might be the beginning of a revolution." The flag of Walloon separatism was raised in Liège, Charleroi and elsewhere, and within a week 500,000 men were on strike. Sabotage blocked most railway lines and some main roads. On July 30 Max Buset, the Socialist party chairman, declared that unless decisive steps were taken, there might be civil war the following day. In defiance of the government preparations had already been made for a "march on Brussels" on Aug. 1 by 100,000 persons from Walloon mines and factories.

The cabinet sat almost continuously through the night of July 30–31. By 8 P.M. on July 31 an agreement in principle was reached between the party leaders, the government and the king's representative. The prime minister was to broadcast the actual text two hours later. Its basis was that the king should hand over his powers to Prince Baudouin at once and abdicate on the prince's 21st birthday, Sept. 7, 1951. He was not, however, obliged to return into exile. King Leopold now revived an already rejected condition that he might at his own discretion resume full powers from Prince Baudouin. The broadcast was cancelled, and it was not until 6:30 A.M. on Aug. 1 that the king was persuaded to accept the solution agreed to on the previous day. In a subsequent open letter to the prime minister he made it clear that he yielded only to the threat of being left without a government at all.

The bill transferring powers to Prince Baudouin provoked some fresh parliamentary scenes, but passed both houses in turn (160 votes to 127 and 121 to 22). On Aug. 11 a joint morning session of the two houses resolved that the royal prerogative should henceforth be exercised by the prince royal, Baudouin. The same afternoon he took the oath before the two houses and the principal notables of the realm.

Prince Baudouin's first political act was to ask Zeeland, the strongest Leopoldist in the previous cabinet, to form a new gov-



ernment. This he did on Aug. 15, but opposition of the moderates forced Zeeland, while remaining foreign minister, to yield the premiership to Joseph Pholien, a 66-year-old Catholic senator. Except for a new nonpolitical minister of defense, Col. Edouard De Greef, the government was composed, like its predecessor, entirely of members of the Social Christian party but all the senior ministers of the former cabinet, apart from Zeeland, were eliminated. The chamber and senate passed a vote of confidence in the new government (107 to 78 and 82 to 61) before going into recess.

(H. D. Z.)

**Education.**—(1948-49) Elementary: infant schools 4,064, pupils 272,264; primary schools 8,735, pupils 770,822; adult schools 356. Secondary: state lower-grade (*athénées*) 117, pupils 53,272; higher grade (*écoles moyennes*) 140, pupils 39,362; "free" (Catholic) schools 458, pupils (1946) 65,918. Teachers' colleges: infant 39, students 1,223; elementary 81, students 8,460; secondary 41, students 841. Universities 4, students 16,723.

**Finance and Banking.**—Budget: (1950) revenue 57,810,000,000 fr., expenditure 64,431,000,000 fr.; (1951 est.) revenue 58,208,000,000 fr., expenditure 63,745,000,000 fr. National debt (July 1950) 250,521,000,000 fr. Currency circulation (Sept. 1950) 90,000,000,000 fr. Gold and foreign exchange (Sept. 1950) U.S. \$781,000,000. Bank deposits (Aug. 1950) 68,300,000,000 fr. Monetary unit: Belgian franc with an exchange rate of 50.50 fr. to the U.S. dollar.

**Foreign Trade.**—(Belgo-Luxembourg Economic union, 1949): import 81,720,000,000 fr.; export 79,788,000,000 fr. Main sources of imports: U.S. 18%; France 10%; the Netherlands 9%; U.K. 9%. Main destinations of exports: the Netherlands 15%; western Germany 11%; U.K. 9%; France 8%. Main imports: machinery and mechanical apparatus 9.6%; cereals 7.1%; meat and dairy products 5.9%. Main exports: iron and steel manufactures 31.2%; wool and cotton manufactures 14.4%; railway equipment 5.9%.

**Transport and Communications.**—Roads (1949): 6,648 mi. Licensed motor vehicles (Dec. 1949): cars 226,961; commercial 132,987. Railways (1949): 3,209 mi.; passenger-miles 4,071,000,000; freight net ton-miles 3,520,000,000; freight carried 60,132,000 tons. Shipping (July 1949): number of merchant vessels of more than 100 gross tons 215; total tonnage 435,656. Total length of navigable waterways 967 mi. Air transport (1949): number of flights (arrivals) 10,417; passenger-miles 120,000,-

000; cargo net ton-miles 3,251,000; air mail carried (metric tons) 662. Telephones (1949): subscribers 438,157. Radio receiving sets (1949) 1,374,400.

**Agriculture and Fisheries.**—Main crops (metric tons, 1949): wheat 590,000; barley 247,000; oats 587,000; rye 258,000; potatoes 2,047,000; sugar, raw value 344,000. Livestock (Jan. 1950): cattle 2,761,000; sheep 121,000; pigs 1,361,000; horses 257,000; goats 51,000; poultry 18,000,000. Meat production (metric tons, 1949): total 260,000, of which beef and veal 122,000 and pork 136,000. Fisheries: total catch (1949): 68,300 metric tons.

**Industry.**—Industrial establishments (Jan. 1948): 248,128; persons employed 1,000,010. Fuel and power (1949): coal 27,852,000 metric tons; manufactured gas 1,632,000,000 cu.m.; electricity 8,160,000,000 kw.hr. Raw materials (metric tons, 1949): pig iron 3,744,000; steel ingots and castings 3,840,000; copper smelter 133,000; zinc 177,000; lead 79,000; tin 9,100; aluminum 2,300. Manufactured goods (metric tons, 1949): cement 2,928,000; woven cotton fabrics 60,000; cotton yarn 84,000; wool yarn 36,000; rayon cloth 5,000; paper 264,600.

**Benefactions:** see DONATIONS AND BEQUESTS.

**Benelux:** see BELGIUM; EUROPEAN UNION; LUXEMBOURG; NETHERLANDS.

**Benton, William** (1900— ), U.S. senator and publisher, was born on April 1 in Minneapolis, Minn. He was graduated from Yale university in 1921. In 1929, in partnership with Chester Bowles, he founded the advertising agency of Benton and Bowles.

Benton retired from the agency in 1936, and in 1937 became vice-president of The University of Chicago, on a part-time basis. At his instance the university acquired Encyclopædia Britannica, Inc., in 1943. He financed the company, became chairman of its board and shared its ownership with the university. He launched Britannica into the classroom motion-picture field and served as chairman of Encyclopædia Britannica Films Inc.

During this period, in collaboration with Paul Hoffman, he helped to found the Committee for Economic Development, and he was active in inter-American affairs.

Benton was appointed U.S. assistant secretary of state by Pres. Harry S. Truman on Aug. 31, 1945, and served until Sept. 30, 1947. He developed the country's first peacetime program of international information and educational exchange and took responsibility for U.S. participation in the United Nations Educational, Scientific and Cultural organization.

In Dec. 1949 Benton was appointed U.S. senator from Connecticut, where he had lived for 17 years, by Governor Bowles, to succeed Raymond E. Baldwin, who resigned from the senate effective Dec. 17, 1949. His first year in the senate was marked by his proposal of a "Marshall Plan of Ideas"; by his vigorous espousal of the Hoover commission recommendations on government reorganization; and by his activities in behalf of small business. In the election of Nov. 7, 1950, he was returned to the senate for two more years.

**Bequests, Philanthropic:** see DONATIONS AND BEQUESTS.

**Berlin.** Capital of the German reich from 1871 to 1945, Berlin was still by 1950 the largest city of Germany. Area: 343.6 sq.mi. Pop.: (1939 census) 4,321,500; (1946 census) 3,180,300 or 26.4% less. From June 6, 1945, to June 24, 1948, Berlin was administered by an inter-Allied government authority (in Russian, *Kommandatura*) consisting of the commandants of the four sectors of Berlin. After June 24, 1948, when the soviet commandant proclaimed the dissolution of the *Kommandatura*, Berlin was in fact divided into two opposing administrations. The three western sectors (pop., mid-1950 est., c. 2,500,000) in 1950 were under the authority of the three following Allied commandants: Great Britain, Maj. Gen. G. K. Bourne; United States, Maj. Gen. Maxwell D. Taylor; France, Gen. Pierre Carolet. In the soviet sector (pop., mid-1950 est., 900,000) the civil administrator was Serghy A. Dienghin (who on June 7 succeeded the



BELGIAN RIOT SQUADS battling demonstrators in Brussels on July 28, 1950, following the return of King Leopold after six years of exile. Tension subsided on Aug. 1, when the king agreed to relinquish his sovereignty to Prince Baudouin until the youth's 21st birthday in 1951, when Leopold would abdicate finally in favour of his son



military commandant, Maj. Gen. Alexander G. Kotikov). There were also two rival German city governments and two lord mayors: Ernst Reuter, appointed *Oberbürgermeister* on Dec. 7, 1948 by a city assembly elected by the population of the three western sectors; Friedrich Ebert, appointed provisional *Oberbürgermeister* of the soviet sector on Nov. 30, 1948 by a meeting summoned by the Communist S.E.D. (*Sozialistische Einheitspartei Deutschlands*).

**History.**—During 1950, two city councils and two lord mayors still functioned. The fiction of unity was, however, maintained by all four occupying powers. Western Berlin remained outside the western German Federal Republic and elections in the eastern German Democratic Republic did not include eastern Berlin.

Communist attempts to interfere with the Dec. 3 election in western sectors were unsuccessful. Their proposals for postponement until "free democratic elections" could be held throughout the whole city, in March 1951, were rejected by both the western Berlin government and the three western Allied commandants. These proposals, similar to those unsuccessfully put forward in May, were made on Nov. 26, in a letter to the four commandants and the German administrations in western and eastern Berlin. They would have opened the way to Communist control since they demanded withdrawal of all occupation forces. Soviet troops and German *Volkspolizei* would still be on the outskirts of the city but the nearest Allied troops would be 100 mi. away.

**Western Sectors.**—More than 90% of the 1,664,091 electors in western Berlin refused on Dec. 3 to obey the eastern German government's instructions to boycott the municipal elections. Having received 653,974 votes or 44.7% (compared with 858,100 or 64.5% on Dec. 5, 1948), the Social Democrats remained the largest party. The Christian Democrats increased their vote from 253,496 (19.4%) to 360,829 (24.6%) and the Liberals or Free Democrats from 214,224 (16.1%) to 337,477 (23.0%).

Grave economic problems continued to worry the city authorities and the western Allies. Basically they were political, since this former capital could flourish only in a united Germany. Any measures taken meanwhile could be only palliatives. What was needed was a substitute for markets denied to western Berlin in the east. Foreign and western German orders had in the meantime helped to restore normal economic and political conditions. The labour force in the three western sectors amounted to 1,168,000 men and women, with about 30% either unemployed or in makeshift jobs. The city budget was 1,500,000,000 deutschemark with a deficit of 655,000,000 DM. Excluding charges resulting from World War II, this was about the same as the normal budget before 1933 but without the former sources of wealth. Federal republic aid amounted to 540,000,000 DM. annually. Investment needs in 1950-51, according to city authorities, totalled 1,134,000,000 DM. Of this it was estimated that 160,000,000 DM. could be met from public and 319,000,000 DM. from private sources. This left 650,000,000 DM. to be supplied from ERP (European Recovery program) and G.A.R.I.O.A. (Government Appropriation and Releases in Aid of Occupied Areas) funds.

Great strides in industrial production, however, were made during the year. In January this was valued at 95,000,000 DM. and in September at 175,000,000 DM. (42.7% of 1936). One important achievement was the completion of the electric power station which made the western sectors independent of eastern German supplies. Exchange rates of western and eastern marks varied between 1:8 and 1:4.5. Resulting price differences created serious problems in the western sectors.

Western Berlin's position as an outpost of democracy behind the "iron curtain" received greater consideration from the Federal republic during 1950. On Feb. 3 Heinrich Vockel took up residence as official representative in Berlin of the Bonn government. On March 24 the federal parliament decided that the



SOVIET INSPECTION OF PAPERS of four persons holding legal permission to leave the eastern zone of Berlin in 1950. Others left the zone illegally during the year, in a steady flow westward

federal administrative court and certain other federal organs should be transferred to western Berlin and on April 17, a *Bundeshaus* was opened by Chancellor Konrad Adenauer.

The new western Berlin constitution was promulgated on Oct. 1, in the presence of Pres. Theodor Heuss, members of the federal government and parliament and the three western commandants. When, on Aug. 29, the constitution was approved by the three western commandants it was stated that western Berlin would have the status of a *Land* and a city, but would not be legally recognized as the 12th *Land* of the federal republic.

A number of exhibitions and congresses held in western Berlin during 1950 attracted world attention. Among them were a motor car show (June 4) and an international exhibition of industry (Oct. 1-14). The International Congress for Cultural Freedom (June 26) brought to Berlin world-prominent anti-Communist spokesmen, and on Oct. 24 a Freedom Bell was unveiled in the tower of the *Schöneberg Rathaus* (headquarters of the western Berlin city council). The ceremony was performed by Gen. Lucius D. Clay, former U.S. military governor in Germany and president of the organization Crusade for Freedom which presented the bell.

**Soviet Sector.**—Indications of food and other shortages were shown by the manner in which eastern Berliners took every opportunity to cross over into western sectors to buy food, though prices there were much higher because of the low rate of the eastern mark. Indicative of the political feelings of eastern Berliners was their response to the invitation from western Berlin authorities to show whether they favoured a united Berlin on the basis of free and secret elections by sending in their used ration cards for September to the *Schöneberg Rathaus*. From an electorate of 850,000, as many as 375,712 responded (Oct. 3-10).



About 60,000 western Berliners still worked in the eastern sector and were paid in eastern marks, but had to pay most of their bills in western marks. This was a great hardship since the western sector authorities could compensate only in part for the loss. Communists attempted by all kinds of pressure to get these people to transfer their homes to the soviet sector.

Greatest activity during the year was in clearing away rubble and in building—not so much private dwellings as enormous public structures. Many historical monuments were destroyed or removed elsewhere. Berlin *Schloss* was taken down to make place for huge tribunes where hundreds of thousands of spectators could watch demonstrations on the great parade ground of the *Lustgarten*. The monument of Frederick the Great, formerly on Unter den Linden, was removed to Potsdam, and a new soviet embassy replaced on Unter den Linden the former one destroyed during World War II.

(J. E. WI.)

**Bermuda.** Bermuda is a British colony of about 300 small islands in the western Atlantic about 580 mi. east of Cape Hatteras in North Carolina. Area: 21 sq.mi. Pop. (1948 est.): 36,169 including 13,173 white. Chief towns: Hamilton (cap., c. 3,500); St. George (c. 1,300). Governor (1950): Lieut. Gen. Sir Alexander Hood.

**History.**—The admiralty announced in 1950 that for reasons of economy it had decided to close the dockyard by the end of March 1951. The colonial legislature set up a permanent joint committee to handle problems arising out of the dockyard's closure. Another problem that faced the colony was the replacement of its cedar trees largely destroyed by disease; the director of agriculture stated that it would be necessary to spend more than £1,000,000 on reforestation.

There was a record tourist season, and work began on a new civilian airport at Kindley field.

**Finance and Trade.**—Currency: Bermuda pound (at par with sterling). Budget (1949): revenue £1,885,548; expenditure £1,706,587. Foreign trade (1949): imports £7,182,178; domestic exports £40,451; re-exports £902,670. Lilies and lily bulbs were the only important domestic exports, and the economy of the colony was primarily dependent on the tourist industry.

(Jo. A. HN.)

**Beryllium:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Best Sellers:** see BOOK PUBLISHING.

**Betting and Gambling.** Gambling, both in terms of money and in incidence, was much reduced during 1950. This was chiefly because of political pressure and investigations that sent many professional gamblers into hiding or caused them to reduce their operations.

Early in the year the Brooklyn district attorney, Miles McDonald, began an investigation of alleged "protection pay-offs" by gamblers to New York city police. Continued investigation and prosecutions in New York led to the sentencing of Frank Erickson, popularly considered one of the biggest U.S. bookmakers, to a two-year prison term. Erickson pleaded guilty to conspiracy and bookmaking.

The murder in April of Charles Binaggio, Kansas City, Mo., politician, and his assistant, Charles Gargotta, was generally reported to be attributable to warfare within a gambling syndicate nation-wide in scope. Largely as a result of this, the U.S. senate in May appointed a committee to investigate nation-wide crime, with Sen. Estes Kefauver, Tennessee Democrat, as chairman. This committee's early findings linked gambling more than any other form of crime to political corruption. The committee travelled to Miami, Fla., to Los Angeles, Calif., to New York, N.Y., and twice to Chicago, Ill. At the year's end it was in Tampa, Fla., with New Orleans, La., next on the list.

Much violence and corruption was attributed to the investigation.

The revelations of this committee were thought to have had some influence on the November elections, contributing to the defeat of some Democratic candidates in Chicago and New York.

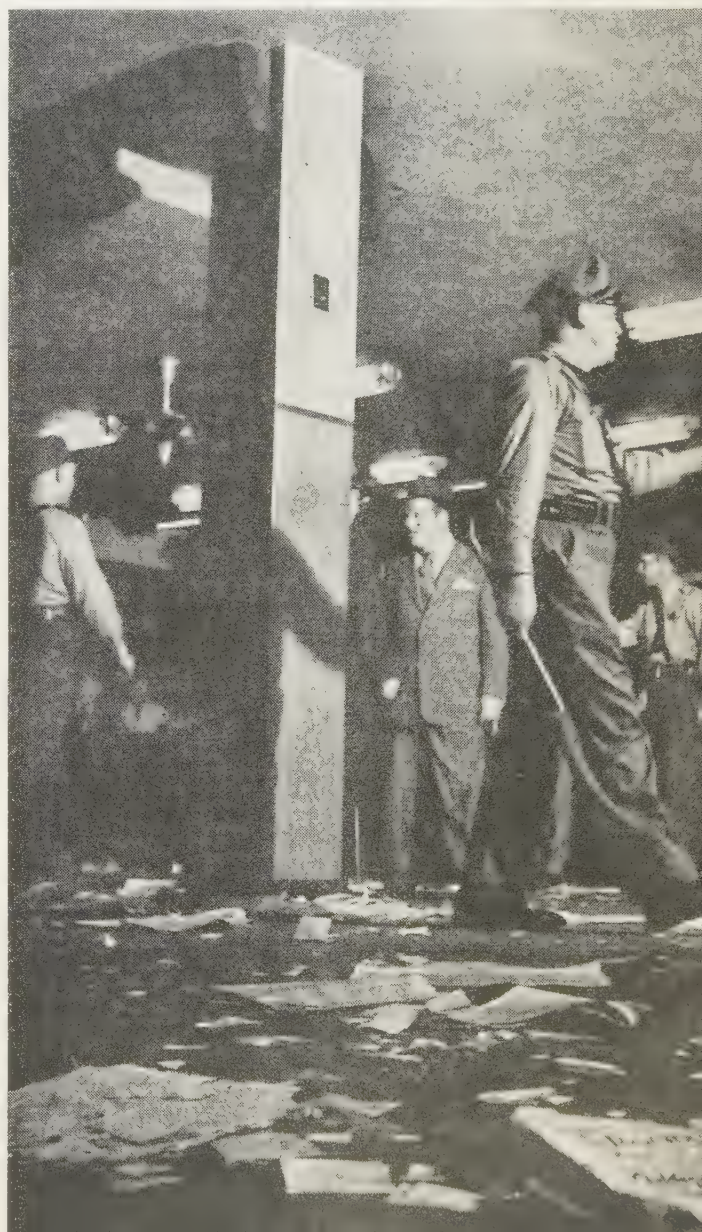
Few corrective laws were passed, though in December Pres. Harry S. Truman signed a bill prohibiting the interstate shipment of gambling slot machines. However, efforts to legalize gambling were generally unsuccessful. California and Arizona voters, in the November elections, refused amendments that would have made gambling in various forms legal. Massachusetts voters turned down a proposed state lottery. The proposal that bookmakers be licensed, made early in the year by Mayor William O'Dwyer of New York, was opposed by Gov. Thomas E. Dewey, and no further action was taken on it.

Many gambling houses closed, and many more reduced their staffs because of diminished play. It was a moot point, however, whether this entrenchment was caused more by fear of arrest or by increased costs of necessities of living.

The betting totals at the nation's race tracks, where betting is legal, were reduced an estimated 10%; betting away from the track may have been reduced as much as 50% from 1949 totals. There was less betting on sports events.

Forms of gambling remained the same, with almost the only development a revival of interest in keno in the south and south-

STATE POLICE RAIDING a gambling establishment in southern Illinois during a state-wide cleanup campaign launched in 1950. Racing papers are shown littering the floor where they were dropped by patrons during the surprise raid





west. This represented little more than a substitution of keno for bingo games, however, and the two games are very similar, both being forms of lotto. (A. H. MD.; M. ML.)

**Great Britain.**—In 1950 the Royal Commission on Betting, Lotteries and Gaming, which was appointed in 1949, completed the hearing of evidence. Its report was expected in 1951.

The only official statistics for betting in Great Britain were as follows:

	1950	1949 (£million)	1948
Totalizator at race tracks . . . . .	25.5*	25.8*	26.3*
Totalizator at dog tracks . . . . .	70.5†	85.6‡	99.5‡
Pools (all forms) . . . . .	52.3†	64 †	61 †

Sources: \*Race Course Betting Control Board.  
†Customs and Excise Return. ‡Home Office.

These statistics show the continued decline in betting that was apparent in 1949. The changing economic situation may have contributed to this, for the excess money of the years immediately after World War II was absorbed in the higher cost of living and the more plentiful supply of consumer goods. The taxation imposed on the totalizator at dog racing tracks may also have diverted money to bookmakers operating off the course. There were no statistics for the business carried on by bookmakers; they were not obliged to publish accounts.

Despite the slight decline in turnover on pools, 1950 would be remembered for its record-breaking pool prizes. In a period of less than two months, from Sept. to Nov. 1950, a series of winners drew sums ranging from £68,420 to £104,417. Three of the wins were of more than £100,000, and there were three of more than £90,000. At the peak win it was decided to limit future prizes to a maximum of £75,000. By the end of the year this new maximum had not been won.

The fact remains that during 1950 there was slightly less active interest in betting, and that those participating were spending less than in previous years. With more than 70% of the adult population indulging in a regular gamble it was not possible to assess whether this decline was of a temporary or permanent nature.

**Commonwealth.**—In Australia there was no sign of a decline in betting, which was carried on by more than 80% of the population. In three of the six states there was a government lottery every month (every week in Western Australia), where the prizes ran as high as £15,000 tax free. Only in Victoria and South Australia were lotteries forbidden. The betting turnover for the whole country was more than £250,000,000 a year. In New Zealand the interest in betting was as great as in Australia. The government ran ten lotteries each year and also took a large percentage from the totalizator at race tracks. In India and Pakistan there were no lotteries but football pools, based on the British games, had been started. South Africa, in contrast, had declared all dog racing and football pools to be illegal.

**Europe.**—The Netherlands had joined Norway and Sweden in sponsoring state-owned football pools based on the results of British games. There was little interest in betting as a commercial organization in any of these three countries. (H. C. LA.)

**Bevin, Ernest** (1881— ), British foreign secretary, was born at Winsford, Somerset, Eng., March 9. He became national organizer of the Dockers' union in 1910, and in 1921 secretary of the newly formed Transport and General Workers' union. From 1925 to 1940 he was a member of the general council of the Trades Union congress and in 1937 was chairman. In May 1940 he became minister of labour in Winston Churchill's coalition government and entered the house of commons for central Wandsworth. He became secretary of state for foreign affairs in the Labour government in July 1945. In 1949 he

signed the North Atlantic treaty and the statute of the Council of Europe on behalf of the United Kingdom. In Jan. 1950, he attended the first Commonwealth Foreign Ministers' conference at Colombo, Cey. On Feb. 23, he was elected M.P. for East Woolwich, and on Feb. 28 was reappointed foreign secretary. In March he had discussions with the French foreign minister, Robert Schuman, and in April he went to Strasbourg, Fr., to attend a meeting of the Committee of Ministers of the Council of Europe and to Paris to attend a council meeting of the Organization for European Economic Cooperation. During May he had several discussions with the U.S. secretary of state, Dean Acheson, including one on the question of an Austrian peace treaty at which Robert Schuman was also present. On three occasions during the year, in March, April and June, he underwent surgical treatment. He attended the Consultative assembly of the Brussels treaty powers at The Hague on Aug. 1 and took part in the meeting of the Committee of Ministers at Strasbourg which began on Aug. 3. On Sept. 7 he sailed for New York where he conferred with Dean Acheson and Robert Schuman on Sept. 12 and attended a meeting of the North Atlantic council before the opening of the U.N. general assembly on Sept. 19. In early December he had discussions with the Egyptian foreign minister on Anglo-Egyptian political differences.

**Bhutan.** A semi-independent state in the eastern Himalayas, Bhutan lies between Tibet and India. Area: c. 18,000 sq.mi. Pop. (no census ever taken, 1949 unofficial est.): 300,000. Language: a dialect of Tibetan. Religion: mainly Buddhist. Capital, Punakha. Ruler, Maharaja Jigme Wangchuk.

**History.**—By virtue of the treaty of friendship between India and Bhutan, the text of which was presented to the Indian constituent assembly on Dec. 14, 1949, India in 1950 became responsible for the external relations of Bhutan but undertook to exercise no interference in the internal administration of the state, which in effect acceded to India. The new arrangement with India represented a continuance of the relations which existed between Bhutan and the former British government of India.

A mountainous state with a population mainly of Tibetan origin, Bhutan was disturbed by events in Tibet in the latter part of the year; but, although there was the bugbear of imperfectly defined boundaries, the position of this by no means easily accessible country under the Indian umbrella did not cause its people great anxiety. The system of government continued to be that of a secular autocracy, the ruler's possession of absolute authority being tempered by the considerable powers retained by the leading chiefs. (E. HD.)

**Bicycling:** see CYCLING.

**Billiards.** Willie Hoppe, a world billiards champion as far back as 1906, continued to dominate the three-cushion field in 1950. He successfully defended his laurels twice, both times mastering his most persistent challenger, Joe Chamaco of Mexico City. In February, at Chicago, Hoppe retained his crown in the annual universal title tournament against the top survivors in the national championship competition, which was won by Chamaco. At the end of the regular world tourney, Hoppe and Chamaco were deadlocked for first place, each with a record of five victories and one defeat.

Hoppe, who had beaten the Mexican, 50-33, in 48 innings, to force a play-off, turned back Chamaco, 50-28, in 58 innings, to clinch the championship. Before the year ended the pair again met, this time in a 20-block challenge match. Hoppe again proved his mastery over Chamaco by taking the two-week contest, 1,000 points to 873. In the 17th block, which Hoppe won, 50-28, sport's longest reigning champion had a high run of 15, his best competi-



tive performance since he made the same number of points against Welker Cochran in 1937.

Willie Mosconi regained the world pocket-billiard crown and set a world tournament record for a  $4\frac{1}{2} \times 9'$  table with a grand average of 18.34. Mosconi and Irving Crane, who took the national title on total points with Mosconi the runner-up, were tied for world honours in regulation play, each with a 4-2 record. The play-off found Mosconi in front, 150-112, in 18 innings, as he notched his fifth world crown.

Walter Johnson of Ohio State university, Columbus, captured the intercollegiate three-cushion championship and Leroy Kinman of Eastern Kentucky State college, Richmond, retained the pocket crown.

(P. Br.)

**Biochemistry.** **Intracellular Distribution of Enzymes.**—Progress was made during 1950 in studying the relationship between cell structure and cell chemistry. Investigators working on the intracellular distribution of enzymes developed centrifugation procedures which permitted the separation of four cell fractions from tissue homogenates. The four fractions were: (1) cell nuclei; (2) microscopically visible subcellular bodies—mitochondria; (3) submicroscopic particles—microsomes; and (4) a soluble protein fraction. An important feature of the fractionation technique was the use of hypertonic or isotonic sucrose solutions as the suspending medium instead of solutions of electrolytes.

Using mainly mice and rat liver and kidney it was shown that the enzymes which convert glucose to lactic acid are in the soluble fraction of the cytoplasm. The oxidation of pyruvic acid and of fatty acids is carried out by enzymes which are components of the large subcellular particles—the mitochondria. The mitochondria also contain enzymes which can transfer the energy released during the oxidation of pyruvic acid and fatty acids into high-energy phosphate ester bonds. The energy stored in these phosphate ester bonds can later be used to synthesize compounds needed by the cell. Assays of these cell fractions showed that such enzymes as succinoxidase, oxaloacetic oxidase and isocitric dehydrogenase which catalyze the aerobic oxidation of glucose are in mitochondria. However, large amounts of isocitric dehydrogenase also occur in the soluble protein fraction. Cytochrome *c*, a soluble conjugated protein, also occurs in the mitochondria and represented the first example of a protein which had been extracted in a soluble form from what was considered the insoluble portion of the cell. These results emphasized the importance of mitochondria as the centres of respiration in the cell.

**Amino Acid Requirements of Man.**—Using diets containing known amounts of the various amino acids, W. C. Rose and coworkers established minimum amino acid requirements for man. The balance between N (nitrogen) intake and N excretion was used as the criterion for the adequacy of various diets fed to men. On a diet lacking an essential amino acid the amount of N excreted was more than was consumed in the diet. On a complete diet the amount of N excreted was equal to the amount of N consumed. The essential amino acids and the tentatively recommended daily intake (which is twice the minimum daily requirement) were found to be: tryptophane, 0.5 g.; phenylalanine, 2.2 g.; lysine, 1.6 g.; threonine, 1.0 g.; valine, 1.6 g.; methionine, 2.2 g.; leucine, 2.2 g.; and isoleucine, 1.4 g. The adult man does not need the remaining amino acids, including the amino acids histidine or arginine. The latter two are, however, essential for the growth of rats. It was not surprising that arginine is not needed, for it had been shown before that man manufactures considerable amounts of arginine. However, the discovery that adult man can synthesize all the histidine he needs was unexpected. Variability was found in the quantities of the various amino acids needed

by different people. However, for any single individual, the minimum requirements did not vary. These studies made it possible to evaluate the nutritional qualities of proteins for man and to prepare synthetic mixtures of amino acids for intravenous feeding of patients who cannot assimilate food normally. It should be mentioned, however, that patients receiving such mixtures require more calories than they do on a normal diet.

**Protein Synthesis.**—If the timing of the amino acid feeding to a rat is adjusted so that one of the essential amino acids is fed only several hours after the other amino acids have been eaten, the rat cannot grow, even though all the essential amino acids are included in the diet. Apparently incomplete amino acid mixtures are not stored in the organism or used to form intermediary building stones (plasteins) from which protein synthesis could proceed at a later time. It was also found that feeding of all the amino acids, essential and nonessential, promotes growth more effectively than feeding of the essential amino acids alone. It was concluded, therefore, that protein synthesis can occur only when the essential and nonessential amino acids are simultaneously available at the site of protein synthesis. Nothing was known, however, of the factors which control the retention of a given amino acid mixture for protein synthesis or the metabolism and excretion of other amino acid mixtures which are inadequate for protein synthesis.

**Hormones.**—Since the announcement in 1949 that cortisone (Compound E) and the adrenocorticotrophic hormone (ACTH) relieve the symptoms of rheumatoid arthritis, rheumatic fever and other so-called collagen diseases, efforts had been made to understand the relation of the chemical structure of these compounds to their biological activity. ACTH, which is produced by the pituitary gland and which functions by stimulating the production of cortisone by the adrenal glands, was shown by C. H. Li to be a protein of molecular weight about 20,000. In 1950 Li showed that small peptide fragments of molecular weight as low as 1,200 retain their biological activity. If the structure of these fragments could be determined and the fragments synthesized it would aid studies of the mechanism of hormone action and immeasurably supplement the limited amount of ACTH for treating patients. This was desirable since even the partial synthesis of the steroid cortisone was so complex that it would probably remain prohibitively costly on an industrial scale for a long time.

Numerous steroid compounds were tested without success for cortisone activity. The tissues of the body cannot elaborate cortisone from closely related compounds even by the introduction of ketone or hydroxyl groups or of a double bond at C<sub>4</sub>:C<sub>5</sub> in the cortisone nucleus. The adrenal gland itself appears to be the site of the enzymes which synthesize the active compounds. The many steroids which are found in the gland are possibly intermediate compounds which are retained within the gland and are not released upon stimulation until they have been converted into cortisone or the closely related Compound F. This conclusion was based on the fact that dehydrocortisone (Compound A) is almost devoid of physiological activity in the human being and on the fact that only cortisone and Compound F are found in the urine. It was also found that perfusion of the adrenal gland results in the release only of compound F and not of any of the other steroids known to be in the gland.

Experiments by W. C. Stadie and his coworkers cast doubt on the earlier suggestion from C. F. Cori's laboratory that insulin acts by relieving the inhibition caused by pituitary or cortical hormones on the hexokinase reaction. This reaction in which glucose is enzymically converted into glucose-6-phosphate, is obligatory in the metabolism of glucose. Stadie found that neither insulin nor adrenal cortical extracts affected the rate of the hexokinase reaction in extracts from depancreatized cats. He also got a similar negative result with muscle extracts from rats



made diabetic with alloxan. Stadie suggested that the earlier work on the effect of insulin on the hexokinase reaction was misleading because no correction was made for the presence of glycogen or glycogen breakdown products which interfere with the usual methods of measuring the hexokinase reaction. (See also ARTHRITIS; PHYSIOLOGY.)

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**Biography:** see AMERICAN LITERATURE; BOOK PUBLISHING; ENGLISH LITERATURE; OBITUARIES; and, in their alphabetical positions, biographies of living persons.

**Biology:** see ANTHROPOLOGY; BOTANY; GENETICS; MARINE BIOLOGY; PHYSIOLOGY; ZOOLOGY.

**Birth Control.** During 1950 the Planned Parenthood movement began a long-range education, service and research program. This program, adopted the previous year by the Planned Parenthood Federation of America was: "To provide leadership toward universal acceptance of family planning as an essential element of responsible parenthood and stable family life." Intensified field work was carried on, especially on the Pacific coast. A program of work with minority-group families whose economic status denied them private medical care was expanded to educate them as to contraceptive clinic services available. Work was carried on with ten leading Negro organizations with the objective of encouraging their leaders to co-operate with national, state and local Planned Parenthood programs and to stimulate their interest in this health measure. Consultants also took part in courses or in family institutes under federation sponsorship in 23 Negro colleges as a method of interpreting the program to students who would one day take their places as community leaders.

The federation produced its first film *A Planned Parenthood Story*, designed to reach married couples in need of accurate information on how conception control could strengthen their family life.

**Awards.**—The sixth annual Albert D. and Mary Lasker Foundation Awards in Planned Parenthood went to Margaret Sanger, founder of the birth control movement and Bessie L. Moses, M.D., of Baltimore. Mrs. Sanger's citation read: "To Margaret Sanger, foremost in teaching families wise planning in birth control: Leader in influencing nations towards balanced population; living to see her beginnings in city slums grow into plans for a planet." Dr. Moses, obstetrician and instructor in obstetrics, Johns Hopkins university, was recognized for "her brilliant record of forwarding the cause of Planned Parenthood among the public and the medical profession."

**Research.**—During the year the federation established its own research program in human reproduction and three studies in fertility and infertility were carried over from a previous research project that had been sponsored with the National Research council's Committee on Human Reproduction and the National Committee on Maternal Health.

The final goal of research in this field was to develop a contraceptive method sufficiently simple, safe and effective to be used by families living in overpopulated world areas where existing methods cannot be widely disseminated because cost and complexity prohibit their use among illiterate submerged peoples.

Clinical and laboratory research in contraception and other phases of human fertility were also carried on during the year at the Margaret Sanger Research bureau.

The Planned Parenthood federation was in 1950 the national agency and clearinghouse for 15 state leagues and 98 local committees. Birth control clinics numbered 522. These services were in 252 public health departments, 52 hospitals and 190 extramural clinics and there were 28 referral services. Of the 162,377 yearly total of patients visiting birth control clinics in 1949, the majority or 150,693, were served in the extramural clinics sponsored by federation affiliates. Of the 67 infertility clinics, 16 were under Planned Parenthood auspices. (M. Sr.)

**Birth Statistics.** The steady decline in the birth rate for the United States from the postwar peak of 1947 continued into 1950. Provisional data covering the first nine months of 1949 and 1950 showed a 1% drop in births and a 2.9% drop in the birth rate; for each month, the birth rate in 1950 was below that of 1949. It was estimated that 3,581,000 births were registered in the United States during the entire year 1949, and that the birth rate was 24.1 per 1,000 population. However, when allowance was made for unregistered births, the total was estimated as 3,729,000, and the corresponding birth rate as 25.1 per 1,000 population. Canadian data covering the first eight months of 1949 and 1950 pointed to a practically unchanged birth rate. The record for Canada covering the whole of 1949 showed 353,894 births, with a birth rate of 26.9 per 1,000 population. For England and Wales, urban records for the first ten months of 1950 showed 5% fewer births than for the like period of 1949. There were altogether 731,568 births in all of England and Wales during the whole of 1949; the birth rate was 16.7 per 1,000 population. For the same year, New Zealand recorded 43,988 births (excluding Maoris), and a birth rate of 24.9 per 1,000 population; Australia then had a birth rate of 22.9 per 1,000.

There had been a steady improvement in the completeness of birth registration in the United States, largely as a result of the rapid rise in the proportion of babies born in hospitals. Thus, in 1940 only 55.8% of the births were attended by a physician in a hospital; this figure rose to 85.6% by 1948. Meanwhile the estimated completeness of birth registration increased from 92.3% in 1940 to 95.5% in 1948; in the latter year, the percentage was 97.1 for white births and 85.9 for nonwhite births.

Whereas 90.4% of the white births in 1948 were attended by a physician in a hospital, only 52.9% of the nonwhite births were so delivered. On the other hand, 8.1% of the white births were attended by a physician outside of a hospital, but 16.6% of the nonwhite births had this attendance. The remaining proportions, 1.5% of white births and 30.6% of nonwhites, were attended by a midwife or some other person.

Births per 1,000 U.S. Females of Stated Ages and Order of Birth, 1920, 1940, and 1945 to 1948

Age and order of birth	1948	1947	1946	1945	1940	1920
Births per 1,000 females of stated ages						
10-14 . . . . .	0.9	0.8	0.7	0.7	0.6	0.3
15-19 . . . . .	79.7	76.7	56.9	48.8	48.9	48.5
20-24 . . . . .	192.8	200.1	171.7	130.1	125.0	151.8
25-29 . . . . .	160.3	172.3	157.3	128.4	114.1	150.5
30-34 . . . . .	100.3	107.5	103.6	94.7	77.1	115.5
35-39 . . . . .	53.3	57.3	56.7	54.6	41.8	78.4
40-44 . . . . .	15.1	15.9	15.6	15.5	13.9	31.1
45-49 . . . . .	1.1	1.2	1.2	1.3	1.3	3.8
Births of stated order per 1,000 females of ages 15-44						
First . . . . .	38.5	45.1	36.7	27.2	27.0	29.7
Second . . . . .	29.9	29.0	26.5	21.5	18.3	20.9
Third . . . . .	15.5	14.8	13.7	12.5	10.0	15.1
Fourth . . . . .	7.6	7.5	7.3	6.9	5.8	10.8
Fifth . . . . .	4.2	4.2	4.2	4.1	3.6	7.7
Sixth and seventh . . . . .	4.3	4.3	4.3	4.3	4.2	9.5
Eighth and over . . . . .	3.3	3.3	3.4	3.5	3.7	7.9



The proportion of white births occurring in hospitals in 1948 was highest for the Pacific coast states (98.3%) and lowest for the east south central states (69.6%). For nonwhites, the corresponding proportions ranged from a high of 95.9% in the New England states to a low of 25.6% in the east south central states. In the urban area of the United States as a whole, 96.5% of the white births and 75.8% of the nonwhite births were in hospitals; for the rural area, the respective figures were 81.4% for the white and 24.4% for the nonwhite births.

It will be noted in the upper tier of the accompanying table that the birth rates among young women under 20 years of age moved upward sharply from 1920 to 1948, the latest year for which such data were available. For ages 20 and over, on the other hand, there was a sharp drop in the birth rates from 1920 to 1940; the recovery thereafter reached a high point in 1947. The rates at ages 20 to 29 for 1948 were not only well above those for 1940, but they were even higher than in 1920. Although the rates for ages 30 to 44 in 1948 were also higher than in 1940, they had not recovered to the level of 1920. In other words, women at the older reproducing ages were not bearing as many children as the generation before them. This may be viewed in another light from the data in the lower tier of the table.

It will be noted in the table that the rate at which women of ages 15 to 44 years had fourth children in the post-World War II years was less than three-quarters of that for 1920; in that year the rate was 10.8 per 1,000, compared with 7.6 in 1948. A like situation may be noted in the rates for fifth children. Another point of interest in these rates is their upward trend since 1940, something not apparent in the rates for sixth and higher orders of birth. The latter rates, from 1940 forward, were much less than half those of 1920; in fact, there was a decided downward trend in the rates for eighth and higher orders of birth.

A survey was made of plural births in 36,000,000 confinements in the United States from which at least one infant was born alive; the period of observation was from 1934 to 1947 and the results were published in the April 1950 issue of the *Statistical Bulletin* of the Metropolitan Life Insurance company. Twin births occurred at a rate of 10,589 per 1,000,000 confinements for white mothers and 13,062 for nonwhite mothers; for triplets the rates per 1,000,000 confinements were 98 for whites and 169 for nonwhites, while for quadruplets the figures were 1.1 and 5.0 respectively. Cases of plural births rose from a rate of 6,178 per 1,000,000 confinements at ages under 20 to a maximum of 17,247 per 1,000,000 at ages 35 to 39 years.

During the period from 1938 to 1948, the estimate of illegitimate births in the United States rose from 87,900 to 129,700, almost a 50% increase. Of the total illegitimate births for 1948, it was estimated that 55,500 were to mothers under 20 years of age, and 40,800 to mothers at ages 20 to 24 years; in other words, more than two-fifths of the illegitimate births had mothers under 20 and almost one-third had mothers 20 to 24. Illegitimate births occurred, in 1938, at a rate of 7.0 per 1,000 unmarried women of ages 15 to 44 years; the corresponding rate for 1948 was 12.7. However, over this period the ratio of illegitimate births to total births was rather stable at somewhat under 4%. Among white women, the rate of illegitimate births for 1947 was 6.3 per 1,000 at ages 15 to 44, while for the nonwhites it was 55.8; within this broad age range, the rates were at a maximum for unmarried women at ages 20 to 24 years, the figures being 10.9 per 1,000 for whites and 81.9 per 1,000 for nonwhites. Among both white and nonwhite unmarried women, the illegitimate birth rate was considerably higher in rural than in urban areas. (See also CENSUS DATA, U.S.; INFANT

MORTALITY.)

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**Bismuth:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Blind, Education of the.** In Europe, most of the schools for the blind closed during World War II had been reopened by 1950 and provided with replacements for books and devices, although many of the facilities were still very meagre. Publishing houses for the blind in many countries were again in operation, and one or two new ones had been established. In Asia, interest in the education of the blind had begun to show tangible results. Specifically, during 1950, a survey of the educational needs of Iran was made and a ten-year program of education mapped out and implemented. The government of India sent a representative to the United States for a nine-months' training period in braille printing, and the trainee returned to his country in the fall of 1950 to set up a new braille printing plant at New Delhi, the first one of its kind in that country. Equipment for the plant was shipped to India.

In the United States, as of Jan. 2, 1950, there were 5,606 pupils registered in 53 residential schools for the blind (one not reporting) and 662 blind pupils registered in 27 public school classes for the blind (one not reporting). During the year two schools were consolidated, the Piney Woods school, department for the blind, becoming the Mississippi School for the Colored Blind in conjunction with the Mississippi School for the Blind at Jackson, thereby attaining state support. In accordance with the act of 1879, congress made its annual appropriation of \$125,000 to the American Printing House for the Blind at Louisville, Ky. The money from this appropriation was used to manufacture (and distribute to the schools and classes for the blind on a per capita basis) braille books and magazines, talking books, large-type books and tangible apparatus for the education of the blind and near-blind.

Beginning with the 1950 fall session, there were approximately 8,000 partially visioned children enrolled in 662 sight-saving classes in the public schools of 237 cities of the United States and Hawaii. It was estimated that another 45,000 children with visual handicaps sufficient for eligibility in sight-saving classes were attending regular public school, mostly in rural areas and cities and towns too small to establish special classes for their benefit. The publication of textbooks in large type to parallel the most popular texts used by regular public school classes aided many of these children in keeping up with their normally seeing classmates.

Internationally, a survey of social aspects of the rehabilitation of blind children throughout the world was being conducted by a committee of the Social commission of the Economic and Social council of the United Nations. Further, at the request of the government of India, a ten-day conference was held in Paris in March under the auspices of U.N.E.S.C.O. to confer on internationalizing the braille system for all languages. The principles adopted by the conference for a world braille at that time were unanimously adopted by the general conference of U.N.E.S.C.O. in Florence, It., in June 1950, and provisions were made for working out the details of a world braille with its application to a number of linguistic groups. Regional conferences were planned for 1951 in the middle east (Arabic braille) and in Latin America (Portuguese and Spanish contracted brailles). The setting up of a small World Braille council was also approved by the general conference of U.N.E.S.C.O. to



assist in maintaining uniformity in braille practice throughout the world. A world educational conference was planned to be held in Amsterdam, Neth., in 1951 or 1952.

Education of the preschool blind continued to increase. In the United States in 1950, at least six schools for the blind held summer institutes for blind preschool babies and their mothers. Home visiting programs were conducted by agencies in two other states. Retrolental fibroplasia had become the largest single cause of congenital blindness, and its increased incidence had become apparent in the make-up of blind school populations. In Great Britain, two new Sunshine Homes for preschool blind children were opened.

Interest in the rehabilitation of the adult blind continued to increase greatly, receiving its single largest impetus from the program of rehabilitation provided by the government for the war-blinded after World War II. In most cases, 6- to 12-week courses were being conducted by public agencies for the blind in co-operation with the state vocational rehabilitation divisions which provided much of the funds. Much private help had also been used, such as Lions clubs, volunteers, etc. Because of the varying backgrounds and personality requirements of blind adults, most of these programs had provided only limited general programs, with greater emphasis on individual reorientation and training for new skills, or retraining for the use of old skills in spite of the handicap of blindness. Courses in "travel" to help the blind individual get about by himself had also proved very popular and successful.

(F. E. D.)

**Blue Cross:** see INSURANCE.

**Bobsledding.** In 1950 a United States team led by Stanley Benham of Lake Placid, N.Y., roared down the icy Cortina course at Cortina d'Ampezzo, It., in record time

U.S. BOBSLEDDING TEAM on the Cortina d'Ampezzo track in Italy scene of the world championship run in which the U.S. team took the four-man title on Feb. 5, 1950



to defend successfully its world four-man championship. Entering the last half of the two-day competition behind the Swiss no. 1 team, the Americans gained a spectacular victory.

Trailing on elapsed time, the invaders careened over the 1,648-m. slide, with its 16 treacherous curves, in 1 min. 21.03 sec. to break the course mark of 1 min. 21.64 sec. set by the Swiss only 24 hr. earlier. The new standard gave Benham and his mates a total time of 5 min. 28.72 sec. for the four runs, against a combined clocking of 5 min. 29.56 sec. for their rivals.

Riding with Benham were Pat Martin of Massena, N.Y., Jim Atkinson of Rome, N.Y., and Bill D'Amico of Lake Placid.

Fritz Feierabend and Stefan Waser captured the two-man laurels to keep that title in Switzerland another year. Benham and Martin were the runners-up.

A scarcity of snow on the Mt. Van Hoevenberg run at Lake Placid prevented the holding of the national Amateur Athletic union championships.

(T. V. H.)

**Bolivia.** A landlocked republic in south central South America, Bolivia is bounded by Peru and Chile on the west, Brazil on the north and east, Paraguay on the east and Argentina on the south. Its estimated area, still unconfirmed because of continuing boundary disputes, is 416,040 sq.mi. Pop. (1949 est.) about 3,990,000 of which 52.34% was believed to be Indian, 27.5% mixed-blood and 13.08% white. The principal cities are La Paz, the seat of government (est. pop. 301,000), Cochabamba (80,000), Oruro (50,000), Potosí (40,000), Santa Cruz (33,000), Tarija (27,000) and the legal capital, Sucre (32,000). President in 1950: Mamerto Urriolagoitia.

**History.**—The political and economic history of Bolivia is strongly influenced by its pre-eminent industry which is mining. The latter includes about 16% of the world production of tin, which was in 1950 being exported in almost equal amounts to the United States and the United Kingdom. Miners' unions, with memberships estimated at about 310,000, were especially active in political affairs during the year and represented the principal strength of the two more aggressive minority parties, the leftist Partido de la Izquierda Revolucionaria and the rightist Movimiento Nacionalista Revolucionaria. Extensive strikes, political feuds in some part violent, abrupt official changes and a revolution in force, which disrupted mine operations in many areas during 1949, tended to abate during 1950 under the presidency of Mamerto Urriolagoitia.

Despite political tensions, 1950 marked many notable advances in Bolivia. The new petroleum industry produced more than 600,000 bbl. Improvements in primary education, now compulsory, were believed to have reduced prevalent adult illiteracy to about 75% as compared with an estimated 85% in 1945. The health ministry established the first clinics in six frontier areas which had never before had health services.

(C. M. Wi.)

**Education.**—Bolivia in 1944 had 1,513 rural schools with 110,000 pupils and 1,740 elementary schools with 144,056 pupils. Secondary education was furnished by 55 colleges (27 public and 28 private) with 17,496 students. There were universities with more than one faculty at Cochabamba, La Paz, Oruro, Potosí and Sucre.

**Finance.**—The monetary unit is the boliviano, valued on Nov. 30, 1950 at \$0.0165 U.S. currency, official rate; \$0.0099, legal free rate; and \$0.0049, curb rate. The 1950 budget balanced revenue and expenditure at 2,783,000,000 bolivianos. Revenue was derived mainly from export duties on minerals. The internal debt of national, departmental and municipal governments and autonomous institutions totalled 2,405,000,000 bolivianos on Nov. 30, 1949. The external debt was \$60,280,923 on Dec. 31, 1947, plus arrears of interest totalling \$74,244,100. Notes in circulation on Aug. 31, 1950, totalled 2,822,000,000 bolivianos; the gold reserve of the Central bank was \$22,800,000.

**Trade and Communications.**—Exports in 1949 amounted to \$107,100,000; imports were \$71,400,000. Tin accounted for about two-thirds of the exports. The U.S. and the United Kingdom were the principal customers and the U.S., Peru, Argentina and Chile, the principal suppliers.

Railway lines in operation (1945) totalled 1,612 mi. Several lines were under construction in 1950, including two from Brazil and Argentina, respectively, to Santa Cruz in the eastern lowlands. The highway system (1949) comprised an estimated 15,420 mi. of which 4,008 mi. were im-



proved. About 7,300 motor vehicles were in operation in 1947. The national air line, Lloyd Aereo Boliviano, carried 42,277 passengers and 9,513 short tons of cargo in 1948. Service in 1950 was also supplied by Panagra, Braniff Airways, Linea Aerea Nacional (Chile) and the Bolivian air force. More than 50% of the 8,300 telephones in 1948 were in La Paz.

**Agriculture.**—Bolivia continued to be dependent on imports of foodstuffs. Important crops included maize, barley, wheat, rice and potatoes. In 1948, 288 short tons of cocoa were exported. Livestock (1946) included an estimated 3,039,000 cattle, 4,289,000 sheep and 1,809,000 goats. The principal exploited forest products were rubber (1949 exports, about 2,000 short tons) and cinchona bark.

**Manufactures.**—In 1947, there were 1,964 factories, about 40% of which were located in or near La Paz. The most important products were textiles, wheat flour, beer, cigarettes, footwear, cement and glassware. The cost-of-living index for La Paz stood at 843 in July 1950 (1937=100).

**Mineral Production.**—Mining is Bolivia's chief industry and tin is the dominant factor in the nation's economy. Mineral exports in 1949 were reported as follows: tin 38,166 short tons; lead 29,048 tons; silver 6,622,900 oz.; copper 5,593 tons; zinc 19,432 tons; antimony 11,326 tons; and wolfram (WO<sub>3</sub> content) 1,701 tons. Production of crude petroleum totalled 678,200 bbl. (J. W. Mw.)

**Bombing:** see AVIATION, MILITARY; MUNITIONS OF WAR.

**Bonaire:** see NETHERLANDS ANTILLES.

**Bonds:** see STOCKS AND BONDS.

**Book-Collecting and Book Sales.** Save for its last months the year 1950 was unexceptional. Midsummer visitors to Great Britain purchased rare books and manuscripts at bargain prices while on the continent there was a sharp stiffening of markets caused by the rise in western Germany of a group of buyers which, possibly through black-market profits, was able to compete with the world and most notably with the Americas. The libraries of certain royal and noble families came into the market. The most valuable single item offered was the only known example of Martin Waldseemüller's global map of the world (St. Dié, 1507), the property of Franz Josef II, reigning prince of Liechtenstein. The globe, the first to bear the name America, was offered at auction in New York with a reserve price of \$50,000; no bid was received in excess of that figure and the globe was returned unsold to its consignor.

In the United States the auction sales were of small importance until late in the year when two collections were offered: 1,220 non-Lincolnan selections from the manuscript collections of Oliver R. Barrett which realized \$74,815; and the first part of the library of Lucius Wilmerding which brought \$117,300 for 778 items offered. The most astonishing price of the year was \$3,500 paid at auction (New York) for the only recorded copy of Robert Frost's first book, *Twilight* (Lawrence, Mass., 1894).

Institutional collections were most active. The Houghton library, Harvard university, received as a gift from Gilbert H. Montague the family collection of Emily Dickinson's letters, manuscripts and papers. The Franklin D. Roosevelt papers at Hyde Park, N.Y. (about 5,000,000 pieces), were opened to the public with the exception of about 15% of the total which were to become generally available in 1975. William R. Coe gave \$500,000 to Yale university for the establishment of a chair in American history, thus supplementing his 1948 gift to Yale university of his tremendous collection of western Americana. The University of Buffalo, N.Y., was the recipient of papers and manuscripts of James Joyce. Mrs. Robert C. Taylor presented her collection of American fiction (1770-1950) to the University of Virginia, Charlottesville. Henry L. Mencken gave his papers and manuscripts to the Enoch Pratt Free library, Baltimore, Md. Yale acquired what was believed to be the last portion of the private papers of James Boswell. The daughter of F. Scott Fitzgerald presented her father's files and manuscripts to the Princeton university library. The New York Public library received \$1,750,000 as a bequest from Albert A. Berg.

The *New Colophon: A Book Collectors' Quarterly* became an annual with the issue of Jan. 1951; in Chicago, Ill., the *Amateur*

*Book Collector* was founded as a monthly; and in Great Britain the *Clique*, organ of the antiquarian book trade, continued its books for sale section, incorporating it into another magazine, the *Book Market*.

The Fourth International Congress of Antiquarian Booksellers met at Paris with more than 100 delegates representing 12 nations. The United States, for the first time, was officially represented.

There was a marked increase in the number of books issued devoted wholly or in part to bibliophily and kindred subjects: *Standards of Bibliographical Description* by Curt F. Bühler, James G. McManaway and Lawrence C. Wroth; *The Popular Book* by James D. Hart; *The Scholar Adventurers* by Richard D. Altick; *Book-Collecting*; *More Letters to Everyman* by Percival Muir; *Principles of Bibliographical Description* by Fredson Bowers; *Carroll A. Wilson, Thirteen Author Collections of the Nineteenth Century, and Five Centuries of Familiar Quotations*, edited by Jean C. S. Wilson and David A. Randall; *The House of Beadle and Adams, and its Dime and Nickel Novels* by Albert Johannsen; *A Bibliography of John Dos Passos* by Jack Potter; and others of some interest. (J. Bk.)

**Book Publishing.** New books and new editions issued in the United States in 1950 were up 130 over the total of 1949, an increase of 1%; but the 1950 total of 11,022 was only slightly below the all-time high of 1940 when 11,328 titles were issued, and about 10% more than the 1930 total. Fiction, representing 17% of the year's output, showed the largest net increase of the year, followed by juveniles, general literature and technical books. The largest net decreases were for the categories of domestic economy and business. About 13% of the titles handled during the year were imports.

The five leading publishing houses of the year were Macmillan (426); Doubleday (with Blue Ribbon Books, Garden City, Halcyon House, PermaBooks and Sun Dial Press) (402); McGraw-Hill (with Gregg Publishing company and Whittlesey House) (330); Harper (305); and Oxford (296).

Newsstand titles of pocket books showed an increase of 281 new titles over the 1949 total of 659, with an estimated total of 214,000,000 copies sold in 1950.

**Best Sellers.**—Heading the best-seller list for fiction in 1950, based on trade sales alone, was *The Cardinal* by Henry Morton Robinson, the only novel on the list with a religious theme. Second was *Joy Street*, by Francis Parkinson Keyes, which did not appear in the bookstores until the last month of the year. Third to tenth on the list, in that order, were *Across the River and into the Trees*, by Ernest Hemingway; *The Wall*, by John Hersey; *Star Money*, by Kathleen Winsor; *The Parasites*, by Daphne du Maurier; *Floodtide*, by Frank Yerby; *Jubilee Trail*, by Gwen Bristow; *The Adventurer*, by Mika Waltari; and *The Disenchanted*, by Budd Schulberg. There were no carry-overs from the 1949 list, although three of the authors (Keyes, Yerby and Waltari) had been represented by other works. All but Robinson, Bristow and Schulberg, however, had been represented on best-seller lists in previous years.

The list of nonfictional best sellers for the year, based on trade sales alone, was topped by *Betty Crocker's Picture Cook Book*, followed in second place by *The Baby*, a book of humorously captioned photographs. These were followed, respectively, by *Look Younger, Live Longer* by Gayelord Hauser; *How I Raised Myself from Failure to Success in Selling*, by Frank Bettger; *Kon-Tiki*, by Thor Heyerdahl; *Mr. Jones, Meet the Master*, by Peter Marshall; *Your Dream Home*, by Hubbard Cobb; *The Mature Mind*, by H. A. Overstreet; *Campus Zoo*, by Clare Barnes, Jr., another humorous picture book; and *Belles on Their Toes*, by Frank B. Gilbreth, Jr., and Ernestine Gilbreth



Carey. Reckoned by total sales, including mail and bookstore sales, *Your Dream Home* actually topped the list. Of the ten nonfictional best sellers, all but *Kon-Tiki* and *Belles on Their Toes* were considered nonreading books among the trade, the others being classified under self-help, "how-to" books and picture books.

One publishing innovation of the year was Simon & Schuster's experimental issuance of new titles in full-priced hard-cover and low-priced (\$1) paper-covered editions simultaneously. This was done with *The Cardinal*, leading fictional best seller of the year, with encouraging results. Among booksellers, however, as evidenced after questioning by the American Book Publishers council, the preference was for a one-year lag between first editions of fiction and hard-cover reprints, and for a year and a half between hard-cover and paper-bound reprints. Price news in the pocket-book field included the issuance of giant-sized reprints at 35 cents instead of the usual 25 cents, a notable example being the two-volume reprint of Robert E. Sherwood's *Roosevelt and Hopkins*.

During the year, 19 nations signed an agreement drawn up by the United Nations Educational, Scientific and Cultural organization to abandon customs barriers in the book trade. (X.)

Publication of Books in the U.S.

International classification	1949			1950			Net change
	New books	New editions	Total	New books	New editions	Total	
Agriculture, gardening . . .	139	52	191	111	41	152	-39
Biography . . . . .	526	69	595	538	65	603	+8
Business . . . . .	226	80	306	190	60	250	-56
Domestic economy . . . . .	195	68	263	150	43	193	-70
Education . . . . .	228	26	254	209	47	256	+2
Fiction . . . . .	1,019	625	1,644	1,211	696	1,907	+263
Fine Arts . . . . .	299	48	347	317	40	357	+10
Games, sports . . . . .	190	45	235	153	35	188	-47
General literature & criticism . . . . .	453	82	535	510	81	591	+56
Geography, travel . . . . .	199	49	248	221	67	288	+40
History . . . . .	443	84	527	456	60	516	-11
Juvenile . . . . .	846	133	979	907	152	1,059	+80
Law . . . . .	192	75	267	228	70	298	+31
Medicine, hygiene . . . . .	287	163	450	312	131	443	-7
Music . . . . .	78	17	95	88	25	113	+18
Philology . . . . .	108	58	166	102	46	148	-18
Philosophy, ethics . . . . .	244	81	325	278	62	340	+15
Poetry, drama . . . . .	508	66	574	453	78	531	-43
Religion, theology . . . . .	636	84	720	626	101	727	+7
Science . . . . .	473	203	676	499	206	705	+29
Sociology, economics . . . . .	474	74	548	447	68	515	-33
Technical & military books . . . . .	310	145	455	366	131	497	+42
Miscellaneous . . . . .	387	105	492	262	83	345	-147
Total . . . . .	8,460	2,432	10,892	8,634	2,388	11,022	+130

**Great Britain.**—During 1950 book publishers in Great Britain produced 17,072 titles of which 5,334 were reprints and new editions. It was considered that the 1950 total, slightly larger than the 1949 total of 17,034 titles and slightly smaller than the 1937 total of 17,137 titles, which was the highest figure ever recorded, might indicate that book publishing had attained its full rate of output after ten years of restricted production.

The period April 1949-March 1950, after nine years of paper rationing, was the first year in which British book publishers were wholly free from the governmental control of their chief raw material. Reviewing that first year of freedom, the Publishers' association, in a report issued in March 1950, stated that the two most fundamental problems were a fall in the sale of individual titles and the consistent rise in the costs of production. In Nov. 1950 paper, once 1½d. a pound, was 10d. a pound, printing was four times what it was in 1939 and the rise in binding costs was higher still. By contrast the published prices of many categories of books in 1950 were only one and one-half times what they had been before World War II. The reason for this apparent anomaly was that publishers, during the years of restricted output, had been able to sell every copy of every book they could manufacture.

The pattern of book publishing suddenly took on a new shape; at the beginning of the year the papermakers had complained of a rapid and unexpected change from the seller's to the buyer's market, but by the summer of 1950 the position had reversed it-

self once more. The world shortage of raw materials and the heavy demand for Scandinavian pulp by the U.S. brought about a dramatically sudden and sharp deterioration in the paper supply situation in Great Britain. An impending shortage of straw-board for bookbinding was scarcely less serious.

Yet the publishing business continued quarter by quarter to beat all previous records in the volume of business done. The amount of trade done by publishers in 1949 had reached the unprecedented figure of £34,297,252 (the average annual total before World War II was approximately £10,000,000). During the first six months of 1950 publishers' total sales amounted to £16,683,895, an increase of more than £834,000 on the turnover of the corresponding period of 1949. Since the book-trade business had invariably been greater in the second half of the year than in the first, there was little doubt that the 1950 total would surpass the 1949 record. (See also AMERICAN LITERATURE; ENGLISH LITERATURE; etc.) (E. SE.)

**Books:** see BOOK PUBLISHING; CHILDREN'S BOOKS; LITERARY PRIZES; see also under AMERICAN LITERATURE; ENGLISH LITERATURE; FRENCH LITERATURE; etc.

**Borneo:** see BRITISH BORNEO; INDONESIA.

**Boston**, the capital of Massachusetts and the tenth largest city in the United States, had a population of 790,863 by the 1950 federal census, preliminary figures, an increase of 20,000 over 1940, and a land area of 43.9 sq.mi. John B. Hynes was installed as mayor on Jan. 2, 1950, being the 43rd individual to hold this office since 1822.

Important traffic developments during 1950 were the purchase of 3,000 additional parking meters, bringing the total number to 8,000, and the installation of 50 automatic traffic signals at dangerous intersections. The first off-street parking garage was opened, and plans for two others were under way; the Reconstruction Finance corporation approved a \$12,000,000 loan for a Boston Common underground garage. Three main thoroughfares were totally reconstructed, with two others planned. Construction was started on a new viaduct, to cost \$2,600,000, connecting Long Island, site of a large hospital, with the mainland. A new fire headquarters building costing \$2,000,000 was nearing completion.

The city adopted a plan for classification and compensation of 12,500 city and county employees. The work week for police officers was reduced by a referendum vote of the electorate in November from one day off in six to a five-day week. This action would make necessary the addition of 300 patrolmen to the police department, at a cost in excess of \$1,000,000.

The net debt of the city was reduced by \$1,500,000 in 1950, thus reversing an upward trend of the preceding three years. Borrowings for current maintenance purposes were eliminated. The 1950 tax rate was \$63.00 (1949 \$56.80) on an assessed valuation (real and personal) of \$1,567,500,000, a decrease of \$33,931,500 from the previous year. Budgets (city and county) amounted to \$86,554,244.50, an increase of \$4,636,561.70 over 1949; (schools) \$26,550,986.14, an increase of \$826,541.80. (C. J. Fx.)

**Botany.** An outstanding event of interest to botanists in 1950 was the seventh International Botanical congress in Stockholm, Swed., during July. More than 1,500 botanists from 39 countries participated, and in excess of 600 papers were presented. Special meetings were held for the sections on nomenclature, palynology (pollen study) and for the botanical section of the International Union of Biological Sciences. Of particular interest was the unexpected and last minute arrival of delegates from the U.S.S.R. Several other events of special



interest were held during the year. American botanical and genetical societies met at Columbus, O., in September under the auspices of the American Institute of Biological Sciences to celebrate the 50th anniversary of the rediscovery of Johann Gregor Mendel's work. The British Association of Science held its annual meeting in Birmingham on Aug. 30, and W. B. Turrill discussed modern trends in classification in his presidential address before the botanical section. In June a celebration was held at the opening of the new John Innes Horticultural institution at Bayfordbury with 500 visitors in attendance.

A number of significant honours befell to botanists in 1950. John Walton received the Neill prize of the Royal Society of Edinburgh for his contributions to the knowledge of carboniferous palaeobotany. H. N. Ridley received the Linnean medal and F. E. Fritsch was elected president of the Linnean Society of London for 1950. New fellows of the Royal society included T. A. Bennett-Clark and G. H. Cunningham; Carl Skottsberg was elected a foreign member. H. G. Lundegårdh was elected a foreign member of the American academy. Among new members elected to the National Academy of Sciences were James Bonner and David R. Goddard. John T. Buchholz was appointed correspondent of the National Museum of Natural History of Paris. E. B. Babcock was elected an honorary member of the Royal Botanical Society of Belgium.

During the year great interest was shown in the study of growth regulating substances. H. B. Currier and A. S. Crafts announced that a new herbicide, maleic hydrazide, may be useful for controlling weed grasses, and D. G. White showed that blossoming of fruit plants is delayed by this substance. V. A. Greulich and Earlene Atchison suggested that low concentrations of maleic hydrazide inhibit cell divisions whereas higher concentrations inhibit both cell division and cell enlargement. A. W. Naylor and E. A. Davis showed that maleic hydrazide, unlike most of the other growth regulators, has remarkably similar effects on both monocots and dicots. From these studies it is clear that maleic hydrazide may have important theoretical and practical value. Seward E. Allen and Folke Skoog studied the growth regulatory activities of imidazolines and related compounds and suggested that imidazoline derivatives may be of use as weed killers. New possibilities for weed control by presowing applications of isopropylphenylcarbonate and 2, 4-D were announced by W. G. Templeman and J. O. Wright. In another important physiological study Edwin A. Davis, using normal and mutant strains of *Chlorella*, obtained evidence that light does not have a direct effect on respiration and that "photorespiration" does not exist.

Significant research in a number of other fields appeared during 1950. Meta S. Brown in a study of cotton from Bikini showed that gamma radiation released during the explosion of an atomic bomb produces changes in chromosome structure, and Luther Smith found effects on barley and other cereals from atomic bomb ionizing radiation equivalent to 16,000r of X-rays. In a study of yeasts Ö. Winge and C. Roberts found what appeared to be non-Mendelian segregation and upon investigation discovered that the yeast asci had produced eight rather than the normal four spores. They suggested that the occurrence of an additional nuclear division in the ascus may explain other exceptions to the classical ratios which had been reported in yeasts. The cultivated cottons, *Gossypium barbadense* and *G. hirsutum*, produce a fully fertile vigorous  $F_1$  hybrid, but in the  $F_2$  considerable weakness and sterility appear. A theory to account for this involving multiple gene substitution had been put forward by S. C. Harland. S. G. Stephens, who had re-examined the evidence, suggested that cryptic structural differentiation of the chromosomes may also help explain some of the genetic peculiarities of the cottons. A cytotaxonomic investigation of the alga *Spirogyra* by M. B. E. Godward revealed that the species are well differentiated by the

numbers and characters of the chromosomes. This study was of particular interest in that hitherto most cytotaxonomic studies had been made on higher plants. C. M. Rick, investigating pollination relations in tomato, found much higher rates of natural cross-pollination within the natural range of the species than outside it. Flora M. Scott presented evidence that the surface membranes of nuclei are perforated by nucleodesmata just as protoplasts of individual cells are interconnected by plasmodesmata. C. L. Wilson in an anatomical study of the tropical family Melastomaceae suggested that the unique staminal appendages have not arisen in connection with pollination as generally supposed but are evolutionary remnants of branch systems. During the year another new antibiotic, terramycin—so called because it was isolated from soil samples—was announced by scientists at the research laboratories of Chas. Pfizer & Company. (See also AGRICULTURAL RESEARCH ADMINISTRATION; GENETICS; PALAEONTOLOGY.)

New Books: *The Natural Philosophy of Plant Form*, by Agnes Arber; *Annual Review of Plant Physiology*, Vol. 1, edited by Daniel I. Arnon; *An Introduction to Plant Physiology*, by Otis F. Curtis and D. G. Clark; *Gray's Manual of Botany*, 8th ed., revised by M. L. Fernald; *Principles of Plant Infection*, by Ernest Gäumann; *Botany: An Evolutionary Approach*, by R. Darnley Gibbs; *The Yeast Cell, Its Genetics and Cytology*, by C. C. Lindegren; *An Introduction to the Embryology of Angiosperms*, by P. Maheshwari; *Anatomy of the Dicotyledons*, by C. R. Metcalfe and L. Chalk; *Botany*, by W. W. Robbins and T. E. Weier; *Variation and Evolution in Plants*, G. L. Stebbins, Jr.; *The Actinomycetes*, by Selman Waksman.

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FILMS OF 1950.—*Life of a Plant* (Encyclopædia Britannica Films Inc.); *Miracle of Life, Power of Plants, Sensitivity of Plants* (Almanac Films, Inc.); *The Onion, Pin Mold* (International Film Bureau).

(C. B. HR.)

**Arboretums and Botanical Gardens.**—During 1950, Russell J. Siebert, formerly of the Missouri Botanical garden, was appointed director of the Los Angeles State and County arboretum at Arcadia, Calif. Maunsell van Rensselaer, director of the Santa Barbara Botanic garden, resigned because of ill health.

The secretary of agriculture, Charles Brannan, dedicated a memorial tree (*Cedrus deodara*) on the grounds of the National arboretum in Washington, D.C., during the 50th anniversary of the American Association of Nurserymen in July, while the Morris arboretum in Philadelphia, Pa., started extensive studies in breeding rhododendrons and azaleas.

The educational program of the Morton arboretum at Lisle, Ill., with instruction in nature study, continued to be tremendously popular with schoolteachers and students alike. *Plants and Gardens*, publication of the Brooklyn Botanic garden, reached nearly 10,000 subscribers during the year. The Long Island Agricultural and Technical institute at Farmingdale, N.Y., began to conduct a few studies in plant materials on the 400-ac. W. R. Coe estate in Brookville, now under its general supervision.

Donald Wyman of the Arnold arboretum was presented the first Norman Jay Colman award of the American Association of Nurserymen for "aiding horticulture through research" in the studies of woody ornamental plants. (See also HORTICULTURE.)

(D. WN.)

At the Cambridge Botanic garden, H. Gilbert-Carter retired from the post of director and university lecturer in botany after many years' service. He marked his year of retirement by the publication of a *Glossary of the British Flora* (Cambridge, 1950). J. S. L. Gilmour, the director of the Royal Horticultural society's gardens at Wisley, was appointed to succeed him. At Edinburgh, Roland E. Cooper retired from his post as curator and was succeeded by E. E. Kemp.

(P. M. SY.)



**Bowling.** Knocking down 1,981 pins, Frank Santore of Long Island City, N.Y., captured all-events laurels in the American Bowling congress tournament at Columbus, O., in 1950. Other winners included Everett Leins of Aurora, Ill., with 757 in the singles; Willie Ebosh and Earl Linz of Cleveland, O., who won the doubles with 1,325, and the Pepsi-Cola team of Detroit, Mich., which carried home the five-man championship after bowling 2,952. The only titleholder to repeat was the E. and B. team of Detroit, which retained five-man all-events honours with 8,978.

In the 33rd annual championships of the Women's International Bowling congress at Columbus, Mrs. Marion Ladewig of Grand Rapids, Mich., captured the all-events crown, Cleo Stalkamp of Newport, Ky., the singles, Shirley Gantenbein and Flo Schick of Dallas, Tex., the doubles, and the Fanitorium Majors of Grand Rapids, Mich., took team laurels.

The top prize of \$2,000 in the national match-game championships at Chicago, Ill., in December went to Dick Hoover, 21, of Akron, O., who tallied 305.29 points under the Petersen scoring system. Mrs. Ladewig scored 151.46 points to retain the women's championship.

Ed Easter and Eddie Lubanski, Detroit, kept their world match-game laurels by turning back the challenge of Andy Vari-papa, Hempstead, N.Y., and Connie Schwoegler, Madison, Wis. The champions won the 48-game match by 285 pins.

More than 200 keglers took part in the third international tourney for the blind held at Philadelphia, Pa. John Maier of New York scored 564 to win the singles and 1,616 to annex the all-events prize. A pair of Philadelphians, R. Bonavita and T. Reago, rolled 1,008 to take the doubles.

On May 12 the A.B.C. erased from its books a 34-yr.-old rule restricting membership to white males; the end of the colour bar became effective Aug. 1. The Women's International congress also voted, on June 5, to drop the racial clause from its by-laws.

(T. V. H.)

**Bowls:** see LAWN BOWLING.

**Boxing.** An attempt by Joe Louis to regain the world heavyweight championship title from Ezzard Charles highlighted boxing during 1950. Box-office receipts and attendance figures for the sport in the United States remained in the moderate range. No gate receipts reached the \$400,000 level. No event attracted as many as 40,000 people. The International Boxing Club, Inc., with its boxing monopoly in New York city, Chicago, Detroit and St. Louis, grossed slightly in excess of \$2,000,000 for a year's activity. More than half this sum was attracted to their promotions in Madison Square Garden, Yankee stadium and St. Nicholas arena in New York city. Madison Square Garden attracted 225,000 onlookers and grossed \$875,000 in receipts for 25 boxing shows. This compared with crowds aggregating 227,154 and receipts of \$804,081 for 21 shows there in 1949.

Observers attributed this comparatively static situation to two conditions; lack of good fighters and the effects of television on attendance. Steps to correct the first were under way as the year ended. Development of talent was the paramount issue. With respect to television, however, difficulties were growing. The argument was advanced that television keeps fans away from the ringside and the echo was found in a campaign for countermeasures to meet a situation which found reduced incomes the lot of boxers who were the media for the growing popularity of television in its relation to sports.

A virtual strike of New York's Boxing Managers' guild early in the year resulted in a compromise which brought increased income for boxers from television receipts. The campaign as the year ended, however, was to effect an agreement whereby income from television would be lumped with dwindling box-office re-

ceipts as the pay-off basis for boxers.

Emphasizing the television situation was the fact that two bouts held during 1950 which were not televised attracted the largest box-office receipts. Defending his world middleweight championship in Madison Square Garden July 12, Jake La Motta, New York, retained the title against Tiberio Mitri, Italy, before a crowd of 16,369 which paid receipts of \$99,841. On Sept. 8, at Yankee stadium, New York, Sandy Saddler, New York, lifted the world featherweight championship from Willie Pep, Hartford, Conn., before a crowd of 38,781 which paid receipts of \$262,118. Neither bout was televised.

The Saddler-Pep bout was the year's highest in attendance and box-office receipts.

Largest receipts on an over-all basis, however, were produced by Louis' comeback effort against Charles in the Yankee stadium Sept. 27. This bout attracted only 22,357 and the receipts amounted to \$204,843. However, the sum of \$146,000 from television and radio contracts boosted the receipts to the highest for the year. Louis lost the decision to Charles in a bout which accentuated the deterioration of the once-famed "Brown Bomber," who had announced his retirement in 1949 following his second defeat of Jersey Joe Walcott in 1948. Louis came out of retirement as boxing director for the I.B.C. when he decided to return to the ring in a bid to regain his title against Charles. The latter was recognized as champion by the National Boxing association. This recognition covered most of the United States. The state of New York withheld recognition until the Sept. 27 bout, in which Louis, only a faint reminder of the superlative boxer-fighter he once was, absorbed a thorough beating. Charles won a decision in 15 rounds and became recognized as champion in the United States. However, Lee Savold, Paterson, N.J., was recognized as heavyweight champion in Great Britain and Europe, on the strength of a four-round knockout victory he scored over Bruce Woodcock, in London, Eng., June 6, in a bout recognized abroad as a world heavyweight championship match.

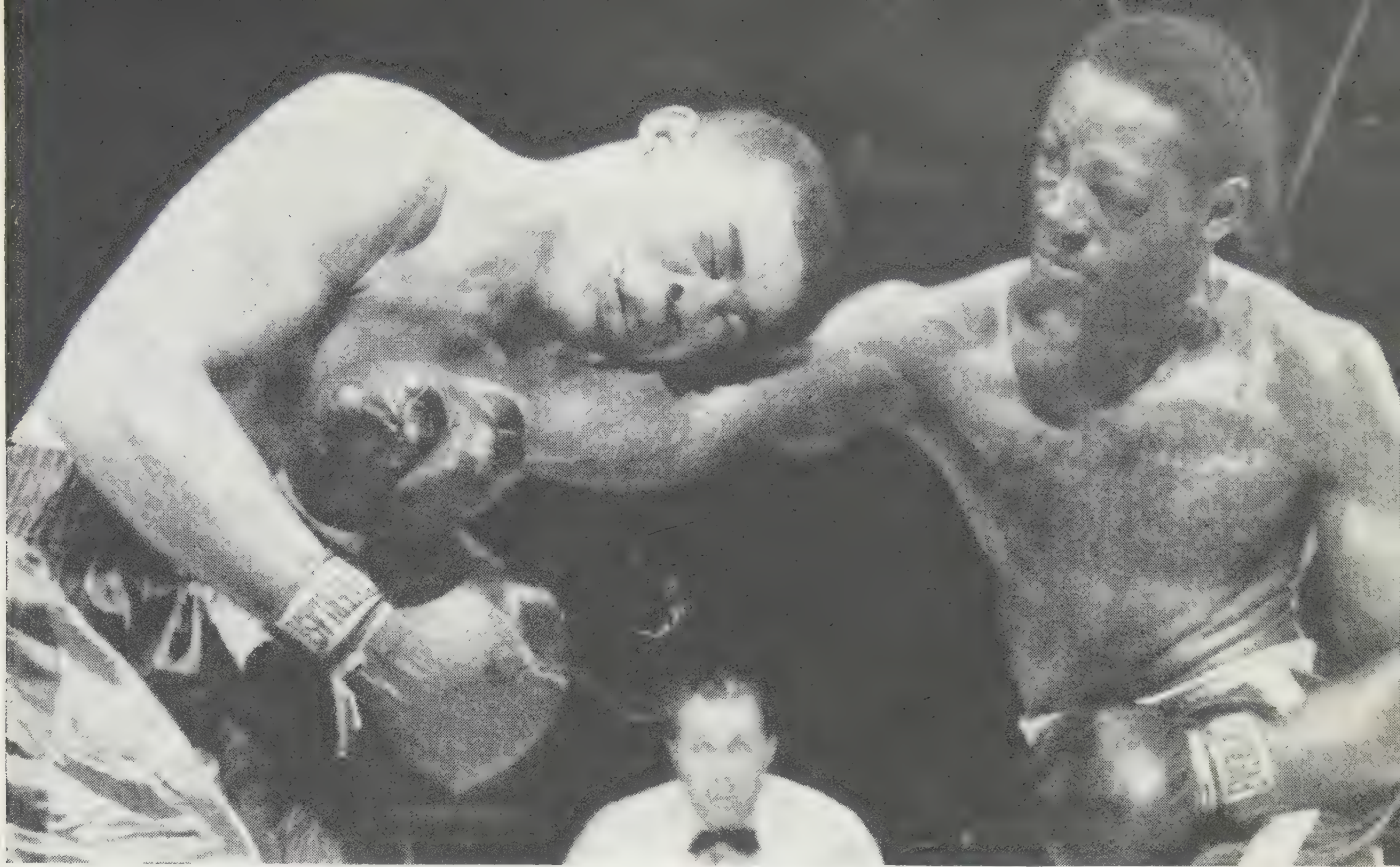
All told, 12 championship bouts were held in various sections of the world during 1950, involving seven of the eight standard ring divisions. Four new champions were produced. In addition to Saddler, they were: Dado Marino, Hawaii, in the flyweight class; Vic Toweel, South Africa, in the bantamweight class; and Joey Maxim, Cleveland, O., in the light-heavyweight class.

During 1950 Pep twice successfully defended his featherweight title before succumbing to Saddler. At St. Louis on Jan. 16, Pep knocked out Charley Riley, St. Louis, in 5 rounds of a scheduled 15-round bout, and, on March 17, in Madison Square Garden, Pep won a 15-round decision over Ray Famechon of France. Saddler received credit for a knockout in seven rounds in winning the title from Pep Sept. 8, when Pep sustained a dislocated shoulder and was unable to respond for the eighth round.

La Motta's title defense against Mitri was one of two in which the champion engaged. La Motta followed this with a knockout victory over Laurent Dauthuille, France, in the 15th round of a championship battle waged at Detroit, Mich., Sept. 13. Maxim succeeded to the world light-heavyweight title on Jan. 24, by knocking out Freddie Mills, England, in ten rounds, at London, Eng. Ike Williams, Philadelphia, Pa., did not once defend his world lightweight championship during 1950.

Marino acquired the world flyweight title Aug. 1 by winning a 15-round decision over Terry Allen, London, Eng., at Honolulu, T.H. Allen had gained the title April 25, by winning a 15-round decision over Honore Protesi in London, Eng. Toweel succeeded Manuel Ortiz, El Centro, Calif., as world bantamweight champion, by winning a 15-round decision in a bout held May 31 at Johannesburg, U. of S. Af. Ray Robinson, world welterweight champion, retained his title by winning a decision in 15 rounds over Charley Fusari in Jersey City, N.J., Aug. 9.





JOE LOUIS (left) taking a hard right from Ezzard Charles in the 14th round of their 15-round bout for the world heavyweight title at Yankee stadium, New York city, on Sept. 27, 1950. Charles won by unanimous decision

Nine fatalities were recorded in amateur and professional boxing on a world-wide basis through the year. Three of these occurred in the United States. Two of the fatalities followed bouts in the St. Nicholas arena, New York city. On Feb. 23 Lavern Roach, Texas, died following a bout there with Georgie Small. On Dec. 21 Al ("Sonny Boy") West, Washington, D.C., died following a bout there with Percy Bassett. The other fatality in the United States occurred Dec. 7 when Sam (Johnny) Lopez, Richmond, Calif., died following a bout against Joe Madrid at Merced, Calif. (J. P. D.)

**Great Britain.**—Four British championships changed hands during 1950. The main event of the year was the defeat of Bruce Woodcock on Nov. 14 by Jack Gardner, a 24-year-old small holder and former guardsman from Market Harborough in Leicestershire, who had previously been an amateur champion.

Gardner's ability to absorb extreme punishment had brought him through his early trials as a professional. His victory over the Welshman Johnny Williams, a young man of immense talent but short of the desired stature for a heavyweight, was the bit-terest, most savage and most discussed fight of the year.

Freddie Mills lost the world light-heavyweight championship to Joey Maxim of the United States. He then retired, and Don Cockill defeated Mark Hart for the vacant British championship.

The middleweight championship changed hands twice: first Albert Finch won it from Dick Turpin; then Randolph Turpin, Dick's young brother, knocked out Finch, who had had to waste to make the weight and was so weak that this defeat could be dis-regarded in a survey of his prospects in the cruiserweight class. Randolph Turpin, a 22-year-old natural middleweight, was a great and ruthless puncher but neglected the methods of softening up an opponent and boxing for the winning opening.

Eddie Thomas did not have to defend his welterweight cham-pionship in 1950. Billy Thompson retained the lightweight cham-pionship against the challenge of Tommy McGovern. Danny O'Sullivan, the bantamweight champion, was badly punished by

the Spaniard Luis Romero, in a European championship match. There was no British flyweight champion. Since the retirement of the Ulsterman Rinty Monaghan, Terry Allen won the world and European titles and later lost both to Dado Marino (Hawaii) and Jean Sneyers (Belgium)

FILMS OF 1950.—*World's Bantam Weight Championship Boxing Match* (Nu-Art Films, Inc.). (L. Wd.)

**Boy Scouts:** see SOCIETIES AND ASSOCIATIONS.

**Bradley, Omar Nelson** (1893— ), U.S. general, was born on Feb. 12 in Clark, Mo. He was graduated from the U.S. Military academy at West Point, N.Y., in 1915 and became a major of infantry in World War I. During World War II he commanded the 2nd corps in Africa and Sicily, and subsequently all U.S. ground troops for the inva-sion of Europe. As commander of the 12th U.S. army group he commanded more than 1,300,000 combat troops—the largest body of U.S. soldiers ever to serve under a single field command-er. By the end of the war he was a full general. From Aug. 15, 1945, to Dec. 1, 1947, he was administrator of veterans' affairs. On Feb. 7, 1948, he succeeded General of the Army Dwight D. Eisenhower as army chief of staff, and on Aug. 16, 1949, he be-came first permanent chairman of the U.S. joint chiefs of staff.

Shortly after the outbreak of the Korean war in mid-1950, General Bradley went to Tokyo, Japan, to confer on far eastern strategy. He also accompanied Pres. Harry S. Truman to Wake Island in October for the meeting with Gen. Douglas MacArthur. On Aug. 22 he warned the senate armed services committee that world conditions made it necessary to have either larger perma-nent forces or a system enabling quick mobilization of trained units. Even at the height of the Korean war, he more than once warned the U.S. of the critical nature of the "cold war" in Eu-rope, declaring that the greatest danger was that once the Korean war was won the U.S. would "let down its guard." In September congress voted him the rank of general of the army, and Presi-dent Truman presented him with his five-star insignia.



**Brannan, Charles Franklin** (1903– ), U.S. secretary of agriculture, was born on Aug. 23 in Denver, Colo., and was graduated from the University of Denver law school in 1929. He practised law in Denver until 1935, when he became assistant regional attorney of the Resettlement administration, and later regional attorney in the department of agriculture's office of the solicitor. From Nov. 1941 to April 1944 he was regional director of the Farm Security administration for Colorado, Wyoming and Montana. He was named assistant secretary of agriculture in June 1944 and secretary of agriculture in June 1948.

In 1949 Brannan put forward the "Brannan plan" for farm price supports to be based on a minimum farm purchasing power, which would be subsidized by government payments. This legislative proposal was not enacted by congress, although Brannan and other administration leaders continued to press for it during 1950. He charged that failure to enact his plan was the cause of such occurrences as dumping millions of dollars of surplus agricultural products which had been purchased by the government. On Aug. 22, 1950, Brannan declared that the government had huge surpluses of dairy foods and dried eggs, in danger of spoiling if not given away. Under President Truman's defense mobilization plan announced Sept. 9, Brannan was given cognizance over food, farm equipment and commercial fertilizer. (See also AGRICULTURE.)

**Brazil.** A federal republic in eastern and central South America, Brazil is the largest of the Latin-American nations. Language: Portuguese; religion: predominantly Catholic. Chief cities: Rio de Janeiro, the capital (est. pop. 1950, 2,408,000; São Paulo (2,213,000); Recife (530,000); Salvador (424,000); Pôrto Alegre (400,000); Belo Horizonte (300,000); Fortaleza (280,000); Belém (259,000).

President (since Jan. 31, 1946, and until Jan. 31, 1951): Gen. Eurico Gaspar Dutra.

Brazil's area of 3,286,170 sq.mi. is nearly half of South America and second only to that of Canada in the western hemisphere. The population (census, July 1, 1950) was estimated at nearly 50,000,000. Three-fourths of this population is concentrated in a narrow area along the coast. About 8,200,000 (one-sixth of the total) live in the 25 most important cities.

**History.**—General elections were held on Oct. 3, 1950. More than 50,000 candidates registered for offices in the national, state and municipal governments. According to data published by the superior electoral court, there were 11,299,692 registered voters.

Efforts of the National Democratic union (U.D.N.) and the Social Democratic party (P.S.D.) to come to an agreement as to a common candidate for president failed. As a consequence, each party maintained the right to present its own candidate. After party conventions, held in May and June, the following candidates were announced and later registered with the superior electoral court: Getulio Vargas (former president of Brazil) by the Brazilian Labour party (P.T.B.); João Mangabeira, by the Brazilian Socialist party (P.S.B.); Cristiano Machado, by the Social Democratic party (P.S.D.); and Brigadier Eduardo Gomes, by the National Democratic union (U.D.N.).

At the end of the year, although Getulio Vargas had been unofficially recognized as the victor at the polls, and President Dutra was allegedly planning to leave the presidential palace in the first week of January to allow for alterations suiting his successor, no official certification had been issued by the superior electoral court.

When, at the end of the year, the United States requested the Organization of American States to call a meeting of the foreign ministers of the American nations to consider present circum-

**Area and Population of States and Territories of Brazil**  
(latest estimates available as published by the Instituto Brasileiro de Geografia e Estatística)

State or territory	Area (sq. mi.)	Pop. Jan. 1, 1949	Capital
<b>North</b>			
Acre (terr.) . . . . .	57,153	99,554	Rio Branco
Amazonas . . . . .	595,474	502,151	Manaus
Rio Branco (terr.) . . . . .	97,438	14,273	Boa Vista
Pará . . . . .	470,752	1,094,200	Belém
Amapá (terr.) . . . . .	55,489	25,553	Macapá
Guaporé (terr.) . . . . .	96,986	25,159	Pôrto Velho
<b>Northeast</b>			
Maranhão . . . . .	133,674	1,464,132	São Luís
Piauí . . . . .	94,819	969,160	Teresina
Ceará . . . . .	57,371	2,478,647	Fortaleza
Rio Grande do Norte . . . . .	20,236	910,386	Natal
Paraíba . . . . .	41,591	1,685,930	João Pessoa
Pernambuco . . . . .	38,315	3,185,284	Recife
Alagoas . . . . .	11,031	1,127,542	Maceió
Fernando de Noronha (terr.) . . . . .	7	1,275	.....
<b>East</b>			
Sergipe . . . . .	8,321	642,857	Aracajú
Bahia . . . . .	204,393	4,644,412	Salvador
Minas Gerais . . . . .	228,469	7,985,145	Belo Horizonte
(Serra dos Aimores)* . . . . .	...	79,413	.....
Espírito Santo . . . . .	17,688	889,154	Vitória
Rio de Janeiro (state) . . . . .	16,372	2,190,394	Niterói
Distrito Federal . . . . .	451	2,408,000†	Rio de Janeiro
<b>South</b>			
São Paulo . . . . .	95,459	8,522,209	São Paulo
Paraná . . . . .	82,741	1,465,544	Curitiba
Santa Catarina . . . . .	31,118	1,396,769	Florianópolis
Rio Grande do Sul . . . . .	110,150	3,936,245	Pôrto Alegre
<b>Central-West</b>			
Goiás . . . . .	225,266	979,606	Goiânia
Mato Grosso . . . . .	485,405	496,846	Cuiabá

\*Area in dispute between the states of Minas Gerais and Espírito Santo. †1950.

stances of economic and defense problems of the hemisphere, Brazil was one of the first to accede to the proposed meeting.

The Communists intensified their agitation campaign in various parts of the country during the latter part of the year. Alleged Communist infiltration in the armed forces led to a strong protest from a group of army officers against the policy pursued by the Military club's magazine which had published an article denouncing the preparation for armed participation in the Korean war. As a consequence, the magazine suspended its publication.

At the end of the year the chamber of deputies approved a special credit of Cr\$ 50,000,000 (about U.S. \$2,500,000) as a Brazilian contribution to the United Nations' war effort in Korea.

The relations between Brazil and the U.S. were somewhat strained by charges of the U.S. senate agricultural subcommittee (headed by Sen. Guy Gillette), that speculative manoeuvres and trading were the cause of the sudden rise in the price of coffee. Senator Gillette's declarations that coffee growers in Brazil were deliberately withholding supplies in order to create an artificial shortage and a consequent rise in price were keenly resented by Brazilian growers and traders.

On the other hand, a new shipping decree which went into effect on March 1, requiring the payment in cruzeiros of ocean freight charges on all merchandise imported into Brazil caused resentment among U.S. steamship operators. Representations of the latter went without effect. U.S. shipping lines were compelled to increase freight rates by a reported 5% to offset losses.

**Education.**—There were in 1950 about 60,000 primary schools with 150,000 teachers and 4,500,000 students. Illiteracy was estimated at about 55% for the whole country. There were approximately 1,500 secondary schools with 300,000 students; 2,700 professional schools with 200,000 students; and 7 official universities. There were also three private universities maintained by the Catholic Church (at Rio de Janeiro, São Paulo and Pôrto Alegre).

**Finance.**—The cruzeiro, the monetary unit of Brazil, divided into 100 centavos, sold in the free market at rates between 25 and 28 per U.S. dollar. The official rate established by the Banco do Brasil remained 18.38. The foreign debt, which amounted to Cr\$ 10,013,599,633 (about U.S. \$507,000,000) on Dec. 31, 1945, had dropped to Cr\$ 5,620,042,153 (U.S. \$280,000,000) as of Oct. 30, 1950, a reduction of more than 43% in five years.

Money circulation increased from Cr\$ 18,400,000,000 (U.S. \$920,000,000) on July 1, 1949, to Cr\$ 29,430,517,368 (U.S. \$1,470,000,000) as of Nov. 30, 1950.

With supplementary and extraordinary credits, the government's expenditures were estimated at Cr\$ 24,627,000,000 (U.S. \$1,230,000,000) and the income at Cr\$ 19,000,000,000 (U.S. \$950,000,000), with a resulting deficit of Cr\$ 5,627,000,000 (U.S. \$280,000,000).

Foreign capital investments in Brazil were estimated at Cr\$ 15,491,734,252 (U.S. \$775,000,000) at the beginning of the year. Fifty-three



per cent of this amount was U.S. capital.

**Trade.**—Brazil exported 1,796,334 tons of merchandise worth Cr\$ 11,607,000,000 (U.S. \$580,000,000) between Jan. 1 and July 31, 1950. During the same period Brazilian imports amounted to 4,576,678 tons valued at Cr\$ 9,575,428,000 (U.S. \$475,000,000) leaving a favourable trade balance of Cr\$ 2,031,521,000 (U.S. \$105,000,000) during the first seven months of the year.

On June 14, 1950, Brazil announced negotiations with Great Britain for a trade agreement valued at £95,000,000 sterling. Brazil and Germany concluded a trade agreement providing for Brazilian exports valued at U.S. \$75,000,000 to western Germany in return for U.S. \$125,000,000 worth of German goods. A new agreement was also signed between Brazil and Czechoslovakia whereby Brazil would receive U.S. \$15,000,000 worth of machinery, agricultural equipment, chemical and pharmaceutical products, automobiles and other manufactured goods in exchange for hides, cotton, cocoa, wool, carnauba wax and mica. Another exchange agreement was signed with Austria, amounting to U.S. \$8,000,000.

**Communications.**—There were about 36,000 km. of railroad track in operation and about 300,000 km. of surfaced roads. It was estimated that there were in the country approximately 400,000 automobiles. There were about 130,000 km. of air routes in operation, and approximately 69,000 km. of telegraph lines.

The final link of Brazil's north and south by railroad was completed early in the year when a short, but difficult connecting line of 359 km. was finished between Estrada de Ferro Leste Brasileiro (Eastern railways of Brazil) and the Central do Brasil railroad at Monte Azul and Contendas. Northeastern Brazil was also connected with the south by railroad with the construction of a line linking Palmeira dos Índios and Colegio.

**Agriculture.**—The rice crop was sufficient to allow exports of 300,000,000 to 400,000,000 lb. The coffee harvest was estimated at 28,250,000 bags. The carnauba wax crop was estimated at 11,000 metric tons. The cotton crop totalled 1,355,000 bales. The cocoa crop was estimated at 355,000,000 lb. exceeding the previous record of 335,000,000 lb. produced in 1946-47. About 315,000,000 lb. of this crop went into the export trade. Wheat production amounted to 437,506 tons.

**Manufacturing.**—A Cr\$ 50,000,000 margarine factory, established in São Paulo by Anderson, Clayton and Co., Ltd., reached a daily output of about five metric tons. The Companhia Bahiana de Cimento Portland received a loan of U.S. \$2,070,000 from the Export-Import Bank of Washington for the installation of a 100,000-ton-per-year cement plant near Salvador.

Volta Redonda Steel plant reached an output of more than 300,000 metric tons of rolled steel during the year.

**Mineral Production.**—The first large-scale shipment of commercial manganese from Amapá territory to the United States took place during the year. In 1949 about 150,000 tons of Brazilian manganese were exported.

A plan to develop petroleum refining and distributing facilities was aided by the arrival of a new 16,500-ton oil tanker, the first of a large tanker fleet under construction in Europe and Japan. A refinery near Santos with a capacity of 45,000 l. a day was completed. Brazilian coal production reached 962,633 tons during the first six months of 1950 as compared with 2,128,858 tons in 1949.

**BIBLIOGRAPHY.**—American Chamber of Commerce of Brazil, *Brazilian Business Magazine*, monthly (Rio de Janeiro); Brazilian Government Trade Bureau, *Brazilian Bulletin*, monthly; Instituto Brasileiro de Geografia e Estatística, *Boletim Estatístico* (Rio de Janeiro). (R. D'E.)

**Bread and Bakery Products.** Estimates, which were based in part on the figures of the last U.S. census of manufactures, of important agricultural products used as ingredients by the baking industry of the United States in 1950 included approximately 12,500,000,000 lb. of flour, 1,200,000,000 lb. of lard and other shortening, 2,700,000,000 lb. of sugar and syrups, 300,000,000 lb. of eggs, 275,000,000 lb. of skim milk solids and 180,000,000 lb. of raisins. Accurate data on the amount of fruit utilized by the pie-baking segment of the industry were not available, but the quantity thus utilized was known to be large.

The value of the products produced by the U.S. baking industry during the year was estimated to be in excess of \$3,750,000,000. The baking industry ranked first among the food industries in the number of manufacturing establishments (about 30,000, if small retail shops, restaurants and institutions were included), its number of employees (about 316,000), and the size of its pay roll.

In Aug. 1950 the U.S. Federal Security administrator caused to be published the proposed definitions and standards of identity of bread and related products sold in interstate commerce, based on the record of public hearings held in accordance with the provisions of the Federal Food, Drug, and Cosmetic act. These proposals did not recognize as permissible optional ingredients of bread certain chemical compounds known as Spans, Tweens and

polyoxyethylene monostearate, widely used since 1947 by U.S. bakers as softeners in bread or as emulsifiers in cake. A finding of fact, proposed by the Food and Drug administration, stated in part: "Although there has been no definite evidence of injury from the use of Spans, Tweens, or polyoxyethylene monostearate in amounts in which they are likely to occur in the diet from their use in bread, the investigational work does not definitely establish their safety, and the record does not permit a conclusion that bread containing them is safe for continuous use over the human life span. Apart from their possible toxicity, the record as a whole will not support a finding that it would promote honesty and fair dealing in the interest of consumers to recognize sorbitan esters of fatty acids, polyoxyethylene sorbitan esters of fatty acids, and polyoxyethylene esters of fatty acids as optional ingredients of breads, rolls and buns."

Experimental data included in the lengthy record of the bread hearings showed that these softeners retarded the swelling and disintegration of starch granules in the making of dough and bread, and combined with the amylose fraction of the wheat starch. These properties were thought to be responsible for the unusual degree of softness of bread made with certain of the chemical emulsifiers. Some bakers testified that they were obliged to use softeners to meet competition in markets where wrapped bread may be selected by consumers on the basis of its feeling of softness. Evidence was obtained that the use of emulsifiers did not retard the rate of staling of bread containing them.

The subject of bread softeners and cake emulsifiers was discussed on the floor of the congress of the United States from the standpoint of the possible effects of these compounds on health and on the agricultural economy. It was charged that their use might involve a decrease in the use of shortening and eggs. Proponents of the emulsifiers and softeners claimed that the products actually used were harmless and involved no necessary decrease in the use of other ingredients of bakery products. At the close of the year 1950 the questions raised by the introduction of the emulsifiers were still being considered. (See also FLOUR.)

**BIBLIOGRAPHY.**—American Institute of Baking, "Bakery Foods," *The Instructor* (Sept. 1950); Federal Security Agency, Food and Drug Administration, "Bakery Products: Definitions and Standards of Identity," *Federal Register* 15: 5102-12 (Aug. 8, 1950).

FILMS OF 1950.—*Breadmaking* (Paul Hoefer Productions). (F. C. Bc.)

**Brewing and Beer.** Beer and ale sales in the United States for the fiscal year ending June 30, 1950, totalled 84,202,618 bbl., the third highest fiscal year on record. Highest figure was 86,992,795 bbl. in 1948. Total sales by years since 1934 are given in the table.

Sales of Malt Beverages in the U.S.  
(Years ending June 30)

Year	Sales (bbl.)*	Year	Sales (bbl.)*
1935	42,228,831	1943	68,636,434
1936	48,759,840	1944	76,969,764
1937	55,391,960	1945	79,590,598
1938	53,926,018	1946	81,286,821
1939	51,816,874	1947	82,629,441
1940	53,014,230	1948	86,992,795
1941	52,799,181	1949	85,809,068
1942	60,856,219	1950	84,202,618

\*A U.S. barrel is 31 U.S. gal.

Bottled and canned beer accounted for 70.8% of the nation's total consumption, in contrast to a rate of about 25% in 1934 and prior years.

Early in 1950 results of a nation-wide consumer survey made in 1949 by Crossley, Inc., were published, which showed that 52.4% of the adult civilian population of the U.S. were consumers of beer and ale. This was about 1% higher than a similar survey showed in 1944.

Wisconsin led in the fiscal year both in production, 12,649,-



071 bbl., and sales, 11,548,841 bbl. New York was a close second in both categories and Pennsylvania third. The three states maintained the same order in 1949.

The brewing industry in 1950 enjoyed an abundance of raw materials—particularly malt, the basic ingredient, and corn, used as a malt adjunct.

During the year the United States Brewers foundation launched a safety program designed to afford maximum protection for workers in the industry. A contest sponsored by the foundation embraced the entire industry and set brewers in competition for maintaining the best safety records. Various educational media were used to enlist the workers' co-operation.

Another activity was the foundation's expansion of its Armed Forces Liaison program. Through this program, the industry co-operated with armed forces authorities in maintaining wholesome conditions surrounding the retail sale of beer in establishments serving military personnel. Beer was sold at nearly all post exchanges and, when obtainable, was issued to front-line U.S. troops in Korea.

**By-Products.**—Brewers' wet and dry grains, used extensively as high protein cattle feed, and brewers' yeast, richest known natural source of B vitamins, are important by-products of the brewing process. Since World War II, there had been an increasing use of brewers' yeast as a human nutrient and as a vitamin supplementary feed for poultry, livestock and domestic animals to provide a balanced ration.

Debittered yeast is used in bread and crackers and in the enrichment of noodles and dehydrated soup. Use of this yeast as a supplementary ingredient in bread, doughnuts and a limited number of other bakery items extends "shelf life" an additional 24 hr., it was reported in 1950 at the 10th annual Institute of Food Technology in Chicago. The report also stated that it accentuates the natural flavour of these foods. In addition to its use in baking products, brewers' yeast also is added in small quantities to candy, meat loaves, gravies, peanut butter, syrup and casseroles.

**Moderation and Enforcement.**—Close co-operation among brewers, wholesalers and retailers continued to be an integral part of the industry's self-regulation program which had its inception in 1938. This program, sponsored by the foundation whose members produce more than 80% of the beer and ale in the U.S., is an educational one, designed to impress upon industry members, particularly retail licensees, the importance of strict observance of all laws and of maintaining high standards of operation in the public interest.

**Industry Economics.**—The industry pay roll reached a peak in 1949, with weekly earnings for production workers averaging \$69.25, as compared with averages of \$53.57 for all foods and \$54.90 for all manufactures. These figures were expected to be exceeded in 1950.

Purchases of agricultural products were estimated at nearly \$300,000,000, mainly for malt, corn products, rice and hops. Purchases of cans, bottles, kegs, labels, transportation and various items of supplies, equipment, machinery and services were also important contributions to the national economy.

Federal excise taxes, at \$8 per barrel, and special taxes on malt beverages for the fiscal year 1950 totalled \$672,084,794, bringing the cumulative total since relegalization (April 7, 1933) to \$7,502,692,208. State and local taxes and licence fees in the fiscal year 1950 were estimated at \$215,000,000, raising the cumulative figure for that revenue to about \$2,515,000,000. Combined public revenues since 1933 thus had passed the \$10,000,000,000 mark. (See also LIQUORS, ALCOHOLIC.)

(E. V. LH.)

**Bridges.** The world's longest spans of the various types built up to 1951 are listed in the following table:

World's Longest Spans by Type of Bridge

Type	Bridge	Location	Year Completed	Span
Cable Suspension	Golden Gate	San Francisco	1937	4,200 ft.
Transporter Bridge	†Sky Ride	Chicago	1933	1,850
Cantilever	*Quebec	Canada	1917	1,800
Steel Arch	Kill van Kull	New York	1931	1,652
Eyebar Suspension	*Florianópolis	Brazil	1926	1,114
Concrete Arch	Sando	Sweden	1943	866
Continuous Truss	Dubuque	Mississippi river	1943	845
Simple Truss	*Metropolis	Ohio river	1917	720
Continuous Girder	Bonn-Beuel	Rhine river	1949	643
Vertical Lift	*Cape Cod Canal	Massachusetts	1935	544
Wichert Truss	Homestead	Pittsburgh	1937	533½
Swing Span	*Fort Madison	Mississippi river	1927	525
Tubular Girder	*Britannia	Menai straits	1850	460
Timber Span	*McKenzie River	Coburg, Ore.	1926	380
Bascule	*Sault Ste. Marie	Michigan	1914	336
Masonry Arch	Plauen	Saxony	1903	295
Single Leaf Bascule	*16th Street	Chicago	1919	260
Concrete Girder	Villeneuve	Seine river	1939	256

\*Railroad bridge.

†Not standing.

**United States.**—The new \$14,000,000 suspension bridge of 2,800-ft. main span over the Tacoma narrows west of Tacoma, Wash., was opened to traffic Oct. 14, 1950, to replace the slender \$6,400,000 structure that collapsed Nov. 7, 1940, as a result of aerodynamic oscillations during a 42-m.p.h. wind. The previous span had been in service only four months when the disaster occurred. The piers were salvaged from the original construction and altered to support the new structure, which was widened to four lanes and was provided with deep stiffening trusses and slotted roadways. The new 2,800-ft. span is the third longest in the world.

A 56-m.p.h. wind in June 1950 caused vertical oscillations of 42 in. in the deck of the 4,200-ft. span of the Golden Gate bridge at San Francisco, Calif. This was the largest amplitude oscillation recorded since motion-recording instruments were installed on the bridge in 1946.

Work on the plans for a new San Francisco Bay bridge, to cost \$128,291,000, was abandoned in 1950 upon failure to secure the necessary legislation from congress.

The Mackinac Bridge authority, established by the Michigan legislature in 1950, selected and engaged a board of three consulting engineers to prepare preliminary designs and estimates for a proposed bridge across the Straits of Mackinac to connect the Upper and Lower peninsulas of the state of Michigan. The water crossing is four miles wide, with maximum depth of 290 ft. The estimated cost was more than \$60,000,000, and the crossing would include a suspension bridge of about 3,800-ft. main span, which would be the world's second longest span.

Construction was speeded in 1950 on the \$40,000,000 Delaware River Memorial bridge near Wilmington, Del., scheduled to open by July 1, 1951. The project length of 3½ mi. included a suspension bridge of 2,150-ft. main span.

Construction progressed in 1950 on the \$44,000,000 Chesapeake Bay bridge, 21,286 ft. long, connecting the east and west shores of Maryland near Annapolis. The structure includes a suspension bridge of 1,600-ft. main span and a through cantilever bridge of 780-ft. main span, in addition to smaller deck cantilever spans and simple truss spans, all to carry a two-lane roadway, 28 ft. wide. The foundations for the deep-water piers presented the most difficult problem, requiring a novel pier design and using 17,500 tons of steel H-piles, half as much steel as in the four-mile-long superstructure.

A \$50,000,000 floating bridge of novel type was proposed in 1950 by the Washington State Toll Bridge authority for linking Seattle with the area to the west of Puget sound. The bridge, 14,600 ft. long, would be of constant level, unaffected by tidal action or driftwood. The deck would be supported above maximum tidal action by piers resting on submerged buoyancy chambers anchored by cables. Ships would pass through an inverted-lift



centre segment.

The \$27,000,000 Mystic River bridge, a two-level structure more than two miles long from Charlestown to Chelsea, Mass., was completed in 1950. The main span is a through cantilever.

A \$23,000,000 combination bridge and tunnel crossing of the Elizabeth river to connect Portsmouth and Norfolk, Va., via Berkley, was commenced in 1950 for completion in 1952. The four-lane bridge between Berkley and Norfolk was to be 2,135 ft. long, including a double-leaf bascule of 179-ft. span across the navigation channel.

The Penrose Avenue bridge at Philadelphia, Pa., with a cantilever main span over the Schuylkill river, was constructed in 1949-50 at a cost of \$12,000,000, to speed industrial traffic along the Delaware river below Philadelphia.

The new cantilever bridge over the Mississippi river at Memphis, Tenn., carrying four lanes of highway traffic, was completed in Dec. 1949. It took 4½ years to build and cost \$14,500,000.

Construction of the long-awaited bridge across Lower Tampa bay was finally authorized in 1950 by the Florida State Improvement commission. The toll bridge, to cost \$21,250,000, would cut 40 mi. from the road between St. Petersburg and Sarasota.

Construction was commenced in 1950 on the \$9,000,000 York River bridge at Yorktown, Va. It includes two 500-ft. equal-arm swing spans, set tandem.

The \$6,880,000 four-lane highway bridge over the Mississippi river at East St. Louis, Ill., was completed in 1950. The 964-ft. central cantilever span is the longest span over the Mississippi.

One of the biggest bridge-replacement jobs in the U.S. in 1950 was the construction of a modern railroad bridge over the Ohio river at Cairo, Ill., by the Illinois Central railroad at a cost of \$6,400,000 to replace a 60-year-old single-track bridge. Two 518-ft. and four 400-ft. Warren trusses replaced the old-style Whipple trusses of the same span length.

A bridge 7,000 ft. long was under construction in 1950-51 to carry the New Jersey turnpike across the Passaic river at Newark. The river span of 375 ft. is the longest plate girder span in the U.S.

A pedestrian bridge connecting Manhattan and Ward's Island over the Harlem river, constructed in 1950, includes a plate girder vertical lift span of 312 ft., the world's longest girder lift span.

A new highway bridge over the Mississippi river at Hastings, Minn., to be completed in 1951, was an arched continuous truss with three spans of 226, 514 and 226 ft. It replaced a 55-year-old bridge which acquired considerable fame for its unusual spiral approach.

The Arrowsic-Woolwich bridge across the Arrowsic river in Maine was completed in 1950. The 200-ft. suspended truss span was floated out on a barge and hoisted to position to close the gap in the cantilever span.

A vertical lift bridge of 335-ft. span completed during 1950 to carry the Southern railway over the Tombigbee river in Alabama replaced a 62-year-old 256-ft. swing span at the same site, with only two days' interruption of railroad traffic.

A new railroad bridge (built 1950) over the Blue river at Kansas City, Mo., is a continuous girder bridge with three spans of 64, 104 and 64 ft. In time of flood, the bridge can be lifted at the ends, raising it seven feet above its four intermediate supports. In the raised position, the structure is a simple beam spanning 232 ft.

The Bluestone River bridge near Hinton, W.Va., was completed in June 1950, following the erection failure in March 1949, when ten panels (232 ft.) of cantilevered trusses in span 3 collapsed without warning, killing five workmen. Following thorough investigations and tests, the failure went down in the annals of



HIGH-LEVEL CANTILEVER TOLL BRIDGE spanning the Mystic river between Chelsea and Charlestown, Mass., the largest bridge in New England at the time of its dedication on Feb. 25, 1950. More than two miles long from grade to grade, it has two three-lane decks each carrying one-way traffic

bridge construction as an unsolved mystery.

Awards made in 1950 for the most beautiful steel bridges completed in the U.S. during 1949 went to the North Main Street High Level bridge at Akron, O.; the Pinto Creek bridge near Superior, Ariz.; the Tenth Street bridge on a parkway at Atlanta, Ga.; and the Passaic River bascule bridge at Clifton, N.J.

**Italy.**—Design studies and estimates were prepared by U.S. engineers in 1950 for a proposed \$60,000,000 suspension bridge to carry railroad and highway over the Straits of Messina between Italy and Sicily. The crossing is two miles wide over water 400 ft. deep. With a main span of 5,000 ft., two side spans of 2,400 ft. and main pier foundations of record-breaking depth, the bridge would be the world's greatest span. The bridge was designed to resist railroad loading, aerodynamic action and earthquake forces.

The first Italian bridge made of prestressed concrete was completed in 1950 at Persiceto, to carry the Bologna-San Giovanni road over the Samoggia river. The span is 91 ft., and the width is 33 ft. The new method of construction saved 22% in concrete and 60% in steel.

**Puerto Rico.**—A new bridge to meet modern highway requirements over the Martin Pena channel at San Juan, P.R., was authorized in 1950 to replace the historic span known as "El Basculo." The new structure, to carry four lanes of modern highway traffic, was estimated to cost \$2,000,000.

**Chile.**—The longest bridge in Chile, a suspension bridge with a main span of 445 ft., was built in 1949 over the Imperial river in the southern part of the country. The towers are of concrete, 66 ft. high. This was the first of a series of five modern highway bridges in a government program for 1949-50.



A fixed-end arch of cellular reinforced concrete, with a span of 218 ft., was completed in 1950, high above a deep gorge of the Chirri river near Crucero in southern Chile. This new structure carries a single track for the heaviest equipment of the Chilean National railways. Timber falsework to support the forms was erected on timber trusses spanning from the gorge walls to a concrete construction tower, 133 ft. high, at midstream.

**Canada.**—Following three years of computation and experiment, the world's first arch bridge of aluminum was completed in 1950 over the Saguenay river at Arvida, Que. The arch span is 290 ft. The aluminum arch weighs only 200 tons, whereas a comparable arch of steel would weigh 400 tons. Erection of the light arch ribs by the cantilever method, using an overhead cableway, was completed in two weeks.

**England.**—During the erection (1950) of a Bailey bridge 1,150 ft. long over the Thames river at London, a 60-ft. section of the first span fell into the river while the span was being pushed out to meet the first of the six piers. The bridge was planned to carry traffic across the Thames during the Festival of Britain in 1951.

**Scotland.**—The world's first continuous truss bridge of aluminum was built in 1950 over the River Tummel in Scotland. The three-span bridge is 310½ ft. long, with a centre span of 172½ ft. Designed for a live load of 84 lb. per square foot on a seven-foot roadway, the bridge carries pedestrian traffic only.

**France.**—The world's first continuous bridge of prestressed concrete was completed late in 1949 at Neufchâtel-en-Bray. The bridge has three continuous spans of 59, 36 and 59 ft. The width is 45 ft., and the depth varies from 18½ in. at the abutments to 23½ in. over the centre span. Each span consists of 22 beams, precast separately and prestressed to carry their own weight before continuity was introduced through further prestressing by continuity cables after erection.

**SINGLE-SPAN BRIDGE** under construction near Leghorn, Italy, to replace one destroyed by naval bombardment during World War II. It was one of many postwar road projects sponsored by the Italian government in 1950

A double-deck masonry viaduct 895 ft. long and 109 ft. high, carrying railroad and highway over the Ain river at Cize-Bolozon in eastern France, largely destroyed in World War II, was entirely rebuilt by 16 men working for five years and was completed in 1950. The new structure is an exact replica of the historic viaduct, originally completed in 1875.

**Belgium.**—The world's second continuous bridge of prestressed concrete was completed in 1950 over the Meuse at Sclayn, Belg. It has two continuous spans of 206 ft. each.

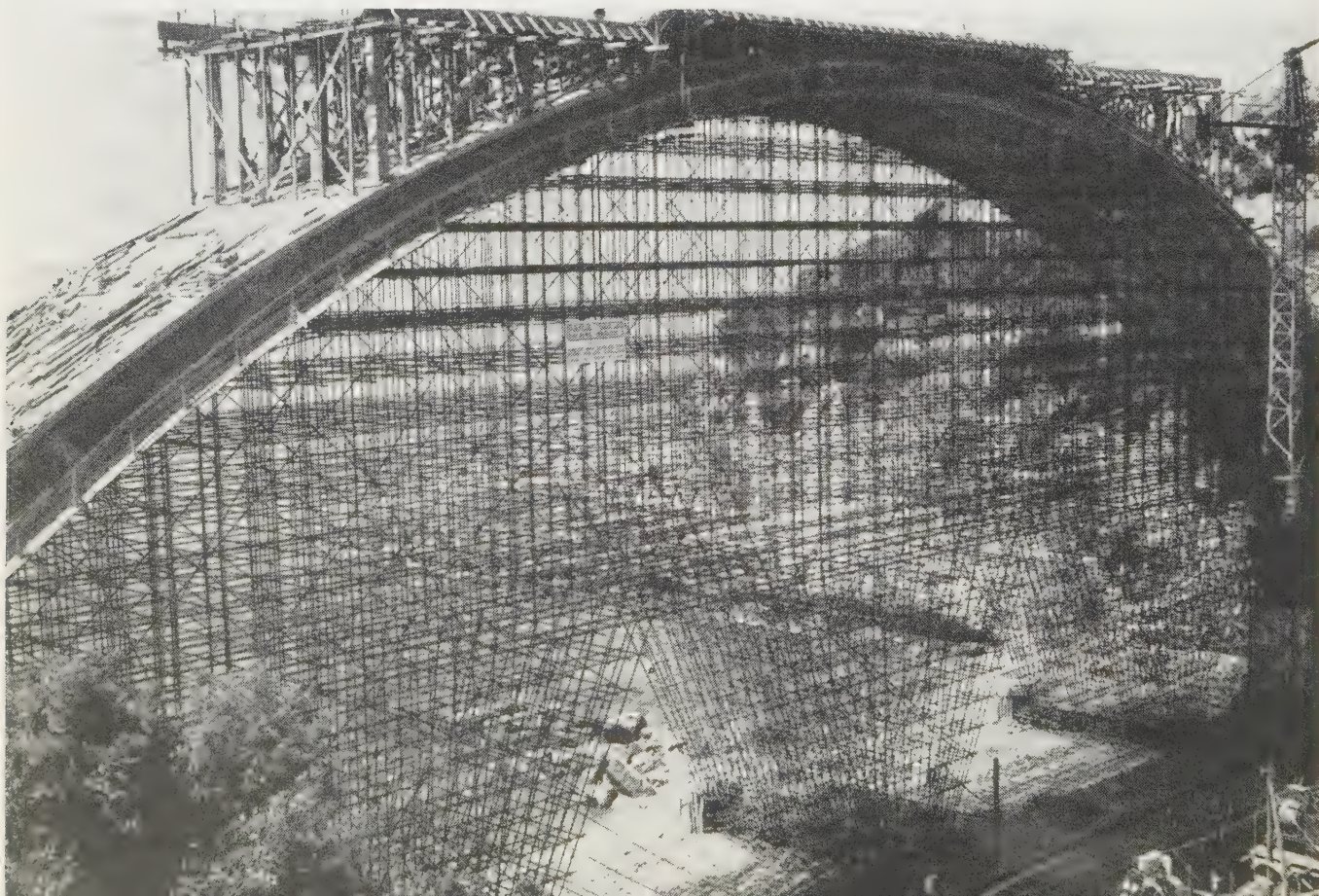
**Germany.**—A new world's record of 643 ft. for the longest continuous plate girder span was established with the completion (late in 1949) of the Bonn-Beuel highway bridge over the Rhine in Germany. The girder is 1,293 ft. long, continuous over three spans of 295, 643 and 325 ft. The girder depth at mid-span is 9.8 ft., or 1/65 of the span. The bridge carries a roadway 40 ft. wide and two 10-ft. sidewalks.

The Frankenthal bridge carrying the *Autobahn* over the Rhine at Mannheim was finally completed in 1950. Continuous over two spans of 528 and 482 ft., it is the heaviest plate girder bridge in the world. Commenced in 1939, construction was interrupted in Dec. 1940 by the collapse of the 528-ft. span during erection, with the loss of 36 lives, when that record-breaking span was nearly completed. The failure was caused by an erection blunder. Investigation was halted and the story of the collapse was suppressed at that time by the Hitler government.

The Peace bridge, built in 1950 across the Main river at Frankfurt, is a continuous girder bridge, replacing the Wilhelms Brücke destroyed during the war.

The Saalach river *Autobahn* bridge near Munich, a reinforced concrete arch dynamited by the retreating Germans during World War II, was salvaged and rebuilt in 1950. The collapsed half-arches, with their shore ends pointing skyward, were raised to their former position by hydraulic pumps, and were then joined with new concrete to form the finished arch.

The world's longest prestressed-concrete span (353 ft.) was





completed in 1950. It was a three-hinged prestressed-concrete arch bridge (47.5 ft. wide) crossing the Neckar canal in the harbour of Heilbronn, Ger., and replaced a reinforced concrete arch bridge that was blown up by retreating German troops in 1945. Although the new bridge was seven feet wider than the old one, the total saving of steel was 40%, of concrete 16%, and of man-hours 15%, all credited to the adoption of the prestressed-concrete design.

**Egypt.**—The Egyptian State railways took bids in 1950 for the construction of a new rail and highway bridge of 250-ft. span over the Suez canal at Ismailia. The bridge, to cost \$1,500,000 and to be completed in 1952, would be of a movable type to allow navigation through the canal. When the new bridge was completed, the Ferdan bridge further north, which was built during World War II for the communication lines of the British army, would be demolished because it obstructs the navigation channel.

**Ethiopia.**—The biggest construction project in Ethiopia in recent times is the new bridge across the Blue Nile (Abbai river). Its length is 670 ft., with a main span of steel. It was built 1947–50 at a cost of \$1,000,000 to provide connection in time of floods between the two provinces of Shoa and Gojjam. (See also ROADS AND HIGHWAYS.) (D. B. S.)

**British Borneo.** British-administered territories in Borneo consist of the colonies of North Borneo (including the island of Labuan) and Sarawak, and the protected state of Brunei. Areas: North Borneo 29,417 sq.mi.; Sarawak c. 47,071 sq.mi.; Brunei 2,226 sq.mi. Pop. (1949 est.): North Borneo 335,000; Sarawak 560,000; Brunei 43,000. Governors, 1950: North Borneo, Sir Ralph Hone; Sarawak, Anthony F. Abell (also high commissioner for Brunei). British resident, Brunei: E. E. F. Pretty.

**History.**—In Sarawak 1950 opened with the appointment of a new governor; Anthony F. Abell succeeded Duncan Stewart, who was assassinated in Dec. 1949. For this crime two Malay youths were executed and nine others sentenced to imprisonment. All were members of a small secessionist society. Sir Ahmed Tajudin, sultan of Brunei, died at Singapore on June 3 and was succeeded by his brother, Oman Ali Saifudin.

In North Borneo the first legislative council was opened in Jesselton on Oct. 31. On the same date an executive council was established. Previously the territory had been administered by the governor with an advisory council. In Brunei, also, steps were taken in political development by the appointment of six representatives nominated by the divisional councils to the council *negri* (the legislature). Steps were also taken to unify the judiciary of North Borneo and Sarawak and to constitute a joint court of appeal.

Considerable progress was made in surveying and promoting the development of natural resources. In Brunei the output of oil continued to expand; it had reached more than 3,000,000 tons in 1949. Economic Cooperation administration funds (\$40,000) were made available to the Sarawak government for road development. In North Borneo the assessment of war damage claims was completed by September and payment of annual instalments of the awards started.

**Finance and Trade.**—Currency: Straits dollar, valued at 32.67 cents U.S., Oct. 16, 1950. Budget estimates, 1950 (in Straits dollars): North Borneo, revenue Str.\$15,720,094 and expenditure Str.\$20,673,206; Sarawak, revenue Str.\$17,152,624 and expenditure Str.\$19,493,795. Principal exports: rubber, sago, oil (Sarawak 3,302,880 long tons, 1949) and timber. Trade returns, 1949: North Borneo, imports Str.\$32,000,000 and exports Str.\$38,000,000; Sarawak, imports Str.\$110,000,000 and exports Str.\$188,000,000. (K. G. B.)

**British Columbia.** The crown colonies of Vancouver Island (1849) and British Columbia (1858), united in 1866 and on July 20, 1871, joined the Canadian con-

federation, the sixth province to do so. British Columbia is the third largest of the ten provinces and the most westerly, bordering on the Pacific ocean and lying between the 49th and 60th parallels. The province has an area of 366,255 sq.mi., of which 6,976 sq.mi. are water.

The population on June 1, 1950, was estimated to be 1,138,000 (1941 census, 817,861). At the time of the 1941 census almost 70% of British Columbia's population was of British origin. The 1941 census indicated 443,394 urban dwellers and 374,467 rural dwellers. More than 70% of the total population was located in the southwestern portion of the province not far from the United States border. The chief cities and their estimated populations were: Vancouver (385,500); Victoria, the capital (61,400); and New Westminster (34,500). It was estimated in 1950 that the population of Greater Vancouver was 527,721 (1941, 351,491), Greater Victoria 116,800 (1941, 75,218).

**History.**—In the first session of the 22nd parliament of British Columbia, Feb. 14, 1950, to March 30, 1950, the following measures were passed: An act to provide for a "dyking" commissioner and to provide for the maintenance of dykes throughout the province; an act to provide for the financing of a program of highway development and improvement in the province and providing power to borrow \$86,000,000 to finance such a program; an act authorizing the borrowing of \$16,500,000 to be used in a program of hospital construction within the province; an act providing for co-operation with the government of Canada and other public authorities in the provision of housing; an act to provide for the taxation of the railway belt lands of the Esquimalt and Nanaimo railway; an amendment to the Civil Service act allowing specialists to be paid higher salaries than those provided in the act; an amendment empowering the British Columbia Power commission to purchase assets of certain corporations; and an act authorizing an inquiry into the status and rights of Indians in the province.

A \$5,200,000 hospital construction program was announced for 1950 in addition to projects commenced during 1949. Construction was well advanced on the \$25,000,000 cellulose plant near Prince Rupert with production planned for early 1951.

On Oct. 2, 1950, Col. Clarence Wallace assumed the office of lieutenant governor succeeding Col. C. A. Banks, who resigned.

Members of the provincial executive council, or cabinet, and their portfolios at the close of 1950 were: B. I. Johnson, premier and president of the council; G. S. Wismer, attorney general; E. T. Kenney, lands and forests; H. Anscomb, finance; H. R. Bowman, agriculture; R. C. MacDonald, mines and municipal affairs; E. C. Carson, public works; L. H. Eyres, railways, trade and industry and fisheries; J. H. Cates, labour; W. T. Straith, education and provincial secretary; A. D. Turnbull, health and welfare.

**Education.**—During the school year ending June 30, 1949, 155,515 students were enrolled; in the elementary (99,356), elementary-senior-junior high (12,562), superior (2,366), junior, junior-senior and senior high (41,231) schools of the province. Teaching staffs comprised 5,496 teachers; in the elementary 3,157, elementary-senior-junior-high 444, superior 88, junior, junior-senior and senior high 1,748 and 59 unclassified. Higher education is provided by the University of British Columbia, a provincially endowed institution, two teacher training schools located in Vancouver and Victoria, a vocational institute at Vancouver and a junior college at Victoria.

The total net cost for the enrolment of 155,515 was \$33,377,852. The deputy minister and superintendent of education was F. T. Fairley.

**Communications.**—The total highway mileage as of March 31, 1949, excluding the Alaska highway, was 22,448, of which 9,971 mi. were surfaced, 9,928 mi. were improved earth and 2,549 mi. unimproved earth. Railway mileage as of Dec. 31, 1949, was 4,845 of main line track and 1,165 of sidings. During 1949 approximately 5,057,945 tons of cargo were loaded on vessels at British Columbia ports destined for foreign countries, while 2,302,938 tons of cargo received from foreign countries were unloaded from vessels at local ports. In 1948 the total number of telephones, 233,325, included 82,915 on automatic switchboards.

**Finance.**—On Feb. 25, 1950, Herbert Anscomb, minister of finance, reported that revenue collected for the fiscal year ended March 31, 1949, amounted to \$92,000,910; expenditures had been \$87,435,964; the net



debt at Dec. 31, 1949, was \$146,100,368, an increase of \$18,474,427 over Dec. 31, 1948. Anticipated revenues were \$105,831,190 and expenditures \$105,558,518 for the fiscal year 1950-51.

**Agriculture, Fisheries, Mining, Forestry.**—Preliminary provincial departmental estimates for 1950 indicated that the net value of production in forestry, fisheries and mining would show increases over 1949, with agriculture probably showing a decrease because of heavy frost damage to the fruit trees and other crops in the early months of 1950.

Table 1.—Economic Activity in British Columbia

	Unit	1948	1949	1950 Preliminary Estimates
<b>AGRICULTURE:</b>				
Total value of production	\$	144,225,000	139,960,500	131,000,000
Livestock . . . . .	\$	19,991,000*	19,708,000	20,500,000
Poultry products . . . . .	\$	20,118,000*	19,429,000	18,000,000
Dairy products . . . . .	\$	28,812,000*	30,707,000	31,000,000
Fruits and vegetables . . . . .	\$	34,750,000*	30,729,000	27,600,000
Field crops . . . . .	\$	33,293,000*	34,103,000	28,900,000
Miscellaneous . . . . .	\$	5,144,000*	5,284,500	5,000,000
<b>FISHERIES:</b>				
Total value of production	\$	58,703,803	56,456,260	62,000,000
Pack of canned salmon	cases	1,313,909	1,433,723	1,477,000
<b>FORESTRY:</b>				
Total value of production	\$	363,786,000	331,589,549	375,000,000
Timber scaled . . . . .	M.B.M.	4,293,465	4,049,682	4,250,000
Paper production . . . . .	ton	407,210	462,282	
<b>MINING:</b>				
Total value of production	\$	152,524,752	133,012,968	136,000,000
Lead . . . . .	\$	60,072,542	41,645,726	
Zinc . . . . .	\$	41,234,603	36,604,700	
Coal . . . . .	\$	10,854,108	12,462,424	
Gold . . . . .	\$	10,603,250	10,911,780	
<b>INTERNAL TRADE:</b>				
Index of wholesale sales	1935-39=100	333.8	333.1	347.0
Total value of retail sales	\$000	731,520	768,250	820,000
Value of retail department store sales . . . . .	\$000	102,378	109,910	114,000
Railway freight loaded	ton	10,325,427	10,394,769	10,600,000
Consumption of electric power . . . . .	000 kw.hr.	3,436,738	3,601,738	3,960,000
Construction, building permits . . . . .	\$000	96,953	89,293	86,000
Bank debits . . . . .	\$000	7,043,620	7,540,592	8,200,000
Index of employment . . . . .	1926=100	202.6	200.4	202.0
Salaries and wages paid	\$000	639,996	690,000	718,000

\*Subject to revision.

**Manufacturing.**—Preliminary statistics relating to the manufacturing industries indicated that the 1949 gross value of production would be moderately higher than the previous all-time high established during 1948. The high levels established during 1949 were well maintained during 1950.

Table II.—Principal Manufacturing Industries of British Columbia

Industry	Gross value of Products 1948	1947
Sawmills . . . . .	\$224,664,156	\$218,235,191
Pulp and paper . . . . .	75,474,342	61,346,715
Fish curing and packing . . . . .	56,309,747	56,618,563
Slaughtering and meat packing . . . . .	43,419,968	30,378,352
Petroleum products . . . . .	30,656,627	20,562,850
Veneer and plywood . . . . .	28,320,902	22,499,208
Shipbuilding and repairs . . . . .	27,173,975	28,489,231
Fertilizers . . . . .	26,119,263	23,441,939
Fruit and vegetable preparations . . . . .	24,244,004	26,424,577
Planing mills, sash and door factories . . . . .	23,496,534	13,485,753
Total all manufacturing industries . . . . .	985,592,702	858,284,592

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**FILMS OF 1950.**—*British Columbia—Canada's Pacific Gateway* (Paul Hoefer Productions); *Qualicum by the Sea*; *King for a Day* (British Columbia Government Travel Bureau). (G. T. H.)

## British East Africa.

The term is used to include Kenya, a colony and protectorate; Somaliland, protectorate; Tanganyika, under United Kingdom trusteeship; Uganda, protectorate; Zanzibar, protectorate, comprising the islands of Zanzibar and Pemba. Areas, populations and chief towns are in the accompanying table.

The East Africa high commission, comprising the governors of Kenya, Tanganyika and Uganda, administers the central serv-

ices and public utilities of these territories with a central legislature. Governors (Dec. 31, 1950): Kenya, Sir Philip Mitchell; Somaliland, Gerald Reece; Tanganyika, Sir Edward Twining;

	Area (sq.mi.)	Pop. (1949 est.)	Chief Towns
Kenya . . . . .	224,960	5,454,000	Nairobi (capital, 118,976), Mombasa (port, 91,893)
Somaliland . . . . .	67,936	700,000	Berbera (capital)
Tanganyika . . . . .	362,688	7,514,000	Dar-es-Salaam (capital, 69,277)
Uganda . . . . .	93,981	5,008,000	Entebbe
Zanzibar . . . . .	1,020	268,000	Zanzibar (capital, 45,275)

Uganda, Sir John Hall. Zanzibar: ruler, Sultan Seyyid Khalifa bin Harub; resident, Sir Vincent Glenday. East Africa high commission: chairman, Sir Philip Mitchell.

**History.**—Constitutional reform was the main issue in 1950 in Kenya, Tanganyika and Uganda, with European settlers showing anxiety lest, on common electoral rolls, their voice in affairs would be swamped by that of the Asians and Africans. In Uganda the numbers of official and unofficial members of the legislative council were made equal early in the year. Of the 16 unofficial members 4 were European (nominated), 4 Asian (nominated) and 8 African (elected by the provincial councils). In Tanganyika a select committee of the legislative council consisting of seven Europeans, four Africans and three Asians began a study of constitutional reforms. The Kenya Electors' union agitated against proposals that were submitted to the Tanganyika committee by the government. It was felt these constituted a threat to the political status of European settlers in East Africa.

The duke of Gloucester visited Nairobi to present, on behalf of King George VI, a royal charter which made Nairobi a city, the first in British East Africa. On July 7 the East African naval force was inaugurated at Mombasa. The jubilee of the Uganda agreement of 1900, the basis of British relations with the kingdom of Buganda, was celebrated on March 10. The occasion was marked by the raising of Makerere college to university college status and the approval for it of colonial development grants of more than £1,000,000 by the United Kingdom. In July the governor of Uganda issued a proclamation reaffirming that all land outside the towns was held in trust for Africans and that non-African settlement would not be encouraged. East Africa defense talks took place in Nairobi in October.

In Kenya, Indian and African leaders in April held a joint political meeting for the first time and in May a general strike of eight days was called in Nairobi after the arrest of the African president and the Indian secretary (a Communist) of the self-designated East African Trades Union congress. On April 24 a district officer, 2 European police officers, 1 African constable and 29 Suk tribesmen were killed in a clash with the tribesmen who were led by a wanted religious fanatic; this man was among the Suk killed. A rioter was killed in February during a dock strike at Dar-es-Salaam, in Tanganyika.

The threat of a serious locust invasion from the middle east, where infestation spread from Lake Chad to eastern India, caused the high commission to set up a locust control organization separate from its desert locust survey. An international conference at Nairobi in July laid plans for control measures to cost £1,000,000 a year for three years. Infestation in Somaliland necessitated a vigorous campaign of destruction which met with some objection from tribesmen. Failure of the rains in eastern Somaliland made famine relief measures necessary.

At Kongwa, Tanganyika, the peanut harvest of the United Kingdom Overseas Food corporation was deplorably meagre in spite of normal rains and in October it was decided that the cultivated area at Kongwa should be limited to 12,000 ac. instead of the 450,000 ac. planned. (See AGRICULTURE.) An Indian agricultural school was established at Morogoro and it was announced



that 300,000 ac. would be available for ranching at Essimangor. In Zanzibar, plans to attack the "sudden death" disease in clove plantations by large-scale felling, which was unpopular, were abandoned and the search for an alternative remedy and for possible alternative crops or industries was continued; experiments were conducted with cocoa and the possibilities of pineapple and fish canning were explored.

Development projects were: in Kenya, coal was found in the Kitui area, and the Colonial Development corporation was to develop the Macalden copper and gold mine on Lake Victoria; in Tanganyika, the survey of the rail link between Northern Rhodesia and Tanganyika was continued, the Colonial Development corporation granted rights over the southern coal fields, a meat-canning plant (50% government-owned) opened near Dar-es-Salaam and a 150-mi. tar-macadam road from Namango to Taveta begun; in Uganda, work on the Owen falls hydroelectric scheme continued and building of a £1,500,000 cement factory 20 mi. from the dam was begun; in Zanzibar, a copra crushing mill was being built by the government, and a £250,000 electricity scheme was approved.

**Finance and Trade.**—Currency: East African shilling, valued at 14 cents U.S. (20 East African shillings=£1 sterling); in Somaliland, the Indian rupee also circulated. Principal exports: Kenya—sisal, coffee, radium, hides and skins, tea and pyrethrum; Tanganyika—sisal, cotton, diamonds and coffee; Uganda—cotton, coffee, cigarettes and sugar; Somaliland—hides and skins, livestock, gums and ghee; Zanzibar—cloves and coconut oil.

	Revenue*	Expenditure*	Imports†	Exports†
Kenya . . . . .	£11,089,000‡	£10,984,000‡	£54,123,000	£29,174,000
Somaliland . . . .	£1,228,000§	£1,228,000§	£850,000	£583,000
Tanganyika . . . .	£11,647,000	£11,641,000	£27,576,000	£20,725,000
Uganda . . . . .	£7,706,000	£7,131,000	£12,818,000	£23,805,000
Zanzibar . . . . .	£966,000	£964,000	£2,750,000	£2,688,000

\*1950 estimates. †1949, exports includes re-exports.

‡Excluding development budget, rev. £4,799,708; exp. £6,162,129.

§1949-50 estimates, including grant-in-aid from United Kingdom of £832,134.

||Excluding development expenditure £377,368.

**BIBLIOGRAPHY.**—Negley Farson, *Last Chance in Africa* (London, 1950); G. W. B. Huntingford and C. R. V. Bell, *East African Background* (London, 1950).

**British Empire:** see COMMONWEALTH OF NATIONS.

**British Guiana.** A British colony on the northeast coast of the continent of South America. British Guiana has an area of 83,000 sq.mi. Pop. (1949 est.): 408,000. Chief towns (pop. 1948 est.): Georgetown (cap. 82,563); New Amsterdam (11,930). Governor in 1950: Sir Charles Woolley.

**History.**—It was announced in Jan. 1950 that the Colonial Development corporation would undertake the exploitation of 500 sq.mi. of forest in the Bartica triangle. Later, the corporation started the erection of a B.W.I. \$5,000,000 sawmill. In May, the two U.S. experts who had studied the mechanization of rice production in the colony reported that considerable expansion of the industry was possible. They believed that 368,000 ac. could be devoted to rice growing compared with the 77,000 ac. which were already being utilized for this purpose. In August Anaconda British Guiana Mines, Ltd., announced its intention to suspend its gold-mining exploration and development activities.

A revision of the colony's ten-year plan was made public in September. In submitting it to the governor, the economic adviser pointed out that of British Guiana's allocation of B.W.I. \$12,000,000 under the 1945 act, about B.W.I. \$9,000,000 had, in fact, been spent or committed so that only B.W.I. \$3,000,000 remained available for new schemes. In addition to this, however, British Guiana could count on drawing about B.W.I. \$3,000,000 from its accumulated general revenue surplus; and to this it was proposed to add B.W.I. \$10,000,000 by way of a new colony loan to be raised in 1951. Unfortunately, even this would not supply enough capital for proposed new or remaining schemes.

**Finance and Trade.**—Currency: British West Indian Dollar, valued at 4.8 to the pound; In 1950 the British West Indian dollar was valued at 58.33 cents U.S. Budget (1950 est.): revenue B.W.I. \$20,881,728; expenditure

B.W.I. \$20,491,606. Foreign trade (1948): imports \$50,927,886; exports B.W.I. \$46,246,564. Principal exports: sugar, rum, bauxite, rice, timber and diamonds.

(P. H.-My.)

**British Honduras.** A British colony in Central America, bounded by Mexico and Guatemala, British Honduras has an area of 8,598 sq.m. Pop. (1949 est.): 65,000. Chief towns (1946 pop.): Belize (cap., 21,886); Stann Creek (3,414). Governor in 1950: Sir Ronald Garvey.

**History.**—The year 1950 opened in an atmosphere of political excitement as a result of the devaluation of the British Honduras dollar on Dec. 31, 1949, to the rate of B.H. \$4 to the pound sterling. Previously, the local dollar had been at parity with the U.S. dollar and, alone among British colonial currencies, was so left when the pound sterling was devalued in Sept. 1949. Because of the traditional local dependence on United States sources of supply, the cost of living was bound to be adversely affected by the devaluation, but the United Kingdom made a special grant of B.H. \$450,000 for the year for subsidies to cushion the effects of devaluation, particularly for the poorer classes.

Devaluation, however, cleared the way for a greatly accelerated program of development. The Colonial Development corporation pressed ahead with a number of schemes such as the building of a hotel in Belize, the production of *lactatan* bananas, a ramie project and an animal husbandry scheme. A number of commercial investors, both British and U.S., embarked on schemes for the production of bananas, coconuts, tannic acid, pineapples and citrus. The timber industry enjoyed a qualified revival, and, in particular, there was an export market in the British Caribbean colonies for all dressed pine of reasonable quality that could be produced. In the chicle industry, United States buyers were again taking all first-grade gum that could be produced.

British Honduras was granted a sugar export quota of 25,000 tons a year by the United Kingdom government and plans were afoot for the development of sugar production to meet this quota. A preliminary sum of £50,000 was given to the colony by the United Kingdom government for this purpose.

There were no significant developments in the dispute with Guatemala over British Honduras.

**Finance and Trade.**—Currency: British Honduras dollar, valued in 1950 at 70 cents U.S. (B.H. \$4=£1 sterling.) Budget (1950 est.): revenue B.H. \$2,630,617; expenditure B.H. \$2,906,675. Foreign trade (1949): imports B.H. \$5,990,264; exports B.H. \$4,564,847. Principal exports: timber, chicle, grapefruit (fresh and juice).

(P. H.-My.)

**British Malaya:** see MALAYA (FEDERATION OF) AND SINGAPORE.

**British Somaliland:** see BRITISH EAST AFRICA.

## British South African Protectorates.

The three territories in southern Africa which are not part of the Union of South Africa, Basutoland, Bechuanaland protectorate and the protectorate of Swaziland, are generally referred to as the High Commission Territories in South Africa.

	Area (sq. mi.)	Population		Capital
		(1946 census)	(1949 est.)	
Basutoland . . . . .	c. 11,716	562,311	556,000	Maseru
Bechuanaland . . . . .	c. 275,000	296,020	300,000	Mafeking
Swaziland . . . . .	6,705	185,208	194,000	Mbabane

High commissioner in 1950, Sir Evelyn Baring. Resident commissioners: (Basutoland) A. D. Forsyth Thomson; (Bechuanaland protectorate) A. Sillery; (Swaziland) E. B. Beetham.

**History.**—*Swaziland.*—An eight-year development plan for the territory framed in 1948 after an agro-economic survey was ap-



proved and colonial development funds to carry it out were made available. Conservation of the soil and measures to prevent erosion formed a notable part of the plan. Negotiations were completed whereby the Colonial Development corporation purchased about 100,000 ac. of afforestable grassland in the high veld catchment area of the Great Usutu river. This land was to be planted with suitable fast-growing conifers and in due time a large forestry industry would be established within the territory. For the first four years a sum of £1,177,000 was provided for the project.

Asbestos remained by far the most valuable export. In 1949 the ten-year-old Havelock mine exported a record total of 33,967 short tons of asbestos valued at £1,223,486. Nearly 20,000 head of slaughter stock valued at £258,069 were also exported.

The old advisory council of ten elected Europeans received statutory recognition and was reconstituted. The system of native administration was reformed, with the approval of the paramount chief.

**Bechuanaland.**—A disturbing event, which attracted much public attention within the territory and abroad, was the banishment of Seretse Khama, chieftain-elect of the large Bamangwato tribe numbering 100,000. An acute controversy arose after his marriage in London to Ruth Williams. Eventually the United Kingdom government decided to withhold recognition of Seretse as chief for a period of not less than five years, during which he would not be allowed to live within the protectorate without special permission. Later, in consequence of this decision, Seretse, his wife and their infant daughter returned to England. The former regent, Tshekedi Khama, was also prohibited from living in the Bamangwato tribal reserve but he remained in the protectorate. For the immediate future direct rule was introduced, but increasing responsibility was promised to a council of leading tribesmen.

**Basutoland.**—Progress was made in the campaign against soil erosion which had become a grave threat in this mountainous territory. Of the £830,000 allotted to Basutoland for its ten-year plan of development one-third was earmarked for agriculture, more specifically for soil conservation. In the densely populated lowlands approximately 227,000 ac. had been terraced by the end of 1948 and in the mountains 203,000 ac. had been protected by grass buffer strips; in addition about 260 earth dams had been constructed to seal off gullies. Grazing control was successfully

introduced and rigidly enforced by many of the tribal chiefs. Above 8,000 ft. the land was almost entirely given over to grazing for cattle, sheep and goats, the chief exports being wool and mohair. Because a considerable proportion of the cattle were of poor quality, attempts were made to persuade the people to reduce the number and improve the strain. There was the usual annual exodus of 50,000 migrant labourers to work in the gold mines of Witwatersrand.

(See also SOUTH AFRICA, UNION OF.)

(J. L.)

**British West Africa.** This term includes the following British territories on the west coast of Africa: Gambia, colony and protectorate; Gold Coast, colony and protectorate; Togoland, under United Kingdom trusteeship, administered with the Gold Coast; Nigeria, colony and protectorate; Cameroons under United Kingdom trusteeship, administered with Nigeria; Sierra Leone, colony and protectorate. Areas, populations and chief towns are in the accompanying table.

	Area (sq.mi.)	Population (1949 est.)	Chief towns
Gambia . . . .	4,074	254,000	Bathurst (cap., 21,152)
Gold Coast . . . .	78,802	3,739,000	Accra (cap., 135,926), Kumasi (78,483), Sekondi-Takoradi (44,557)
Togoland . . . .	13,041	388,000	
Nigeria . . . . .	338,593	24,081,000	Lagos (cap., 250,000), Ibadan (335,500), Kano (102,000)
Cameroons . . . .	34,081	1,012,000	
Sierra Leone . . . .	27,925	2,095,000	Freetown (cap., 64,576)

Governors (Dec. 31, 1950): Gambia, P. W. Harris; Gold Coast, Sir Charles Arden-Clarke; Nigeria, Sir John Macpherson; Sierra Leone, Sir George Beresford Stooke.

**History.**—During 1950 constitutional development progressed in each of the territories.

**Gambia.**—Constitutional changes were announced in September. Membership of the legislative council would be increased from 13 to 15 by the addition of 1 official and 1 unofficial member, making 7 official members, 3 members elected for the colony area, 4 nominated on the recommendation of the divisional conferences in the protectorate and 1 other. A Gambian would be appointed vice-president of the council and after this appointment was made, the governor would begin to withdraw from active participation in the council.

**Gold Coast.**—A campaign for "dominion status now" was begun by the Convention People's party, led by Kwame Nkrumah, who announced on Jan. 8 that positive action, defined as "national non-violent sit-down-at-home strikes and boycotts" would begin immediately. A state of emergency was declared on Jan. 11 which lasted till March 18. Nkrumah and some of his supporters were jailed for offenses against the emergency regulations.

Preparations continued throughout the year for the new constitution which came into force on Jan. 1, 1951, and for the elections that were to be held in Jan. 1951. Of the 84 members of the legislative assembly 75 would be Africans and 8 ministers appointed from the assembly would almost certainly at all times be Africans. The ex officio ministers were to have charge of the portfolios of defense, external affairs, civil service, finance and justice. The governor, although he retained reserve powers which could be exercised in grave emergency, would be bound in normal circumstances to act on the advice of the executive council which would decide matters within itself by majority vote. To secure, however, that the public service was entirely free from political influence, the appointment, transfer, promotion, dismissal and disciplinary control of civil servants was vested in the governor acting in his discretion, and a public service commission was created.

In September legislation conferred the franchise on taxpayers over 21 years of age in the municipalities and in the rural areas which elected members of the electoral colleges; it also established the secrecy of the ballot in these primary and direct



LONE NATIVE ATTENDANTS at a meeting called in March 1950 by the high commissioner at Serowe, Bech., to discuss the result of the British government's decision regarding the position of hereditary chief Seretse Khama who had married a white woman



elections in the municipalities. At the end of December 663,069 persons, approximately 40% of the eligible population, had registered as electors.

In August a meeting of representatives of the joint provincial councils of the colony, the Ashanti Confederacy council and the newly created Southern Togoland council urged an endeavour so to work the new constitution during a trial period that full responsible government might be achieved.

**Togoland.**—The report of the first visiting mission of the United Nations was published in February. In June the British and French governments communicated to the United Nations a proposal to increase the membership of the commission to include, besides officials, 17 representatives (15 elected) from British Togoland and 28 (26 elected) from French Togoland. African representation up to then had been two members from each territory.

**Nigeria.**—Consultation on the proposed revision of the constitution continued throughout the year. In January a conference of the unofficial members of the legislature and 25 regional representatives met at Ibadan to consider proposals that had come from earlier provincial and regional conferences. These were accepted in the main by the Ibadan conference, which, however, recommended that Lagos, the capital, be a municipality apart from the regions and that the central legislature be enlarged. Both these recommendations were accepted in substance by the legislative council and the broad outline of the constitutional proposals that then emerged was: regional legislatures (with jurisdiction in such matters as local government, agriculture, education and public health) composed of, in two regions, a house of assembly and a house of chiefs, and in the third of a house of assembly alone; regional executives of a maximum of 5 official members and 9 members elected from the unofficial members of the legislatures; central legislature of a single chamber of 68 members elected by the northern regional legislature, 34 by each of the eastern and western regional legislatures, with 6 ex officio members and 6 nominated by the governor; council of state (central executive) of 6 official members and 12 elected by the unofficial members of the legislatures, of whom 9 would hold portfolios and 3 would be ministers without portfolio.

In February the Nigerian government bought for £1,000,000 the rights of the United Africa company in mineral royalties in northern Nigeria.

**Sierra Leone.**—The introduction of a new constitution, under discussion since 1948, was held up by the failure of the non-official members of the legislative council to agree on various issues, especially the relative representation of the colony (pop. 1947, 124,657) and the protectorate (pop. 1948, 1,733,618). The inhabitants of the colony, which includes the capital, Freetown, were for the most part descendants of liberated African slaves. The indigenous peoples of the protectorate had no natural links with them and had begun to produce an educated element which sought a larger voice in the conduct of Sierra Leone affairs, but the political leaders of the colony feared what they professed to regard as the probably reactionary influence of protectorate members, many of whom might be chiefs. In July the British government agreed that the scheme proposed in 1948 should be brought into force, with some modifications. This provided for an executive council of four ex officio members and four members nominated by the governor from the elected members of the legislative council.

The council was to consider later whether these unofficial members should hold portfolios. The new legislative council would have 7 official members, 12 elected from the protectorate, 7 elected from the colony, 2 nominated by the protectorate assembly and 2 appointed by the governor to represent trade and commerce.

**Finance and Trade.**—Currency: (West African) pound (£1=£1 sterling=280 cents U.S.).

	Revenue 1949	Expenditure 1949	Imports 1949	Exports 1949
Gambia . . . . .	£967,000	£1,112,000	£2,621,000*	£1,758,000*
Gold Coast . . . . .	16,206,000	14,985,000	39,734,000	40,296,000
Nigeria . . . . .	30,170,000	27,230,000	65,466,000	60,513,000
Sierra Leone . . . . .	2,757,000	2,621,000	6,172,000	4,704,000

\*1948.

The principal exports were: Gambia, peanuts; Gold Coast, cocoa, gold, manganese, timber; Nigeria, cocoa, tin, peanuts, palm oil and kernels; Sierra Leone, palm kernels, diamonds, iron ore.

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**British West Indies:** see BAHAMAS; BARBADOS; JAMAICA; LEEWARD ISLANDS; TRINIDAD AND TOBAGO; WINDWARD ISLANDS.

**Broadcasting:** see RADIO; TELEVISION.

**Brookings Institution:** see SOCIETIES AND ASSOCIATIONS.

**Brozovich or Broz, Josip (Tito):** see TITO (JOSIP BROZOVICH OR BROZ).

**Brunei:** see BRITISH BORNEO.

**Brussels, Treaty of:** see EUROPEAN UNION.

**Bubonic Plague:** see PLAGUE, BUBONIC AND PNEUMONIC.

**Budget, National.** **United States.**—The U.S. budget submitted to congress by President Harry S. Truman on Jan. 15, 1951, for the fiscal year 1952 recommended expenditures of \$71,594,000,000. These recommendations represented a substantial increase over the estimated expenditures for fiscal 1951 of \$47,210,000,000. On the basis of existing tax laws, it was expected that revenues in fiscal 1952 would total \$55,138,000,000 in contrast to the total of \$44,512,000,000 that was estimated for the fiscal year 1951.

Expenditures and revenues for the fiscal year 1952, as presented in the budget, would result in a deficit of almost \$16,456,000,000.

President Truman stated that he would recommend new tax legislation to congress which would at least balance the budget.

The substantial increase that was projected in the budget reflected the rising trend of the rearmament program that was undertaken after the outbreak of war in Korea. The president stated that it was "one measure of the vast new responsibilities thrust upon the American people by the Communist assaults upon freedom in Asia and the threats to freedom in other parts of the world." The need for rearmament had already caused a large rise in the budget for the fiscal year 1951 as compared with the recommendations originally made for that budget by Truman. Expenditures were almost \$5,000,000,000 higher and revenues more than \$7,000,000,000 higher than originally expected. The increase in expenditures was entirely for national defense purposes while the increase in revenues came largely from higher rates on the individual and corporation income taxes and from the enactment of a new excess-profits tax on corporations.

In summarizing the national objectives that were embodied in the budget for fiscal 1952 the president cited the following factors:

1. Expenditures for military purposes—to build swiftly an active force of highly trained men, equipped with the most modern weapons, and supported by ready reserves of men, supplies and equipment.

2. Expenditures to help other threatened nations rebuild their strength and to participate with them in a program of mutual aid and common defense.

3. Government programs for the expansion of productive capacity and the concentration of needed capacity on defense requirements—at the expense where necessary of normal civilian purposes.

4. Programs which would maintain and develop the national



strength over the long run, keeping in mind that the existing emergency might be of long duration and that the country must therefore be prepared for crises in the more distant as well as in the immediate future.

5. Reductions in other expenditures, in order to divert a maximum of resources to the overriding requirements of national security.

**Military Services.**—The bulk of the projected increase in the budget was for the purpose of providing expanded military services. Expenditures for fiscal 1952 for the department of defense were estimated at more than \$41,000,000,000, compared with actual expenditures in fiscal 1950 of \$12,303,000,000 and estimated outlays in fiscal 1951 of \$20,994,000,000. The rearmament program involved increasing the size of the armed forces to about 3,500,000 men from less than 1,500,000 men prior to the outbreak of war in Korea. In addition, plans included increasing the output of military equipment adequate for an even larger armed force. The president noted that expenditures for military research and development amounted to nearly \$1,000,000,000.

The other significant item included in military services was the stockpiling of strategic and critical materials. Outlays for this purpose were projected at \$1,300,000,000 in contrast to the actual outlays in fiscal 1950 of \$438,000,000.

Table 1.—Summary of Budget Receipts and Expenditures, United States  
Fiscal Years 1950 through 1952

Based on existing and proposed legislation

Description	Actual, 1950	Estimate, 1951	Estimate, 1952
<b>Budget receipts:</b>			
Direct taxes on individuals . . . . .	\$18,115,000,000	\$22,309,000,000	\$26,780,000,000
Direct taxes on corporations . . . . .	10,854,000,000	13,560,000,000	20,000,000,000
Excise taxes . . . . .	7,597,000,000	8,240,000,000	8,222,000,000
Employment taxes:			
Existing legislation . . . . .	2,892,000,000	3,774,000,000	4,709,000,000
Proposed legislation . . . . .	—	—	275,000,000
Customs . . . . .	423,000,000	600,000,000	620,000,000
Miscellaneous receipts . . . . .	1,430,000,000	1,325,000,000	1,333,000,000
Deduct:			
Appropriation to federal old-age and survivors insurance trust fund . . . . .	2,106,000,000	2,960,000,000	3,823,000,000
Appropriation to medical care insurance trust fund: Proposed legislation . . . . .	—	—	275,000,000
Refunds of receipts (excluding interest) . . . . .	2,160,000,000	2,336,000,000	2,703,000,000
<b>Total budget receipts . . . . .</b>	<b>37,045,000,000</b>	<b>44,512,000,000</b>	<b>55,138,000,000</b>
<b>Budget expenditures:</b>			
Military services . . . . .	12,303,000,000	20,994,000,000	41,421,000,000
Veterans' services and benefits . . . . .	6,627,000,000	5,746,000,000	4,911,000,000
International security and foreign relations . . . . .	4,803,000,000	4,726,000,000	7,461,000,000
Social security, welfare and health . . . . .	2,213,000,000	2,520,000,000	2,625,000,000
Housing and community development . . . . .	261,000,000	409,000,000	102,000,000*
Education and general research . . . . .	114,000,000	143,000,000	483,000,000
Agriculture and agricultural resources . . . . .	2,784,000,000	986,000,000	1,429,000,000
Natural resources . . . . .	1,554,000,000	2,117,000,000	2,519,000,000
Transportation and communication . . . . .	1,752,000,000	1,970,000,000	1,685,000,000
Finance, commerce and industry . . . . .	227,000,000	368,000,000	1,524,000,000
Labour . . . . .	263,000,000	212,000,000	215,000,000
General government . . . . .	1,108,000,000	1,252,000,000	1,351,000,000
Interest on the public debt . . . . .	5,817,000,000	5,722,000,000	5,897,000,000
Reserve for contingencies . . . . .	—	45,000,000	175,000,000
Adjustment to daily treasury statement basis . . . . .	330,000,000	—	—
<b>Total budget expenditures . . . . .</b>	<b>40,156,000,000</b>	<b>47,210,000,000</b>	<b>71,594,000,000</b>
<b>Excess of budget expenditures . . . . .</b>	<b>3,111,000,000</b>	<b>2,698,000,000</b>	<b>16,456,000,000</b>

Detail will not necessarily add to totals because of rounding.

\*Deduct, excess of repayments and collections over expenditures.

**International Security and Foreign Relations.**—The other increase of large magnitude in the projected budget was for the function of international security, consisting largely of military and economic assistance. Expenditures for this purpose were projected at \$7,461,000,000 compared with the outlays of approximately \$4,803,000,000 and \$4,726,000,000 in the two preceding fiscal years. This increase reflected the obligations that

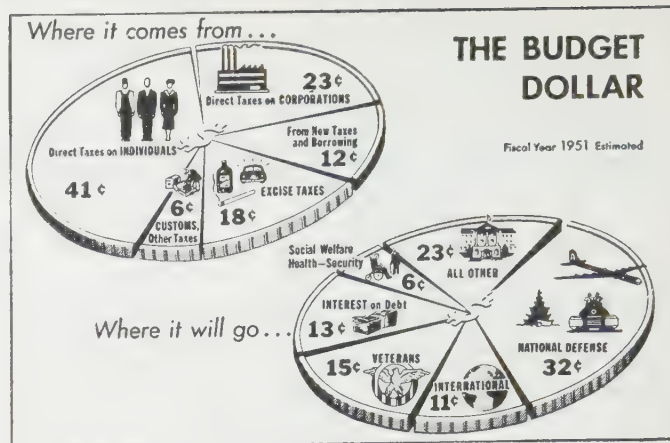


CHART prepared by the U.S. bureau of the budget

were undertaken under the North Atlantic treaty, which provided for military assistance to the European nations that organized to strengthen the defense of Europe. Whereas the outlays in 1950 and 1951 were largely directed toward economic assistance, the program for fiscal 1952 would be primarily oriented toward military assistance. As part of the plan to strengthen the defenses of Europe, a supreme headquarters of the Allied powers in Europe was established under the command of Gen. Dwight D. Eisenhower and a unified European defense force was to be constituted.

In addition to the aid to be supplied in the west, the economic assistance program in Asia was to be expanded. The program included assistance to Indonesia, Indochina, Burma, Thailand, Formosa, the Philippines and Japan, and the president stated that both military and economic aid might have to be extended to additional Asiatic countries.

**Veterans' Services and Benefits.**—Changes in the remaining budgetary programs were all of smaller size than those for national defense and international aid. The largest decrease was that projected for the services and benefits to veterans. Outlays for 1952 were estimated at \$4,911,000,000 as compared with \$5,746,000,000 in 1951 and \$6,627,000,000 in 1950. This declining trend was the result of the continuing decline in requirements for the readjustment of veterans of World War II, rather than a reduction in the basic character of the services and benefits offered to veterans. The decrease from 1951 to 1952 was centred almost entirely in the education and training program and resulted from the reduced enrolment of veterans who were expected to be benefiting from this program in the 1952 fiscal year.

**Social Security, Welfare and Health.**—Although the coverage of the social security and public assistance programs had been substantially enlarged in 1950 to include about 10,000,000 additional persons, the president estimated that expenditures for all social security, welfare and health programs would increase by only \$105,000,000. This reflected the fact that the expenditures for the new obligations undertaken would be substantially offset by reductions in the assistance required because of enlarged employment opportunities.

**Agriculture and Agricultural Resources.**—A budget increase for this function was projected from a level of \$986,000,000 expended in fiscal 1951 to \$1,429,000,000 in fiscal 1952. This apparent increase resulted from the fact that the Commodity Credit corporation actually had substantial net receipts in 1951 from the sale of its accumulated holdings of agricultural commodities. It was expected that, because of the favourable outlook for agricultural prices and farm income, there would be little need for agricultural price supports in 1952. The change in the budget requirements for the stabilization of farm prices



was more adequately reflected by a comparison of the years 1950 and 1952, over which period a reduction in outlays of almost \$1,400,000,000 was anticipated.

**Natural Resources.**—Estimated expenditures in 1951 of \$2,117,000,000 were expected to increase in 1952 to \$2,519,000,000. The increase was largely explained by the expanded activities of the Atomic Energy commission which were to rise from \$818,000,000 to \$1,277,000,000.

**Transportation and Communication.**—The two significant changes under this heading were an increase in requirements for the merchant marine of \$164,000,000 that was to be more than offset by a reduction in the deficit of the postal service by almost \$500,000,000.

**Finance, Commerce and Industry.**—The proposed budget for the purpose of administrative and promotional activities in the areas of finance, commerce and industry represented an increase of \$1,156,000,000. This rise was entirely associated with requirements growing out of the expanded national defense program. It was accounted for by two important needs. The first was the necessity of providing for expanded production of both critical materials and armaments. The second was the need of providing adequate machinery for price and wage controls and for the allocation and control of production. In view of the magnitude of the rearmament program that was being projected, the president considered these regulatory activities to be essential in securing economic stability and the attainment of rearmament objectives.

**Housing and Community Development.**—The decrease shown for the programs under this heading arose because various housing agencies were expected to show surpluses on their activities for the fiscal year 1952. Partially offsetting these surpluses, how-

Table II.—Government Receipts and Expenditures—Great Britain

Receipts	(£ millions)		Expenditures		
	Exchequer Receipts, 1949-50	Estimate, 1950-51		Exchequer Issues, 1949-50	Estimate, 1950-51
Income tax . . . . .	1,438	1,460	Debt charge . . . . .	491	490
Surtax . . . . .	114	120	Payments to North Ireland exchequer . . . . .	37	36
Death duties . . . . .	189	195	Other . . . . .	10	11
Stamps . . . . .	51	50	Total consolidated fund services . . . . .	538	537
Profits tax and excess profits tax . . . . .	296	270	Supply services:		
Other inland revenue duties . . . . .	1	1	Defense votes . . . . .	741	780
Special contribution . . . . .	19	4	Civil votes (excluding ministry of supply [defense]) . . . . .	2,059	2,102
Total inland revenue . . . . .	2,111	2,100	Customs and excise, inland revenue and balance of post office votes . . . . .	37	35
Customs . . . . .	813	807	Total ordinary expenditure . . . . .	3,375	3,455
Excise . . . . .	706	702	Surplus . . . . .	549	443
Total customs and excise . . . . .	1,519	1,510	Total . . . . .	3,924	3,898
Motor vehicle duties . . . . .	55	56			
Total receipts from taxes . . . . .	3,686	3,666			
Sales of surplus war stores . . . . .	79	35			
Surplus receipts from trading services . . . . .	47	85			
Broadcast receiving licences . . . . .	12	13			
Receipts from sundry loans . . . . .	20	27			
Miscellaneous (including crown lands) . . . . .	77	70			
Total ordinary revenue . . . . .	3,924	3,898			

ever, were proposals for defense housing and for increased federal civil defense administration.

**Budget Receipts.**—Because of the new tax measures already enacted that would be fully operative in fiscal 1952, and as a result of the additional revenues that would be produced by the rising level of national income, government revenues were expected to increase almost \$11,000,000,000 in that fiscal year. The main sources of increase were the individual income tax and the corporation income and excess-profits taxes. Estimated revenues from the individual income tax of \$21,599,000,000 in 1951 were expected to rise to \$26,025,000,000 in 1952. The direct taxes on corporations, which yielded an estimated \$13,560,000,000 in 1951, were projected roughly at the level of \$20,000,000,000 in the fiscal year 1952. As already mentioned, the budgeted expenditures and receipts would result in a deficit of \$16,500,000,000, but it was apparent that additional tax legislation to substantially reduce or eliminate this deficit would be forthcoming. (See also DEBT, NATIONAL; INCOME AND PRODUCT, U.S.; TAXATION; UNITED STATES.)

**Great Britain.**—The 1950-51 budget of Great Britain, presented in April 1950, showed total receipts amounting to £3,898,000,000, as compared with £3,924,000,000 in fiscal year 1949-50. All the changes in revenue items were expected to be of small proportions.

Total budget expenditures were estimated to rise from £3,375,000,000 in fiscal 1949-50 to £3,455,000,000 in 1950-51. The increase was attributable to the provision of larger outlays for defense and social services.

A surplus of ordinary receipts over ordinary expenditures amounting to £443,000,000 was shown by the budget for 1950-51. In the preceding year there was a surplus of £549,000,000.

(M. Gr.)

**Buhl Foundation:** see SOCIETIES AND ASSOCIATIONS.

**Building and Construction Industry.** Construction in the United States in 1950 achieved such proportions as to make meaningless all previously held concepts of a boom year. Dollar volume for building of all types reached a total of \$27,715,000,000, a gain of 22.7% over the 1949 record year, and home building soared to 1,395,600 new dwelling units which was 36% greater than the record-breaking 1,025,000 total of the preceding 12-month period. Employment in the construction industries likewise reached a new peak as did the production of many building materials.

Almost all divisions of the industry showed substantial increases over the previous year but the most spectacular gains were made in home building, which attained a volume of almost \$12,500,000,000 exclusive of farm construction and accounted for



"RAINED OUT," an Alexander cartoon published in the Philadelphia Evening Bulletin in 1950



Table I.—New Construction Activity, Continental United States\*  
(in millions of dollars)

Type of construction	1950			12 months		Per cent change		
	Dec.	Nov.	Dec. 1949	1950	1949	Dec. 1950 from Nov. 1950	Dec. 1949 from 12 months 1949	12 months 1950 from 12 months 1949
Total new construction . . . . .	2,235	2,554	1,852	27,715	22,594	-12.5	+20.7	+22.7
Total private . . . . .	1,686	1,885	1,401	20,648	16,204	-10.6	+20.3	+27.4
Residential (excl. farm) . . . . .	980	1,126	806	12,500	8,290	-13.0	+21.6	+50.8
Nonresidential building . . . . .	392	401	267	3,767	3,228	-2.2	+46.8	-16.7
Industrial . . . . .	125	119	68	1,059	972	+5.0	+83.8	-9.0
Commercial . . . . .	138	147	86	1,282	1,027	-6.1	+60.5	+24.8
Warehouses, office and loft building . . . . .	47	46	28	398	321	+2.2	+67.9	+24.0
Stores, restaurants and garages . . . . .	91	101	58	884	706	-9.9	+56.9	+25.2
Other, nonresidential building . . . . .	129	135	113	1,426	1,229	-4.4	+14.2	-16.0
Religious . . . . .	39	40	32	407	360	-2.5	+21.9	+13.1
Educational . . . . .	30	30	24	298	269	0	+25.0	+10.8
Social and Recreational . . . . .	20	22	21	247	262	-9.1	+4.8	-5.7
Hospital and Institutional . . . . .	29	30	24	342	202	-3.3	+20.8	+69.3
Miscellaneous . . . . .	11	13	12	132	136	-15.4	-8.3	-2.9
Farm construction . . . . .	66	74	75	1,087	1,292	-10.8	-12.0	-15.9
Public utilities . . . . .	243	277	246	3,182	3,316	-12.3	-1.2	-4.0
Railroad . . . . .	24	28	23	310	352	-14.3	+4.3	-11.9
Telephone and Telegraph . . . . .	34	40	37	470	533	-15.0	-8.1	-11.8
Other public utilities . . . . .	185	209	186	2,402	2,431	-11.5	-5	-1.2
All other private . . . . .	5	7	7	112	78	-28.6	+28.6	+43.6
Total public . . . . .	549	669	451	7,067	6,390	-17.9	+21.7	+10.6
Residential . . . . .	28	31	34	341	359	-9.7	+17.6	-5.0
Nonresidential building . . . . .	209	221	158	2,310	2,056	-5.4	+32.3	+12.4
Industrial . . . . .	29	30	9	220	177	-3.3	+222.2	+24.3
Educational . . . . .	110	112	80	1,158	934	-1.8	+37.5	+24.0
Hospital and Institutional . . . . .	37	40	40	470	477	-7.5	-7.5	-1.5
Other nonresidential building . . . . .	33	39	29	462	468	-15.4	+13.8	-1.3
Military and Naval . . . . .	25	26	12	180	137	-3.8	+108.3	+31.4
Highways . . . . .	155	240	117	2,425	2,129	-35.4	+32.5	+13.9
Sewer and water . . . . .	55	59	49	655	619	-6.8	+12.2	+5.8
Miscellaneous public service enterprises . . . . .	11	17	13	185	203	-35.3	+15.4	-8.9
Conservation and development . . . . .	60	67	60	875	792	-10.4	0	+10.5
All other public . . . . .	6	8	8	96	95	-25.0	-25.0	+1.1

\*Joint estimates of the Department of Labor and the Department of Commerce.

more than 40% of the year's total building.

Construction of private and public hospitals, schools, churches and other institutional buildings was at a new peak and expenditures for reclamation, flood control and highways were higher than in the preceding year.

The outbreak of hostilities in Korea at midyear modified the pattern of construction activity but not the pace. Liberal government-insured mortgage credit and extremely easy house purchase terms, particularly for veterans, had touched off the home-building boom the preceding summer. Both credit and terms were tightened in July and again in October to check inflation and conserve essential materials for defense needs. The check was slight and what minor effect it had in the remaining months of 1950 was more than offset by a marked upswing in industrial and commercial building, partially in response to the new rearmament program but more importantly in anticipation of government restrictions on construction of these types. Late in October the newly constituted National Production authority (*q.v.*) prohibited the building of theatres, race tracks, bowling alleys and a long list of other types of places of amusement and social gathering, unless specifically authorized by the NPA. The shadow that this order cast before it rather than the order itself disturbed the industry. It was generally expected that all types of commercial construction would be banned unless essential for the defense program, and that the credit restrictions already imposed on one- and two-family house construction would be extended to include apartment and multifamily house building.

Government expenditures for new construction amounted to \$7,067,000,000 and were almost 11% higher than the previous year, but they were much smaller than the private outlay, which totalled \$20,648,000,000 or 27.4% more than the comparable figure for 1949.

The physical volume of new construction was greater than the preceding year but reflected a steadily rising cost curve which began in the fall of 1949 and reached a peak in the fall of 1950 after which a slight levelling off was evident. According to the Boeckh index, based on costs in 20 representative cities, residential construction in June reached a new all-time high of 220.6 (1939=100), passing the previous peak of Oct. 1948 by 0.1%. The upswing continued through July and in August reached 228.3 to mark a new high point after which there was a slight recession

through October, the last month for which figures were available. The August figure represented a 10% increase over Aug. 1949.

The separate Boeckh index covering office building, hotel and apartment house construction passed the previous Oct. 1948 peak in May, a month earlier than the residential index. It continued to climb until September when it touched 208.0 and stayed there, up 8% from August of the preceding year.

Materials prices had moved up steadily throughout the year with the big jump coming in August following the start of the Korean war. The bureau of labour statistics building materials index for that month stood at 213.5 (1926=100), an increase of 3% over July, the

sharpest rise since Jan. 1947 following the removal of controls, establishing a new all-time high. September showed another increase of 2.6%, pegging the index at 219.6. The main cause of both boosts was a 5.5% jump in lumber prices in August and another of 3.7% in September, putting that essential material at a record index level of 371.0. In October lumber prices broke sharply, particularly for the cheaper grades, showing a general drop in the wholesale price of 3.3%, the first in 14 months. Together with a slight reduction in paint materials, its effect was to offset increases in brick, tile, plumbing and heating, and reduce the index for all materials fractionally to 219.0 for the first decline in a year.

Because of the unprecedented demand, the production of materials occasionally lagged behind for short periods but it was not until after the outbreak of the Korean war that a serious lack of certain components was reported. These were mostly in metals, including steel, iron, copper and lead in their various forms. Tight markets were reported turning gray in some instances as the industry anticipated some form of distribution control at a future date.

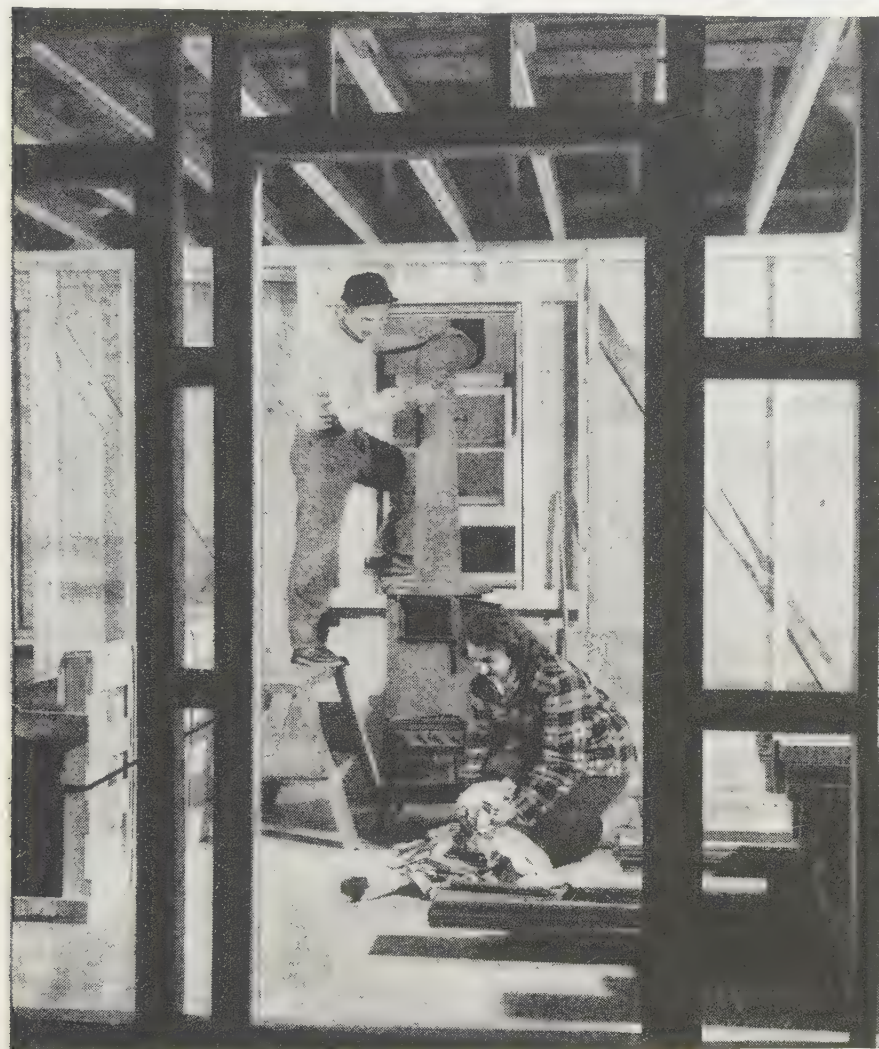
From the beginning of the year employment in the building trades was at seasonally record levels. The total for January, normally the low point in the annual building cycle, fell below the 2,000,000 mark for the first time since the preceding May but was still 86,000 higher than the previous January. Succeeding months continued to show gains and August set a record high of 2,588,900 workers employed by construction contractors. Although the total number employed dropped off from this peak in the following months it continued well above the comparable period of 1949 which likewise had been marked by a high contra-seasonal trend. November, with 2,537,000 workers employed, showed a drop of 3% from October but was 13% ahead of the same month in the previous year, setting another all-time record.

Wage rates, which during the preceding year had approached a stabilized level, resumed their upward march during 1950. Union pay scales had advanced 3% in 1949 as compared with a 10% increase in 1948. But in the first nine months of 1950 union wage scales advanced 5%. Surveying hourly rates in October for seven major building crafts in 85 cities, the bureau of labour statistics reported a rise of 1.6% since the beginning of July. Most of the increases were for 12.5 or 15 cents an hour but one in

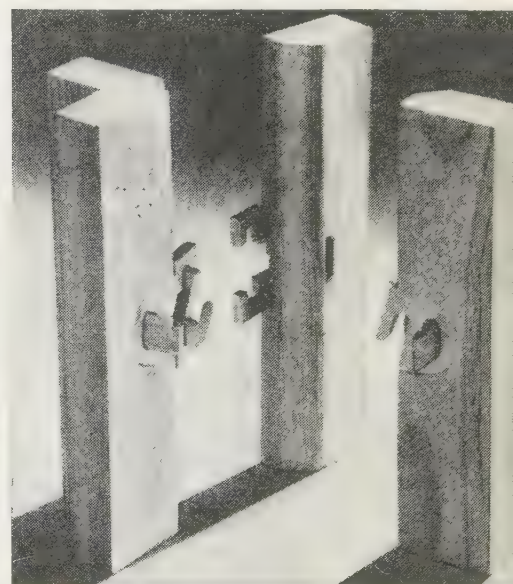


Right: MODERN OFFICE BUILDING (centre) completed in New York city during 1950, one of the newer buildings which, like the department store at the left, were changing the architectural profile of Manhattan. At right is a corner of St. Patrick's cathedral

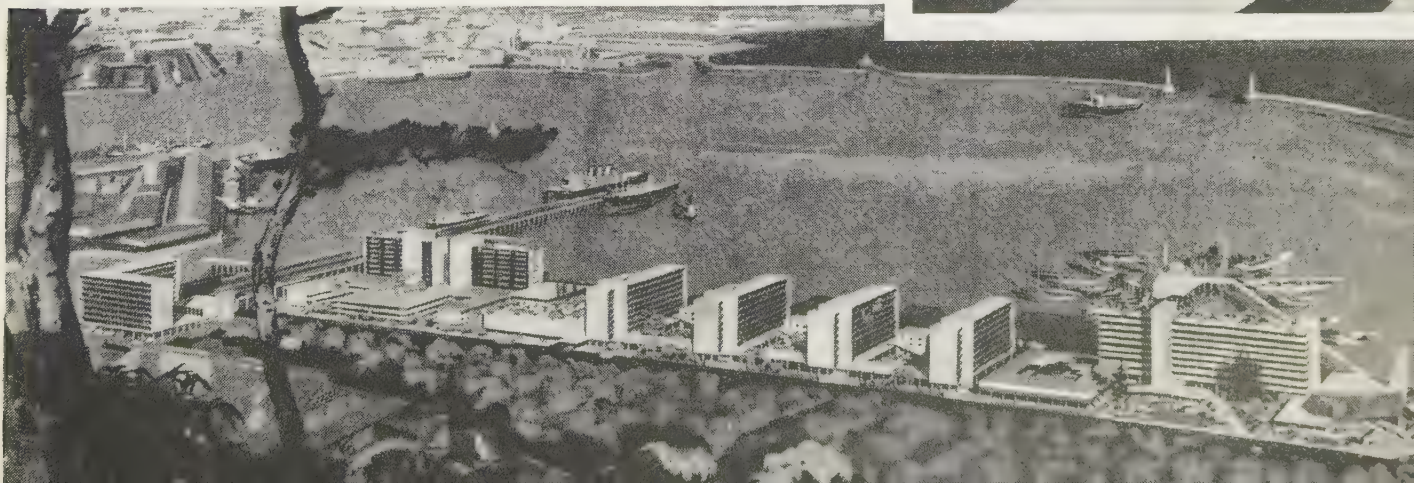
Below: CANADIAN VETERAN and his wife in their partially completed home at Niagara Falls, Ont., erected in 1950 under a build-it-yourself plan sponsored by the Canadian Veterans Land Act Administration



Below: STEEL CONNECTORS for locking modular, standard-size panels together, a patented device of the General Panel Corp. of Burbank, Calif. Connectors built into every panel at the factory made it possible for unskilled workmen using only hammers to assemble a house in 50 man-hours



Below: PROPOSED TRADING CENTRE for Yokohama, part of a \$100,000,000 joint U.S.-Japanese project for the construction of a series of hotel, resort and commercial centres in large Japanese cities. The project was sponsored by private capital with government approval





every eight newly negotiated wage agreements called for an increase of 25 cents an hour. Plumbers and electricians made the greatest gains. Since June 1939, the bureau of labour statistics reported, union hourly scales had advanced approximately 81%. As of Oct. 2, 1950, it was estimated that the average hourly wage for all union workers in the construction industry was \$2.32 an hour.

Table II.—Estimated Increases in Union Wage Rates, and Rate Levels

Trade	Average amount of increase July 3, 1950 to Oct. 2, 1950 (Per cent) (Cents per hour)		Rate levels Oct. 2, 1950		
	Low	Average	High		
Bricklayers . . . . .	1.1	3.1	\$2.25	\$2.86	\$3.50
Carpenters . . . . .	1.4	3.3	1.65	2.40	3.00
Electricians . . . . .	2.1	5.4	1.90	2.60	3.00
Painters . . . . .	1.9	4.2	1.38	2.30	2.65
Plasterers . . . . .	1.6	4.4	2.00	2.85	3.30
Plumbers . . . . .	2.3	5.8	1.85	2.63	3.00
Building labourers . . .	1.3	2.0	.83	1.57	2.19

Construction of government-subsidized public housing under the Housing act of 1949, which had been expected to contribute between 60,000 and 80,000 units to the year's volume of building, missed that mark by a very wide margin. As of Nov. 30, the Public Housing administration, the unit within the Housing and Home Finance agency having responsibility for the administration of the program, reported a total of somewhat more than 10,200 units being built under the 1949 act and 5,400 additional units under a previously authorized program. The slow start resulted first from congressional tardiness, following passage of the act, in making funds available, and second because of the lengthy procedures required both at the local and federal levels in getting projects to the construction stage.

By the time a substantial number of public housing projects were at the construction stage, rising costs were a serious problem. In some instances projects had to be temporarily postponed; in others the plans were redrawn to reduce cost and readvertised for bids.

That somewhat lower standards would set the public housing pattern under the federal program during the period of higher costs became evident in mid-October. To achieve greater economy in building the Public Housing administration at that time announced a revision of standards which reduced room sizes, increased the number of families to be provided for on a given land area and emphasized lighter construction.

Nor did the large-scale slum clearance and urban redevelopment program included in the Housing act of 1949 to assist localities to rebuild worn-out areas contribute to the year's tremendous volume of building. This program was expected ultimately to provide a substantial volume of work for the construction industry in the building of housing, commercial structures and public improvements. It was still largely in the preliminary planning stage although projects in Pittsburgh, Pa., and Chicago, Ill., were clearing sites in preparation for beginning building operations. As of Nov. 30, the Housing and Home Finance agency had received applications to participate in the program from 241 localities in 31 states, 3 territories and the District of Columbia. Preliminary planning grants amounting to \$172,000,000 had been approved on 228 of these applications and final planning advances totalling \$730,000 had been granted on 14 applications.

Most projects under the slum clearance and urban redevelopment program called for some commercial construction in addition to housing, plus a substantial amount of highway, street and other public improvements.

The industry was absorbed at the year's end with an effort to gauge the effect of the defense program in terms of construction needs as well as the effect of restrictive regulations already imposed and in prospect. A drop of 14% in total building volume to approximately \$23,000,000,000 was predicted for 1951 by

the *Magazine of Building*, with residential construction showing the biggest drop. Even so the building of new homes was expected to dip not much lower in dollar volume than the record-breaking total of 1949. In terms of the number of dwelling units started, this was expected to mean a total of between 800,000 and 850,000, the federal government's officially announced goal when the second set of restrictive regulations was issued in October.

Other private construction was expected to show a lesser decline from the record total of 1950. Industrial building, it was anticipated, would go above the 1950 rate in line with increasing war production needs and to take advantage of the revived wartime income tax ruling permitting accelerated depreciation for such facilities.

It was generally agreed, however, that availability of materials would prove the ultimate determining factor for all private building.

Government building was counted on to make up for some of the cutback in private construction. Military and naval expansion headed the list but it was expected that a substantial amount of new school building also would have to go ahead to take care of the postwar bumper crop of children, the first of whom would reach school age during the next year. Government-subsidized public housing was also scheduled for a substantial increase whether the program for low-income families was permitted to continue or was deflected to serve needs of workers in defense industry. Its success in keeping costs within the limits fixed by the Housing act of 1949 was expected to determine the size of the program.

(See also ARCHITECTURE; BUSINESS REVIEW; HOUSING.)

(H. M. PR.)

**Great Britain.**—Against a background of international unrest and rising expenditure on armaments, hopes of an expansion of British building activity were lower in 1950 than at any other time since World War II. Construction of dwellings continued substantially at the same rate as in 1949, and there was some easing of the restrictions which governed the amount of building permitted to private enterprise in proportion to that undertaken by local authorities.

Material supplies were still not altogether satisfactory, a shortage of cement occasioning some anxiety in the early summer.

Official planning, moreover, appeared not to have considered sufficiently that the total volume of building which could be completed in a year was uncertain insofar as it would be affected by the weather. This served to indicate the narrowness of the margin surrounding the activities of the industry; and when the Conservative party conference recommended a 50% increase in the housing target, it was felt by many that such a project might have little hope of achievement.

Recruitment to the skilled trades, particularly to the trowel trades, bricklaying and plastering, was most unsatisfactory. A study of the industry led to the estimate that the total apprenticeship force should number about 22½% of the skilled labour force. However, a census carried out by the ministry of works during 1949 showed that the proportion of young employees in the skilled trades was less than 14%; and in the north of England, where figures were generally above the average, it nevertheless appeared that employers were refusing to accept responsibility either for comprehensive training or for continuity of employment. Nor was it only the disinclination of employers that was responsible for low recruitment figures, for in spite of many efforts to publicize the advantages of apprenticeship in building and the opportunities which it offered, it found little favour with boys in general or with their parents (a disability which it shared with other manual occupations). All sections of the industry continued, however, to show great interest in tech-



nical education, and the number of students taking organized courses of one sort or another was probably greater than ever before.

In the field of research and development, the Building Research station took over the chief scientific adviser's division of the ministry of works. This brought to an end what many had long regarded as an anomaly, namely two official research bodies dealing with overlapping problems. The Building Research station continued to wrestle with the problem of communicating its findings to the industry, apparently with increasing success.

During the postwar period a number of the larger contracting firms had organized testing and research units, usually concerned with a well-defined section of work, such as foundations. By 1950 at least one firm had a laboratory investigating a considerable range of constructional problems and making a valuable contribution to the total volume of such work. In spite of day-to-day difficulties, expenditure on building formed the greatest part of the capital investment of Great Britain.

The year 1950 saw the publication of (1) the report of the working party set up by the ministry of works in 1948, (2) the report of the Anglo-American Productivity team which had been in the U.S. in 1949, and (3) the recommendations for nationalization prepared by the executive committee of the National Union of Building Trades Operatives.

(D. A. G. R.)

**Bulgaria** A people's republic in the eastern part of the Balkan peninsula, Bulgaria is bounded north by Rumania, west by Yugoslavia, south by Greece and east by Turkey and the Black sea. Area (including southern Dobruja): 42,796 sq.mi. Pop. (mid-1949 est.): 7,160,000. Languages (1947 est.): Bulgarian 88%, Turkish 9.8%. Religions (1947 est.): Greek Orthodox 84%, Moslem 11.5%. Chief towns (pop., 1947 est.): Sofia (cap., 434,888); Plovdiv (125,440); Varna (77,792); Russe (53,420). Chairmen of the praesidium of the national assembly in 1950: Mincho Neychev and, from May 27, Gen. Georgi Damianov; prime ministers in 1950: Vasil Kolarov and, from Feb. 1, Vulko Chervenkov (*q.v.*).

**History.**—Prime Minister Vasil Kolarov died on Jan. 23, 1950. He was succeeded by Vulko Chervenkov who had spent most of the period between World Wars I and II in exile in Moscow. Chervenkov thus combined in his person the offices of prime minister and general secretary of the Communist party, a situation otherwise enjoyed only by Stalin and Tito.

The new premier began his rule by a purge in the Communist party. Dobri Terpeshev, who had spent 14 years in prison in Bulgaria under the pre-World War II regime and had taken part in the resistance movement during the war, was removed from the party's central committee and from the secretaryship of the Communist-led "mass people's organization," the Fatherland front. In a speech on Jan. 16, Chervenkov blamed Terpeshev for tolerating the sabotage of the "Kostovites" in the economic field when he held the office of chairman of the Planning commission and for failing to inform the party's central committee of the "anti-soviet attitude" of Traicho Kostov, who had been hanged for treason and other crimes in Dec. 1949. Chervenkov also blamed Anton Yugov, minister of the interior and a leader of wartime resistance, for not preventing foreign spies from infiltrating into the security police. In the government reshuffle, Terpeshev was relegated to the ministry of social welfare, Yugov to that of industry. Their disgrace marked another stage in the victory of the Muscovite exiles over the home-front resisters in the leadership of the party.

At a conference of the Communist party held in May, it was announced that the party had 430,000 members. Its social composition was regarded as unsatisfactory. Peasants formed 44% of the membership, and one-fourth of these were members of collec-

tive farms; workers formed only 25.8%, whereas two years previously they had formed 26.5%, while civil servants had increased their proportion during the same period from 16.3% to 17.8%. Nearly 30% of all civil servants in the country were party members, whereas only 19% of all workers had joined the party. Among the sins of the party "unmasked" at the conference were insufficient vigilance toward "Kostovites," too frequent expulsions of party members for frivolous reasons and the tendency too easily to accept false accusations against members. Soon after the conference a further cabinet reshuffle took place. The minister of defense, Georgi Damianov, was transferred to the decorative post of chairman of the praesidium of the national assembly and was succeeded by his deputy, Lieut. Gen. Petr P. Panchevsky.

The collectivization of agriculture made considerable progress during 1950. On Jan. 1 there were 1,605 collective farms, with 161,000 members and controlling an area of 560,000 ha. On Sept. 9, 1950, according to a speech by vice-premier Vladimir Poptomov, there were 2,375 with an area of 1,847,113 ha. Collective farms now possessed 11% of the arable land in Bulgaria and produced 20% of the country's agricultural output. This result exceeded the target given in a government statement of Jan. 29, which had aimed at 800,000 ha. for collective farms by the end of 1950.

How it was achieved was somewhat of a mystery. In March the assistant minister of agriculture and the head of the collective farms department of the ministry had been dismissed, and the minister himself reprimanded, for giving instructions for the creation of collective farms. The instructions themselves had been revoked. Chervenkov himself had declared in a speech of April 5 that the process must be entirely voluntary, that results must be obtained not by compulsion but by example and persuasion. Despite this apparent relaxation of pressure the pace was double that originally intended.

In the cultural field, book production followed the lines desired by the party leaders. Since 1945, it was announced, 13,700,000 copies of books had been produced in Bulgaria, of which the works of Georgi Dimitrov, Stalin and Lenin accounted for

**BURNING THE FLAG** at the U.S. ministry in Sofia after the U.S. formally broke diplomatic relations with Bulgaria in Feb. 1950. The photo was brought to Paris by a U.S. press attaché of the former ministry





more than 2,500,000.

In the artistic field, however, progress was less satisfactory. In April the Academy of Art was reorganized with the avowed aim of eliminating bourgeois teaching and to make clear that "not only ideological education but also creative development of young artists depends on the quality of teaching of Marxism-Leninism." The reorganization did not at once achieve its aim. A prominent Bulgarian painter, Alexander Ghendov, presumed to write a letter to Chervenkov complaining of the way in which official artistic policy was being executed and, indeed, of the policy itself. Chervenkov replied by a speech to the Painters' union on May 26. Ghendov was denounced as the spokesman of the "bourgeois individualistic revolt against the spirit and the leading role of the party in figurative art, and against the party's struggle to overcome the rotten and demoralized culture of western Europe." A campaign against the new sin of Ghendovism then followed in the Bulgarian press. It pointed out that the best painters today followed soviet fine arts, seeking inspiration from "the masterpieces of Surikov and Repin, masters of classical Russian painting, and from the best examples of pictorial art in the world." Ghendov's crime was explained when it was learned that he had studied painting in Berlin and Moscow under artists who had subsequently been unmasked as enemies of the Soviet Union.

The United States broke off diplomatic relations with Bulgaria on Feb. 20, after the Bulgarian government had demanded the recall of the U.S. minister on the ground that he had been implicated in the Kostov trial. Bulgarian relations with Yugoslavia continued to be almost as bad as possible. A dispute with Turkey became serious in the summer when the Bulgarian government decided to expel to Turkey 250,000 members of the Turkish minority in Bulgaria. The Turkish government stated that it could not possibly find room for such large numbers on sudden notice. It also suspected that among the expelled there would be Communist agents and spies. The Bulgarian government dumped numbers of unfortunate people on the Thracian border. (See also YUGOSLAVIA.) (H. S.-W.)

**Education.**—Schools (1949-50): kindergarten (including part-time schools) 1,403, pupils 57,487, teachers 2,124; primary 6,112, pupils 7,556,280, teachers 18,801; elementary 2,960, pupils 308,160, teachers 12,636; secondary 218, pupils 112,633, teachers 4,624; technical 101, pupils 26,800, teachers 943; universities and institutions of higher education (1947-48) 9, students 49,800, professors and lecturers 1,283. Illiteracy (1946) 23%.

**Finance and Banking.**—Budget: (1949 est.) balanced at 152,614,000,000 leva; (1950 est.) revenue 207,252,000,000 leva, expenditure 198,018,000,000 leva. National debt (March 31, 1947) 68,896,000,000 leva. Currency circulation (March 1947) 35,000,000,000 leva. Savings deposits (Dec. 1947) 17,996,000,000 leva. Monetary unit: lev (pl. leva) with an official exchange rate of 290 leva to the U.S. dollar.

**Foreign Trade.**—(1948) Imports 35,119,000,000 leva; exports 34,114,000,000 leva. Main sources of imports: U.S.S.R. 58%; Czechoslovakia 12%. Main destinations of exports: U.S.S.R. 52%; Czechoslovakia 11%. Main imports: metals, machinery and textiles. Main exports: tobacco and tobacco products.

**Transport and Communications.**—Roads (1945): 13,870 mi. Licensed motor vehicles (Dec. 1949): cars 6,000; commercial 5,000. Railways (1949): 1,996 mi. Telephones (1948): 54,347. Radio receiving sets (1949): 205,000.

**Agriculture.**—Main crops (metric tons, 1948): wheat 1,502,000; rye (1947) 196,000; barley 249,000; oats 105,000; maize 890,000; sugar, raw (1949) 54,000. Livestock (1948): cattle 1,918,000; horses and mules 449,000; sheep and goats 8,995,000; pigs 957,000; poultry (1947) 10,329,000.

**Industry.**—Fuel and power: coal (1947) 4,111,000 metric tons, (1948 est.) 3,933,000 metric tons; electricity (1947) 480,000,000 kw.hr., (1948 est.) 553,000,000 kw.hr.

**Bunche, Ralph Johnson** (1904- ), U.S. political scientist, was born on Aug. 7 in Detroit, Mich. He was graduated from the University of California at Los Angeles, Calif., in 1927, received a master's degree in government from Harvard university in 1928 and a Ph.D. in 1934. He taught political science at Howard university, Washington, D.C., becoming a full professor in 1938. Meantime,

he travelled through French West Africa on a Rosenwald field fellowship, studying and comparing the administration of French Togoland, a mandated area, and Dahomey, a colony. He later did postdoctoral work at Northwestern university, Evanston, Ill., and at the London School of Economics in 1936 and 1937, before returning to Africa for further studies of colonial policy. During World War II he served with the joint chiefs of staff, the Office of Strategic Services and the U.S. state department, then joined the United Nations secretariat as director of the division of trusteeship in 1946. He was assisting Count Folke Bernadotte of Sweden in mediating the Jewish-Arab warfare in Palestine when Bernadotte was assassinated in 1948. Afterward Bunche supervised the truce and armistice agreements there. For this and for his other efforts in behalf of the U.N., Bunche was awarded the Nobel peace prize for 1950, the first Negro to win the award, which amounted to \$31,410. In October Harvard university announced that Bunche had been appointed professor of government at that institution.

**Burma.** An independent federal republic, Burma lies on the eastern side of the Bay of Bengal, between Pakistan and India on the northwest, Tibet on the north and China, Indochina and Thailand (Siam) on the east. The republic comprises Burma proper, the Shan state, the Kachin state, the Chin special division and, if constituted, the Karen state. Area: 261,749 sq.mi. Pop. (1949 est.) 18,200,000. Racially, the peoples of Burma are Mongoloid. About 90% are Buddhist by religion, and about 70% use the Burmese language. Chief towns: Rangoon, capital and main port (pop. 1941, 501,291); Mandalay (pop. 1941, 163,537); Moulmein (pop. 1931, 65,506); Bassein (pop. 1941, c. 50,000) and Akyab (pop. 1931, 38,094).

President of the republic: Sao Shwe Thaik; prime minister: Thakin Nu.

**History.**—During the year 1950 steady progress was made by the government's forces in reducing the several types of rebels who were in the field. Advancing northward along the Sittang valley, the government troops took Pyuntaza on Feb. 25 and Kyauktaga the following day, and on March 19 Toungoo, capital of the Karen "government," also fell. The loss of Toungoo was a severe blow to the Karen cause, and though resistance continued, by the end of the year it was confined to little more than two detached areas, the hilly district of Papun by the Salween river and the more inaccessible parts of the Irrawaddy delta. The Karens suffered also the loss of their leader, Saw Ba U Gyi, who was killed on Aug. 12. Despite these serious defeats, there were still at the end of the year several thousand Karens in the field, armed, trained and disciplined, and apparently determined to carry on their resistance until their demand for an autonomous Karen state should be conceded. By the end of the year there were no signs of any progress toward a political settlement, except that the Regional Autonomy commission had been revived.

After the capture of Toungoo, the government forces turned much of their attention to the left-wing rebels. A drive northward up the Irrawaddy valley led to the capture on May 19 of Prome, the headquarters of the so-called Democratic Front. This organization was already seriously weakened by differences of opinion and personal rivalries between the Communists and the People's Volunteer organization who were its principal components, and it was rumoured that the two factions had come to actual warfare with one another in March. Later, at the end of the rainy season, the government forces resumed their operations and on Oct. 13 took the important river town of Thayetmyo.

The result of these various operations was that the principal routes between Rangoon and upper Burma were reopened to use after more than a year's interruption. The main railway and the trunk road from Rangoon to Mandalay through Toungoo, and the



Irrawaddy river from Rangoon to Mandalay by way of Prome and Thayetmyo, were once more accessible to lawful traffic, though they were still at the end of the year liable to sporadic attack. On the other hand, though the government held nearly every important town and the principal routes, the administration had little control a short distance away from the towns and routes, and in many districts law and order hardly existed.

In the political sphere, the principal event was the expulsion from the government party—the Anti-Fascist People's Freedom league—of the two leaders of the Trade Union congress (Burma) and the suspension, for a month, of the congress's affiliation to the league. The leaders of the congress had long displayed strong leftist sympathies and had earlier in the year sought affiliation to the Communist-controlled World Federation of Trade Unions. On Sept. 5 Thakin Hla Kyway, in a speech in the legislature professing to support the government's approval of United Nations action in Korea, in fact opposed it. On Sept. 21, therefore, he was expelled from the league.

Burma's relations with the United Kingdom remained cordial. On March 7 the offer was made, and shortly afterward accepted, of a loan of £6,000,000 to Burma from British Commonwealth sources; of this the United Kingdom provided £3,750,000, India £1,000,000, Pakistan and Australia £500,000 each and Ceylon £250,000. The position of British commercial interests was, however, not happy. In the more disturbed districts, notably Tavoy, Communist activities brought British-owned enterprises, such as tin mines, to a standstill. The oil companies also met difficulties. Early in 1949 the British government, anxious to facilitate the economic recovery of Burma, guaranteed the companies against losses incurred in restoring the installations destroyed in 1942. On Jan. 8 the guarantee was terminated, since there appeared to be no prospect of a speedy return to peaceful conditions in which the concerns could operate profitably. The companies therefore dismissed about 2,500 workers. These appealed to the Industrial Court of Arbitration which declared the dismissals illegal and in general attempted to prescribe the policy which the companies must follow. The matter was taken to the supreme court which in October gave a partial reversal of the industrial court's decision, especially in regard to the attempt to dictate policy.

In October an economic co-operation agreement was entered into between Burma and the United States, under which Burma was to receive aid to the extent of \$8,000,000–\$10,000,000 in the year ending June 30, 1951; a special technical and economic mission was to be established in Rangoon to advise the Burmese government. The U.S. government also made a gift of ten landing craft to the government for the use of the Burma navy.

Relations with China presented some slight problems. Early in the year remnants of Kuomintang forces, fleeing before the victorious Chinese Communists, crossed the border from Yunnan and sought refuge in the Burma Shan state of Kengtung. They maintained themselves there as organized units, still possessing their arms, and it was suspected that they were planning an attack on Yunnan. The situation was liable to cause strained relations with China, and in July the Burmese government took strong measures to deal with the problem. Burmese forces attacked the Chinese positions, and some hundreds of men who were captured were sent to internment camps in Meiktila and Mandalay. But though the remainder were dispersed from their main concentrations near the Burmese-Thai border, they remained in the field, preying on the countryside. (B. R. P.)

**Education.**—State and private primary schools (March 1948) 4,795, pupils 431,684, teachers 11,315; secondary schools (1947–48) 142, pupils 11,648, teachers 722. Rangoon university (1949): students 2,960 (including 640 women).

**Finance and Banking.**—Budget: (1949) revenue Rs. 430,300,000, expenditure Rs. 528,000,000; (1950 est.) revenue 483,600,000, expenditure 532,200,000. Monetary unit: rupee with an exchange rate (Nov. 1950) of Rs. 4.775 to the U.S. dollar.

**Foreign Trade.**—Imports (1949): Rs. 373,000,000; exports (1949) Rs. 733,000,000. Main sources of imports (1948–49): India 31.6%, United Kingdom 28.2%, China 8.61%. Main destinations of exports (1948–49): India 37.8%, Ceylon 19.0%, British possessions and Malaya 13.3%. Main imports (1948–49): textiles 36%, food products 13%, machinery appliances and vehicles 11%. Main exports: rice 82%, metals and ores 3%.

**Transport and Communications.**—Roads (1949) 12,472 mi. Licensed motor vehicles (Dec. 1949): cars 5,000; commercial 24,000. Railways: (1948) 1,786 mi.; passenger-mi. (1949) 74,000,000; net freight ton-mi. (1949) 113,000,000.

**Agriculture and Fisheries.**—Main crops (metric tons 1949): rice 4,076,000; peanuts 130,000; cottonseed 14,000; ginned cotton 8,000; sesame seed 32,900; dry beans 45,000; tobacco (1949–50) 29,000. Livestock (1948): cattle 5,207,000; sheep 21,000; goats 172,000; pigs 394,000; horses 12,000; buffaloes 721,000. Fisheries: total catch estimated at 500,000 tons annually.

**Industry.**—Factories (1947) 473; persons employed 46,480. Raw materials: silver (fine ounces, 1948) 450,000; tin concentrates (metric tons, 1948) 1,773,000; natural rubber (net exports, 1948) 9,240,000; timber, teak (1948–49 rafting season) 68,938 logs.

**Buses:** see AUTOMOBILE INDUSTRY; ELECTRIC TRANSPORTATION; MOTOR TRANSPORTATION.

**Business Review.** The year 1950 in the United States was characterized by expansion and an upward trend in all sectors of the economy following the downward adjustment throughout most of 1949 from the high level reached in 1948. The upturn in business activity, employment and production which began during the fourth quarter of 1949 progressed steadily, with only minor interruptions, throughout the first half of the year and was greatly accelerated during the last half of the year following the outbreak of war in Korea. When South Korea was invaded late in June, production and employment in the United States were close to peacetime record levels, credit had been expanding and prices had been rising for some weeks. Because of this high level of activity, the impact of the prospect of a new defense program was greater in magnitude and earlier in timing than was suggested by the addition of some \$10,000,000,000 of defense expenditures to the federal budget during 1951, with more to be added later.

A more immediate and much greater impact arose from the rapid increase in expenditures of businesses and consumers in anticipation of shortages in civilian goods and of increases in prices. Prior to the Korean war, inflationary pressures had already gained substantial momentum as the result of expanded peacetime consumer and business buying. This expansion in buying was based primarily on the high level of income, but it was financed also, to a large extent, by a substantial expansion of credit and by an increased use of the very large supply of currency and bank deposits. Following the government announcement of a larger military program, the tempo of private spending was accelerated greatly, credit demand increased substantially and commodity prices rose sharply.

In recognition of the inflationary situation, Pres. Harry S. Truman initiated the first steps to curb it. On July 18, he directed the federal agencies concerned with real estate credit operations to tighten the terms on which federally aided credit was available. In his midyear report to congress on the economic state of the nation, dated July 26, he requested congress to authorize emergency powers to limit the use of essential materials; to regulate consumer, real estate and commodity trading credit; and to assure adequate financing for defense production and production facilities. The day before, he presented to congress a tax program to increase federal revenues by approximately \$5,000,000,000.

The treasury raised the limits for purchases of series F and G savings bonds by certain classes of institutional investors and banks to be effective during specified periods in the early part of Oct., Nov. and Dec. 1950, and a new campaign was inaugurated to promote sales of series E bonds, especially through pay-roll savings plans. These efforts were directed toward ab-



## Per Cent Changes in Selected Business Indicators, United States

Business or Economic Indicator	Per cent change 1950* from:			Per cent change from preceding year												Per cent change Oct. 1950 from:		
	1939	1944	1949	Jan. 1950	Feb. 1950	March 1950	April 1950	May 1950	June 1950	July 1950	Aug. 1950	Sept. 1950	Oct. 1950	Jan. 1950	June 1950	August 1950		
	1939	1944	1949	from Jan. 1949	from Feb. 1949	from March 1949	from April 1949	from May 1949	from June 1949	from July 1949	from Aug. 1949	from Sept. 1949	from Oct. 1949	1950	1950	1950		
General business:																		
Business activity <sup>1</sup> . . . . .	+ 62.0	+ 13.1	+ 13.8	— 0.4	— 0.1	+ 7.0	+ 6.8	+ 9.3	+ 13.9	+ 15.7	+ 16.0	+ 17.1	+ 34.8	+ 7.6	+ 2.2	— 0.5		
Bank debits <sup>2</sup> . . . . .	+ 322.8	+ 58.8	+ 14.1	+ 1.3	+ 4.9	+ 2.9	+ 6.6	+ 8.8	+ 14.3	+ 15.1	+ 24.8	+ 22.9	+ 25.2	+ 16.3	+ 7.7	+ 8.2		
Commercial failures <sup>3</sup> . . . . .	+ 36.6	+ 656.2	+ 0.7	+ 34.9	+ 29.2	+ 8.5	+ 1.0	+ 8.2	+ 2.3	+ 9.4	0.0	+ 7.9	+ 8.5	+ 7.5	+ 9.5	+ 7.3		
Personal income:																		
Salaries and wages <sup>4</sup> . . . . .	+ 213.3	+ 23.0	+ 7.0	+ 1.6	+ 1.0	+ 1.5	+ 2.0	+ 3.8	+ 6.5	+ 7.8	+ 10.8	+ 12.1	+ 15.1	+ 13.5	+ 7.0	+ 3.1		
Total <sup>1</sup> . . . . .	+ 205.4	+ 33.6	+ 7.6	+ 1.7	+ 4.0	+ 5.8	+ 3.2	+ 3.3	+ 5.4	+ 8.5	+ 10.3	+ 12.2	+ 13.7	+ 7.2	+ 6.0	+ 2.1		
Civilian nonagricultural emp. <sup>4</sup> . . . . .	+ 45.2	+ 16.4	+ 3.4	0.0	+ 1.0	+ 1.2	+ 3.0	+ 4.0	+ 5.0	+ 5.4	+ 5.4	+ 4.1	+ 3.9	+ 5.1	+ 1.7	+ 1.7		
Unemployment <sup>1</sup> . . . . .	+ 67.4	+ 342.9	+ 8.8	+ 66.7	+ 46.9	+ 28.1	+ 16.7	+ 6.1	+ 10.5	+ 22.0	+ 32.4	+ 32.4	+ 47.2	+ 57.8	+ 44.1	+ 24.0		
Employment and earnings—mfg. <sup>5</sup> :																		
Number employed . . . . .	+ 49.9	+ 15.9	+ 5.9	+ 6.1	+ 5.1	+ 3.0	+ 0.2	+ 4.6	+ 6.4	+ 8.3	+ 10.7	+ 10.6	+ 15.0	+ 14.2	+ 8.4	+ 2.2		
Pay rolls . . . . .	+ 271.4	+ 8.1	+ 14.2	+ 4.8	+ 3.1	+ 0.2	+ 5.6	+ 11.3	+ 14.6	+ 17.5	+ 22.0	+ 20.4	+ 29.0	+ 25.7	+ 14.4	+ 5.1		
Per production worker:																		
Weekly earnings . . . . .	+ 147.5	+ 23.1	+ 7.5	+ 1.4	+ 2.1	+ 3.2	+ 5.8	+ 6.4	+ 8.0	+ 8.4	+ 10.2	+ 8.9	+ 12.2	+ 10.1	+ 5.3	+ 2.8		
Hourly earnings . . . . .	+ 131.7	+ 43.1	+ 4.3	+ 0.7	+ 1.4	+ 1.4	+ 2.1	+ 2.9	+ 2.8	+ 3.5	+ 4.3	+ 5.0	+ 7.9	+ 5.6	+ 3.4	+ 2.7		
Hours per week . . . . .	+ 7.4	+ 10.4	+ 3.3	+ 0.5	+ 0.8	+ 1.5	+ 3.4	+ 3.4	+ 4.1	+ 4.4	+ 5.4	+ 3.5	+ 4.3	+ 4.3	+ 2.5	+ 0.5		
Industrial production: <sup>2</sup>																		
Durable goods . . . . .	+ 114.7	+ 33.7	+ 15.8	+ 7.9	+ 8.0	+ 5.4	+ 4.7	+ 14.9	+ 22.2	+ 27.6	+ 28.0	+ 25.6	+ 45.1	+ 21.5	+ 7.2	+ 2.8		
Steel . . . . .	+ 101.8	+ 11.7	+ 22.3	+ 11.0	+ 13.4	+ 12.0	+ 1.4	+ 10.8	+ 30.5	+ 46.2	+ 32.6	+ 36.3	+ 149.0	+ 25.1	+ 10.0	+ 7.6		
Non-durable goods . . . . .	+ 70.6	+ 8.8	+ 10.7	+ 2.3	+ 4.0	+ 7.7	+ 11.1	+ 12.4	+ 14.3	+ 17.5	+ 18.2	+ 13.4	+ 9.6	+ 8.4	+ 5.4	+ 0.5		
Total . . . . .	+ 82.6	+ 15.3	+ 13.1	+ 4.2	+ 4.8	+ 1.6	+ 6.1	+ 12.1	+ 17.8	+ 21.7	+ 22.9	+ 21.3	+ 27.7	+ 15.8	+ 6.5	+ 1.4		
Value construction contracts awarded: <sup>6</sup>																		
Residential . . . . .	+ 411.6	+ 1,858.8	+ 61.0	+ 115.9	+ 87.2	+ 118.3	+ 122.1	+ 94.8	+ 69.4	+ 98.2	+ 91.7	+ 4.6	+ 5.8	+ 54.3	+ 15.6	+ 29.7		
Nonresidential . . . . .	+ 429.2	+ 468.1	+ 40.2	+ 6.0	+ 19.7	+ 52.9	+ 41.8	+ 27.4	+ 32.2	+ 39.1	+ 94.6	+ 44.5	+ 19.5	+ 81.4	+ 3.9	+ 21.1		
Public works and utilities . . . . .	+ 106.4	+ 246.0	+ 4.3	+ 49.1	+ 0.6	+ 33.5	+ 2.1	+ 23.9	+ 14.4	+ 2.1	+ 8.3	+ 6.8	+ 12.2	+ 17.8	+ 34.5	+ 29.4		
Total . . . . .	+ 308.9	+ 628.0	+ 40.1	+ 51.3	+ 37.1	+ 73.9	+ 60.3	+ 53.1	+ 42.3	+ 50.5	+ 71.0	+ 17.6	+ 7.0	+ 55.4	+ 15.6	+ 26.7		
Distribution: <sup>4</sup>																		
Department store sales . . . . .	+ 184.0	+ 61.0	+ 5.2	+ 4.4	+ 1.4	+ 1.8	+ 0.3	+ 0.3	+ 4.6	+ 29.3	+ 18.0	+ 10.7	+ 6.5	+ 4.3	+ 1.3	+ 12.2		
Chain store sales . . . . .	+ 203.4	+ 87.5	+ 7.0	+ 2.1	+ 1.8	+ 2.0	+ 1.7	+ 1.5	+ 5.4	+ 19.5	+ 15.6	+ 8.3	+ 13.0	+ 10.8	+ 4.8	+ 4.3		
Total retail sales . . . . .	+ 232.9	+ 103.4	+ 9.2	+ 2.3	+ 3.7	+ 3.7	+ 2.4	+ 5.3	+ 9.5	+ 20.4	+ 18.9	+ 11.7	+ 10.1	+ 8.3	+ 0.5	+ 7.3		
Consumer credit outstanding—total <sup>2</sup> . . . . .	+ 150.2	+ 243.6	+ 6.2	+ 16.5	+ 18.3	+ 19.4	+ 19.4	+ 20.5	+ 22.1	+ 25.7	+ 27.3	+ 27.7	+ 24.6	+ 16.9	+ 9.0	+ 2.4		
Wholesale prices:																		
Other than farm and food <sup>5</sup> . . . . .	+ 87.8	+ 55.0	+ 3.7	+ 4.6	+ 3.9	+ 3.1	+ 1.7	+ 0.5	+ 2.2	+ 4.5	+ 7.2	+ 9.6	+ 11.5	+ 10.9	+ 8.7	+ 4.0		
Prices received by farmers <sup>7</sup> . . . . .	+ 167.4	+ 29.6	+ 2.0	+ 11.3	+ 7.1	+ 8.1	+ 5.9	+ 2.4	+ 0.8	+ 6.9	+ 9.4	+ 10.1	+ 10.7	+ 14.0	+ 8.5	+ 0.4		
Total <sup>15</sup> . . . . .	+ 108.6	+ 54.6	+ 3.7	+ 5.7	+ 3.4	+ 3.6	+ 2.6	+ 0.1	+ 1.8	+ 6.1	+ 8.8	+ 10.4	+ 11.2	+ 11.7	+ 7.6	+ 1.7		
Retail prices:																		
Food <sup>5</sup> . . . . .	+ 113.9	+ 49.6	+ 0.8	+ 4.3	+ 2.5	+ 2.8	+ 3.1	+ 1.0	+ 0.1	+ 4.1	+ 3.2	+ 2.1	+ 4.2	+ 6.6	+ 2.2	+ 0.0		
Total cost of living <sup>5</sup> . . . . .	+ 71.9	+ 36.2	+ 1.1	+ 2.3	+ 1.5	+ 1.5	+ 1.4	+ 0.4	+ 0.4	+ 2.4	+ 2.5	+ 2.5	+ 3.7	+ 4.7	+ 2.7	+ 1.0		
Prices paid by farmers <sup>7</sup> . . . . .	+ 107.3	+ 40.1	+ 2.0	+ 2.7	+ 1.6	+ 2.0	+ 1.2	+ 0.4	+ 1.2	+ 2.4	+ 3.6	+ 5.2	+ 6.1	+ 4.8	+ 2.4	+ 1.2		
Banking items of member banks: <sup>2</sup>																		
Loans . . . . .	+ 217.8	+ 134.7	+ 9.4	+ 2.0	+ 0.3	+ 1.0	+ 3.0	+ 4.1	+ 7.2	+ 11.8	+ 15.7	+ 20.2	+ 21.1	+ 17.9	+ 14.1	+ 7.1		
Investments in U.S. govt. obligations . . . . .	+ 238.4	+ 9.9	+ 1.5	+ 13.0	+ 12.4	+ 11.4	+ 10.4	+ 7.0	+ 6.8	+ 2.0	+ 3.9	+ 7.9	+ 10.8	+ 11.9	+ 8.9	+ 4.3		
Total investments . . . . .	+ 200.0	+ 1.8	+ 4.4	+ 13.9	+ 32.9	+ 12.6	+ 12.7	+ 9.3	+ 9.1	+ 4.7	+ 0.5	+ 3.9	+ 6.2	+ 7.4	+ 6.0	+ 2.9		
Money in circulation . . . . .	+ 284.0	+ 20.0	+ 1.6	+ 2.2	+ 1.8	+ 1.7	+ 1.5	+ 1.5	+ 1.5	+ 1.2	+ 1.5	+ 1.0	+ 0.7	+ 0.4	+ 1.1	+ 0.9		
Foreign trade (merchandise): <sup>2</sup>																		
Exports . . . . .	+ 216.9	+ 29.4	+ 16.4	+ 32.6	+ 26.0	+ 27.2	+ 31.1	+ 24.3	+ 20.9	+ 14.0	+ 13.8	+ 0.1	+ 6.8	+ 22.3	+ 3.9	+ 19.6		
Imports . . . . .	+ 278.5	+ 123.9	+ 32.5	+ 5.6	+ 5.8	+ 4.9	+ 9.0	+ 21.8	+ 30.2	+ 55.5	+ 66.8	+ 61.9	+ 54.0	+ 37.7	+ 25.3	+ 4.8		
Corporate profits after taxes <sup>2</sup> . . . . .	+ 342.0	+ 104.6	+ 30.0	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1	+ 1		

\*Data for November and December estimated on the basis of October levels taking into account the seasonal factor where significant.

†Corporate profits reported quarterly.

‡Data for October estimated on the basis of September level taking into account the seasonal factor where significant.

§New York Times. ¶Federal Reserve Board. †Dun and Bradstreet, Inc. ‡United States Department of Commerce. §United States Department of Labor. ¶F. W. Dodge Corporation.

\*United States Department of Agriculture.

sorbing funds that might otherwise be available for civilian spending.

On Aug. 18, 1950, the federal reserve board of governors and the federal open market committee agreed upon three steps to place curbs on over-all inflationary credit expansion:

(1) Discount rates were raised from 1.5% to 1.75% at all federal reserve banks to discourage borrowing by member banks of additional reserves to support further credit expansion.

(2) Open market operations were directed toward discouraging sales to the federal reserve of short-term United States government securities, including sales by banks to obtain funds for extending other types of credit.

(3) Early in August the board of governors joined with other federal and state bank supervisory agencies, including the Home Loan Bank board, in a statement requesting the voluntary co-operation of banks and other lenders in restricting their lending and investment activities.

Signed on Sept. 8, 1950, the Defense Production Act of 1950 authorized the president to exercise certain controls over credit, production and distribution of materials. It also conferred stand-by powers upon the president to fix ceilings on wages and prices and to ration consumer goods when he felt such steps were justified. Defense spending was to be doubled to an annual rate of \$30,000,000,000.

Under the Defense Production act, an independent economic stabilization agency was created on Sept. 9, with W. Stuart Symington as defense co-ordinator to administer all controls, defense production expansion and economic mobilization. On the same day, President Truman ordered all persons engaging in trade or business during the period May 24–June 24, 1950, to keep records of cost and price data—the base period upon which wage and price ceilings would be determined when and if necessary.

The board of governors of the federal reserve bank announced on Sept. 8 that credit restrictions under regulation W would become effective ten days later. As the first step, the board ordered down payment of at least one-third on automobiles with no more than 21 months to pay, and of 15% on home appliances with 18 months to pay. Articles costing less than \$100 were exempt. In little more than a month the board moved to tighten these installment credit controls, and on Oct. 13 the first amendment to regulation W was announced, to become effective Oct. 16.

On Oct. 10 the board announced regulation X (effective Oct. 12) imposing controls on all real estate credit not extended, insured or guaranteed by the federal government for constructing, financing and purchasing new houses. At the same time, the Federal Housing administration and the Veterans' administration issued new regulations designed to produce a similar tightening of credit under federal programs.

Regulation V (effective Sept. 27, 1950) instituted a program of loan guarantees for defense production. The guaranteeing agencies named in the executive order were the departments of army, navy, air force, commerce, interior, agriculture and the General Services administration. The program was to be administered through the federal reserve banks. Each agency was authorized to guarantee loans made by banks and other lending institutions to individuals and private corporations for the purpose of financing contracts and other operations for procurement of materials and the performance of services for the national defense.

**Prices.**—The movement of prices during the year, both wholesale and retail, reflected the building up of the inflationary pressures within the U.S. economy prior to the Korean war, and



quickly registered the force of the immediate impact of the war upon the economy. The department of labour's all-commodity index of wholesale prices for June reached 157.3, an increase of 3.7% from January, and the all-items index of consumers' prices at retail reached 170.2, an increase of 1.9% from January. Wholesale prices of farm products and of foods had advanced during the six months 7.2% and 4.2% respectively, and wholesale prices other than food products had advanced 2.7%. Food prices at retail were 4.3% higher in June than in January. In July as compared with June, the all-commodity index of prices at wholesale was up 3.5%, of farm products 6% and of foods 5.7%. Prices continued to rise through September but at a less rapid rate. However, for the four-month period June through September the all-commodity index of wholesale prices increased 7.7%, an increase for the four-month period that was more than double the increase during the first six months of the year. Food prices at wholesale during this same four-month period rose 9.3%, also more than double the increase during the first six months of the year. In October, the indexes of prices at wholesale dropped slightly as did also the retail food index, but the indexes of all the other items in the consumers' price index continued to rise. (See also PRICES.)

**Employment, Income, and Saving.**—By June 1950 total U.S. civilian employment had reached 61,400,000 and unemployment had dropped to 3,300,000 or only 5.2% of the civilian labour force. By October, employment had reached 61,700,000, and unemployment had dropped to 1,900,000. Average hourly and average weekly earnings meanwhile increased steadily. According to the department of labour, average hourly earnings in all manufacturing increased from \$1.41 in January to \$1.48 in September, and average weekly earnings increased during the same period from \$54.70 to \$60.53.

Total personal income in June, according to reports of the department of commerce, was at the annual rate of \$217,100,000,000, compared with an annual rate of \$214,600,000,000 in January; the preliminary estimate for September was an annual rate of \$228,300,000,000. The disposable personal income (income less taxes) during the second quarter of the year was at an annual rate of \$195,500,000,000, and for the third quarter, at \$202,000,000,000. Personal consumption expenditures, the real measure of effective market demand, rose from an annual rate of \$184,500,000,000 during the second quarter of the year to \$195,000,000,000 during the third quarter. The extent to which consumers exchanged dollars for commodities was reflected in the drop in personal net savings from an annual rate of \$15,300,000,000 during the first quarter of the year to \$11,000,000,000 in the second quarter, and to \$7,000,000,000 in the third quarter. Net savings as a per cent of disposable income dropped from 7.7% in the first quarter to 5.6% in the second quarter, and to 3.5% in the third quarter. (See also INCOME AND PRODUCT, U.S.)

**Consumer Credit.**—The expansion in U.S. consumer credit, increasing steadily since the end of World War II, was greatly accelerated in 1950. Total credit outstanding in June 1950 reached \$19,600,000,000, an increase of \$741,000,000 from January. By September, consumer credit outstanding had reached \$21,500,000,000, an increase during the third quarter alone of \$1,800,000,000.

Instalment credit, which accounted for slightly more than 60% of total consumer credit outstanding during 1950, increased by \$2,400,000,000 during the first nine months of the year, a larger increase than for any full postwar year. Two-thirds of the increase for the nine-month period occurred during the four months June through September. Instalment credit outstanding in September amounted to \$13,300,000,000, an increase of \$1,700,000,000 from the amount outstanding in May.

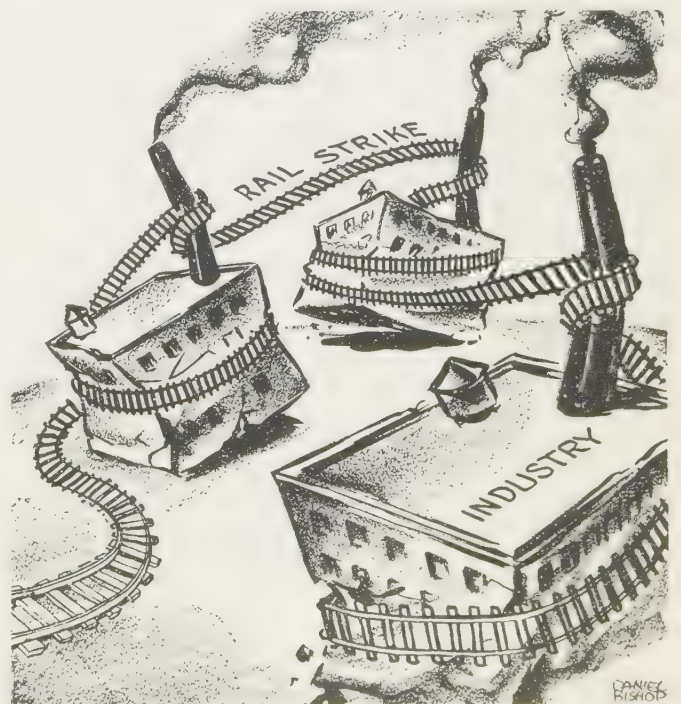
The reinstatement of regulation W, as described above, was

a recognition of the inflationary danger inherent in such rapid growth in instalment credit. (See also CONSUMER CREDIT.)

**Bank Credit.**—U.S. commercial bank credit began to expand in May 1950 and continued to expand at a very rapid rate through September. Commercial banks increased their total loans by \$4,200,000,000 during the third quarter of the year, and their holdings of state and local government and corporate securities by about \$900,000,000. During the four-month period June through September, the expansion in credit to private borrowers and to state and local governments exceeded that in any peacetime period of similar length, according to reports of the board of governors of the federal reserve system. Commercial bank loans in September stood at \$49,000,000,000, an increase of \$4,200,000,000 from June, as compared with a January to June increase of \$1,900,000,000 (from \$42,900,000,000 in January to \$44,800,000,000 in June).

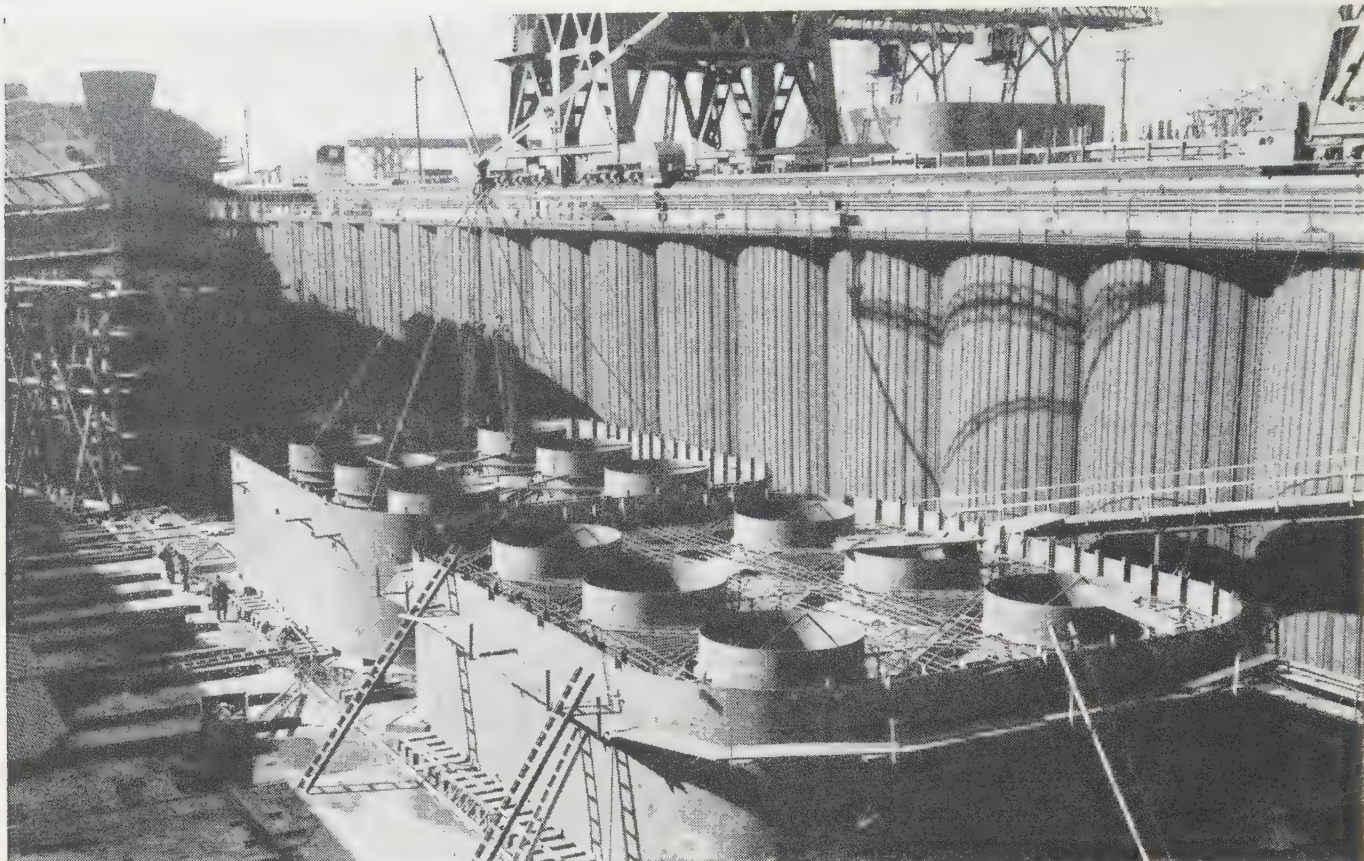
In addition to business loans, a large factor in the expansion in private credit was credit extended by banks and other lenders to purchasers of houses. New loans on small residential property during the first nine months of 1950 amounted to slightly less than \$11,000,000,000, or an annual rate of \$14,500,000,000 as compared with an annual rate of about \$11,000,000,000 in each of the three previous years. Mortgage debt outstanding on one-to-four-family houses increased by about \$2,000,000,000 during the third quarter, compared with an increase of slightly less than \$4,000,000,000 during the entire year 1949. Loans of commercial banks on homes and other real estate increased during the third quarter by about \$900,000,000, which was about as great as the increase during the first six months of the year. (See also BANKING.)

**Money Supply and Turnover.**—The rapid expansion in bank credit added greatly to the U.S. money supply. During the third quarter of 1950, the total of currency and bank deposits held by individuals increased by \$1,500,000,000 to a new peak level of \$171,500,000,000 in September. This rapid rate of increase almost equalled that of the third quarter of 1947, also a period of substantial inflation. In addition to the effect of the increased volume of money on spending, spending after the middle of the



"CONSTRUCTOR ON THE LOOSE," a 1950 cartoon by Bishop of the St. Louis Star-Times





SIDE-LINE PRODUCTION of bridge caissons at the Newport News shipbuilding yards where contracts for these and other products were undertaken to balance a slump in the shipbuilding market during the first half of 1950

year was financed in part by more active use or turnover of money. During the third quarter of the year, the turnover of demand deposits at banks in leading cities outside New York city was greater than the corresponding quarter in any postwar year, and greater than at any time in more than a decade. Demand deposits in September amounted to \$88,100,000,000, an increase of \$3,100,000,000 from June.

**Production.**—Industrial production in the United States, as measured by the federal reserve board index, increased steadily throughout the first ten months of 1950 with only minor interruptions in February and July. The index in October reached 212 as compared with 183 in January, an increase of 15.8%, and was at the highest level since 1945. More than half of this increase occurred during the first six months of the year, prior to the Korean war. There was a slight drop of 3 points in July followed by a 14-point rise in August, with gains of 1 and 2 points in September and October, respectively. The increase occurred in both durable and nondurable goods industries, but was much greater in the former. The durable goods index rose from 209 in January to 254 in October, a gain of 21%; the nondurable goods index rose from 179 in January to 194 in October, a gain of only 8.4%. Slightly more than half of the ten-month increase in the durable goods index occurred during the first six months of the year, the index reaching 236 in June, a rise of 27 points or 12.9%. The nondurable index rose only 4 points or 2.2% during the first half of the year. Both indexes dropped slightly in July but by October the durable goods index had risen 19 points, and the nondurable index 13 points, gains of 8% and 7.1%, respectively.

Steel production declined during the first quarter of the year, but after March, the industry operated at near capacity through September, and reached a new production peak in October at 102% of theoretical capacity—up 2% from September; more

than 8,700,000 tons of steel ingots and castings were produced. According to the U.S. department of commerce, defense production represented only a small fraction of the total volume of production through October.

**Construction.**—The upturn in U.S. construction activity which began in the fourth quarter of 1949 continued without interruption through the first nine months of 1950 with only a minor drop in the total volume in October. For the first ten months of the year, the monthly average value of total new construction was \$2,200,000,000 as compared with a monthly average of \$1,800,000,000 in 1949 and \$1,700,000,000 in 1947. The 1950 expansion in construction occurred almost entirely in private construction, federal, state and local construction having remained substantially unchanged in volume throughout the year, representing only about one-fourth of the total. Of total private construction, nonfarm residential construction accounted for about 60% of the total, amounting to slightly less than \$1,000,000,000 per month during the first four months of the year, and slightly more than \$1,000,000,000 per month during the five-month period ending with October. (See also BUILDING AND CONSTRUCTION INDUSTRY; HOUSING.)

**New Plant and Equipment.**—Expenditures for new plant and equipment in the U.S. during the first quarter of 1950, at an annual rate of \$14,800,000,000, were lower than in any quarter during the previous two years. Expenditures were stepped up, however, to an annual rate of \$17,300,000,000 during the second quarter and jumped to \$20,200,000,000 during the third quarter. The rate during the third quarter was greater than in any quarter of the previous two years except the fourth quarter of 1948.

Expenditures for new plant and equipment in manufacturing during the third quarter of 1950 were at an annual rate of \$9,000,000,000 compared with \$6,000,000,000 during the first quarter and \$7,400,000,000 during the second quarter. The third quarter rate was only slightly below the previous peak, reached in the fourth quarter of 1948.



**Business Profits.**—U.S. business profits after taxes rose substantially during the first three quarters of 1950 following the decline in 1949 from the high level of 1948. Profits after taxes, as estimated by the department of commerce, were at an annual rate of \$17,200,000,000, which was about the rate which maintained during each of the four quarters of 1949. During the second quarter of 1950, profits jumped to an annual rate of \$22,200,000,000 and rose to \$24,400,000,000 during the third quarter. Dividend payments were substantially greater in each of the first three quarters of 1950 than in the corresponding quarter of 1949. In the third quarter, dividends were at an annual rate of \$9,100,000,000 as compared with \$7,400,000,000 in the same quarter of 1949, and with \$7,700,000,000 in 1948, the previous peak profit year. Undistributed profits also mounted steadily, from an annual average rate of \$9,100,000,000 during the first quarter to \$14,100,000,000 during the second quarter and \$15,300,000,000 during the third quarter. (See also EMPLOYMENT; INTERNATIONAL TRADE; LAW.) (V. B. B.)

**Other Countries.**—Apart from the long-term trend towards the higher use of power and more rapid communications (illustrated by striking increases in the production of electric power and in civil aviation and by the large tonnage of tankers under construction) business conditions outside the United States in 1950 were governed principally by the continued working-out of the devaluation policy adopted under the lead of the United Kingdom by a number of important countries in the autumn of 1949.

In consequence of devaluation the world bought less from the United States; during the first half of 1950 U.S. exports fell to \$4,899,000,000 as compared with \$6,694,000,000 in the first half of 1949. The world's dependence on goods obtained from the United States without immediate payment thus became less by one-third of what it had been. Since Marshall aid was tapering off, the effect of devaluation was to place world business on a more lasting foundation and to supplement U.S. aid in spreading the demand for raw materials which in any case was being fostered by the U.S. stock-piling program.

At the beginning of 1950 industrialists had not yet decided that it was worth while to spend money on increasing the existing apparatus of production all around; and hesitations of this kind were partly reflected in the Schuman plan, or European coal and steel pool. But on the whole the amount of money waiting for employment was increasing. If optimism had been universal, a due proportion of this money would have been used in bidding for (and consequently in raising the price of) industrial shares; but there was in fact a striking divergence between the downward trend of industrial share prices and the upward trend of money available in a number of places. This development was

manifest some months before the Korean crisis.

But these were warning signs rather than tangible indications of a decline: in most directions the statistical symptoms were good. At the turn of the year the price of raw materials had not diverged widely from the level ruling a year earlier; and soon thereafter prices began to rise, so that by the end of June—long before the Korean war had made itself fully felt—substantial gains in the prices of maize, cocoa, rubber, hides, wool, copper, zinc and steel scrap were recorded in U.S. quotations (not affected by devaluation).

Outside the United States the world's most important group of trading countries was that constituted by the former belligerents in western Europe and by Japan. The most striking aspect of business conditions in these countries lay in their recovery from the abnormalities of World War II. Production in most instances was actually higher than before the war, and governments were able to finance their needs largely without recourse to the printing press.

Within this group a special position belonged to the defeated powers—Germany, Italy and Japan. All had suffered particularly heavily during the war, and in all recovery had been delayed. But by 1950 recovery was more rapid in western Germany and in Japan than in the victorious states, which by 1950 had already completed a respectable advance.

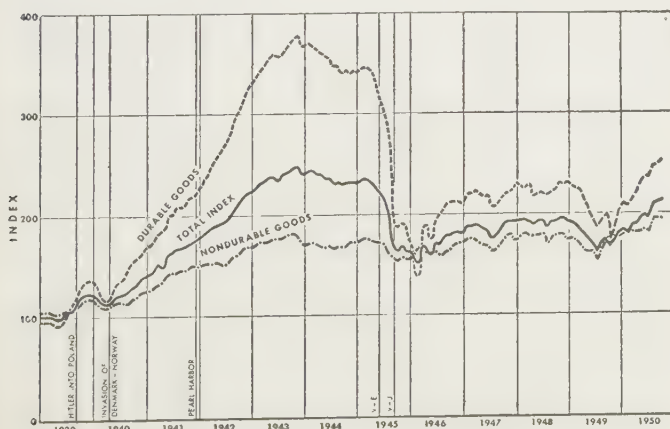
In Belgium and France industrial production was barely maintained; and, in striking contrast to what was happening in the rest of Europe, production of electric power did not increase. Switzerland showed the characteristic danger signs—rising unemployment and a fall in wholesale prices and in the cost of living.

The remaining former belligerents of western Europe comprised the United Kingdom, the Netherlands, Denmark and Norway; and Sweden could conveniently be considered with them. These countries shared a general business recovery. In Norway and Denmark, for example, the output both of consumers' and of capital goods increased, particularly in the former country. Unemployment either diminished or was so small that its fluctuations were negligible. Prices were steady or tended to rise.

In 1950 the world's demand for raw materials accentuated the trend of earlier years: essential foodstuffs continued to matter less; base metals and semiluxuries like coffee mattered more. The effect was noticeable for example in Argentina, where it proved difficult to find a remedy for the disadvantages resulting from this shift. On the other hand, Brazil gained from the striking rise in the price of coffee which began in the last quarter of 1949 and continued in 1950. Later in the year the higher prices and larger sales of wool, hides and cocoa made themselves felt in Latin America generally. The growing demand from the United States was particularly important; and in this respect the experience of the so-called "banana republics" of Central America was characteristic. These countries also benefited by an improvement in the terms of trade, for example in the matter of imports of machinery, steel and chemicals from western Germany.

In the great rubber- and tin-producing area of southeastern Asia business was helped because strongly rising prices accompanied a vigorous rise in production reflecting a return to more normal conditions. During the first six months of the year Malayan exports of tin and rubber sufficed, despite devaluation, to earn substantially more dollars than during the corresponding period of 1949. In Indonesia the output of rubber went ahead rapidly and the boom in exports was accompanied by a boom in imports. This development began before the Korean war.

Conditions were different in the great raw-material producers, Canada and Australia, where the course of business was also determined by industrial factors. The Canadian economy, being closely linked to that of the United States, had suffered from the



INDUSTRIAL PRODUCTION of U.S. durable and nondurable goods, 1939-50, adjusted for seasonal variation (1935-39=100) (Source: Board of Governors of the Federal Reserve System)



temporary recession there and had not fully recovered by the beginning of the year. As in the United States, expenditure during the earlier months centred on consumption goods rather than on capital goods, and the production of base metals remained sluggish. As the year went on, however, Canada began to share the business activity of the United States, and by the middle of the year industrial output and international trade reached and maintained new high levels. In Australia, on the other hand, devaluation gave an early stimulus to exports: business sentiment was cheerful; prices, including those of ordinary shares, rose, and people were prepared to invest in capital schemes. Toward the end of the year there were signs of a boom.

In the U.S.S.R. the output of meat and of other foodstuffs fell fairly severely short of the production plan. The production of spinning machinery increased but was not reflected in a higher production of textiles. As in other countries the output of electric power and of the engineering industry was high. There was a bad muddle in the timber industry, which hampered the production of cellulose and paper. A large increase in the manufacture of private cars had an odd parallel in the similar increase (relative to that recorded for commercial vehicles) in western Germany and in France, where the middle and upper middle classes were growing in strength. The reduction in the price of a large range of consumption goods decreed in connection with the revaluation of the rouble in March might have been expected to increase turnover, and when business failed to respond the blame was put on the retailing agencies.

As a result of the general rearmament in the second part of the year an abrupt sharpening occurred in the world demand for a wide range of goods. This made itself felt in a striking manner on the great producers of raw materials, who were in any case favoured not only by the turn of the trade cycle but also by the long-term development of world business. World production of wool, for example, was still well below the artificially high level reached during World War II and slightly below the prewar level, whereas consumption was already high, with the result that stocks were nearly exhausted. At the wool sales in the autumn, though the Korean war and the resultant rearmament certainly contributed to it, the rise in prices was due equally to world-wide pressure for higher standards of living. (See also BANKING; EUROPEAN UNION; INTERNATIONAL TRADE; STOCKS AND BONDS; WAGES AND HOURS; and articles on individual countries and industries.)

FILMS OF 1950.—*Productivity: Key to Plenty* (Encyclopædia Britannica Films Inc.). (W. H. JN.)

**Butter:** see DAIRY PRODUCTS; VEGETABLE OILS AND ANIMAL FATS.

## Cabinet Members.

The following members of President Harry S. Truman's cabinet held office on Jan. 1, 1951.

Post	Name	State
Secretary of State . . . .	Dean G. Acheson . . . .	Maryland
Secretary of the Treasury . . . .	John W. Snyder . . . .	Missouri
Attorney General . . . .	J. Howard McGrath . . . .	Rhode Island
Postmaster General . . . .	Jesse M. Donaldson . . . .	Illinois
Secretary of the Interior . . . .	Oscar L. Chapman . . . .	Colorado
Secretary of Agriculture . . . .	Charles F. Brannan . . . .	Colorado
Secretary of Commerce . . . .	Charles Sawyer . . . .	Ohio
Secretary of Labor . . . .	Maurice J. Tobin . . . .	Massachusetts
Secretary of Defense . . . .	George C. Marshall . . . .	Pennsylvania

**Great Britain.**—On Jan. 1, 1951, the British cabinet was composed as follows.

Post	Name
Prime Minister and First Lord of the Treasury . . . .	Clement Richard Attlee
Lord President of the Council and Leader of the House of Commons . . . .	Herbert Stanley Morrison
Secretary of State for Foreign Affairs . . . .	Ernest Bevin
Chancellor of the Exchequer . . . .	Hugh Todd Naylor Gaitskill

Post	Name
Minister of Town and Country Planning . . . .	Edward Hugh John Neale Dalton
Lord Privy Seal and Leader of the House of Lords . . . .	Viscount Addison
Chancellor of the Duchy of Lancaster . . . .	Viscount Alexander of Hillsborough
Lord Chancellor . . . .	Viscount Jowitt
Secretary of State for the Home Department . . . .	James Chuter Ede
Minister of Defence . . . .	Emanuel Shinwell
Minister of Labour and National Service . . . .	George Alfred Isaacs
Minister of Health . . . .	Aneurin Bevan
Minister of Agriculture and Fisheries . . . .	Thomas Williams
Minister of Education . . . .	George Tomlinson
President of the Board of Trade . . . .	James Harold Wilson
Secretary of State for the Colonies . . . .	James Griffiths
Secretary of State for Scotland . . . .	Hector McNeil
Secretary of State for Commonwealth Relations . . . .	Patrick Chrestien Gordon-Walker

(See also GOVERNMENT DEPARTMENTS AND BUREAUS.)

**Cacao:** see COCOA.

**Cadmium:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Calendar of Events, 1950:** see pages 1-16.

**California.** The most southerly Pacific coast state of the United States, California on Sept. 9, 1950, celebrated the centennial of its acquisition of statehood. Nicknamed the "Golden state," California ranks second nationally in both area and population. Its land area consists of 156,803 sq.mi. and its water area is 1,890 sq.mi. The official U.S. bureau of the census 1950 determination placed the population at 10,586,223, representing an increase of 53.3% over the 1940 census. Chief cities, preliminary census figures (with 1940 populations in parentheses) were: Los Angeles 1,957,692 (1,504,277); San Francisco 760,753 (634,536); Oakland 380,576 (302,163); San Diego 321,485 (203,341); Long Beach 244,072 (164,271); Sacramento (state capital) 135,761 (105,958); Berkeley 113,217 (85,547); Pasadena 104,087 (81,864); Richmond 99,218 (23,642); Glendale 95,398 (82,582); San Jose 95,044 (68,457).

**History.**—In the general election held Nov. 7, 1950, the electorate gave incumbent Gov. Earl Warren an overwhelming vote of approval for a third term when he was elected by a virtual two to one majority over James Roosevelt, the Democratic party nominee. Incumbents were re-elected to all state offices considered by the voters with the exception of attorney general (incumbent not a candidate). The 1950 state officers were: governor, Earl Warren; lieutenant governor, Goodwin J. Knight; secretary of state, Frank M. Jordan; treasurer, Charles G. Johnson; controller, Thomas H. Kuchel; attorney general, Edmund G. Brown; superintendent of public instruction, Roy E. Simpson. State voters adopted propositions for reorganization of state inferior courts and for requiring local elections prior to establishment of public housing projects. Propositions to repeal personal property taxes, and to legalize and license gambling within the state were defeated by large majorities. The primary election in June provided for a \$100,000,000 bond issue for home and farm loans to California veterans.

Daylight saving time was inaugurated in California.

Attempting to curtail Communist activities in California, the Board of Regents required a loyalty oath from employees of the University of California. The legislature subsequently required a similar oath of public employees and civil defense workers.

**Education.**—Average daily attendance for budgetary purposes for 1948-49 in elementary school districts was calculated at 1,134,300, in high school districts at 400,833 and in junior college districts at 81,714. Enrolment for the fall semester 1950 in the University of California's eight schools and the nine state colleges totalled about 66,000.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—As of Oct. 1950, average monthly payments to 271,868 needy aged of California was \$69.57 (Oct. 1949, 264,672 at an average of \$70.74). The security for the blind program paid an average of \$82.21 monthly to 10,087 persons. Average monthly assistance payment for 134,458 needy children, both in boarding homes and institutions and in families, was \$47.34. Public



assistance was supported 39% by federal funds, 44.9% by the state and 16.1% by county money. For Oct. 1950 beneficiaries of the three unemployment compensation programs administered by the state averaged 72,100 per week, and total benefits for the month were approximately \$8,500,000.

Total expenditures for the state department of corrections for 1949-50 were estimated at \$10,437,986. Inmates of California's seven correctional institutions for adults (as of Oct. 1950) numbered 11,482. The population of California youth authority institutions was 2,401 of which 291 were in its two schools for girls, 296 in its four work camps for boys, 1,085 in its four boy's schools and the remainder in other institutions.

**Communications.**—Automobile and truck registrations for 1949 were 4,101,191. As of June 1949, the state division of highways reported the total mileage of state roads as 13,994.2 mi. Estimated state expenditure in 1949-50 for reconditioning, resurfacing and construction of highways was \$109,134,197 (1948-49 \$98,279,962). Of this amount approximately \$15,242,105 were federal-aid contributions (1948-49 none). In 1940 California had 16,856 mi. of railroad, of which 2,768 were electrically operated. In 1949 California maintained 463 airports, including 193 commercial, 142 municipal, 39 military and 89 other fields. There were 2,824 mi. of federal airways. At the beginning of 1949 there were 3,325,000 telephone stations within the state.

**Banking and Finance.**—Total assets of the 117 state-supervised banks (with 206 branch offices) as of Oct. 4, 1950, were \$3,880,601,000 (July 1949, \$3,595,312,000). At the end of 1949 there were 118 banks (with 904 branches and offices) that were members of the federal reserve system. Total bank debits as of April 1950 were \$87,318,000,000 (April 1949, \$88,332,000,000). Aggregate assets (as of Sept. 30, 1950) of 114 state-licensed savings and loan associations operating in California were \$627,605,748.86.

Estimated total state revenue for 1949-50 was \$841,600,157 (1948-49 \$783,993,662). Total expense estimates for the year were \$1,166,762,418 (1948-49, \$883,324,599). Estimated budget deficit was \$325,162,261, and the state's net bonded debt (as of Nov. 30, 1949) was \$181,739,915.

**Agriculture.**—Gross cash farm income in 1949 was \$2,066,431,000, or 3.7% lower than in 1948. Livestock and livestock products returns were \$771,189,000 (7.1% lower than 1948), while crop returns were relatively unchanged at \$1,286,022,000 (1948, \$1,302,555,000). Government payments of \$9,220,000 (1948, \$13,611,000) constituted 0.5% of California's cash farm income. Total value of truck crops for 1949 was \$280,197,000 (a 2.5% increase over 1948), value of field crops was \$634,852,000 (a 4.9% decrease), and fruit and nut crop value was \$345,523,000 (a decrease of 16.5%).

Table I.—Leading Agricultural Products of California

Crop	1950	1949	Average, 1939-48
Cotton lint, bales . . . . .	930,000	1,268,000	501,000
All hay, tons . . . . .	6,442,000	5,771,000	5,599,000
Potatoes, bu. . . . .	48,075,000	45,120,000	31,698,000
Oranges, boxes . . . . .	40,400,000	41,930,000	48,453,000
Lemons, boxes . . . . .	12,500,000	11,630,000	13,055,000
Barley, bu. . . . .	57,600,000	47,038,000	39,403,000
Wheat, bu. . . . .	13,671,000	11,470,000	11,037,000
Beans, dry, bags (100 lb.) . . . . .	4,532,000	5,143,000	4,545,000
Peaches, bu. . . . .	29,460,000	35,211,000	29,161,000
Rice, bags (100 lb.) . . . . .	7,772,000	10,234,000	6,011,000
Pears, bu. . . . .	14,251,000	16,335,000	11,413,000
Apples, bu. . . . .	6,496,000	9,445,000	7,814,000
Grapes, tons . . . . .	2,411,000	2,485,000	2,583,000
Apricots, tons. . . . .	200,000	165,000	207,400

**Manufacturing.**—Employment in California manufacturing industries rose to 843,300 in Sept. 1950. Likewise civilian employment reached a peak of 4,488,000, accompanied by the lowering of unemployment to 143,000 in Oct. 1950 as compared with 317,000 unemployed in Oct. 1949. Retail sales for 1949 were approximately \$10,770,000,000. U.S. department of commerce estimates of new construction within the state in 1949 were \$2,441,400,000 (1948, \$2,863,700,000), of which \$541,900,000 was public construction and the remainder private building.

Table II.—Annual Average Employment in California Manufacturing Industries

Industry	Oct. 1950	Average 1949	Average 1948
Food and kindred products. . . . .	158,100	128,200	131,900
Aircraft . . . . .	102,100	80,500	75,000
Fabricated metals . . . . .	61,200	46,500	51,000
Lumber and wood products . . . . .	58,200	45,800	50,100
Apparel . . . . .	54,600	48,600	49,200
Machinery (except electrical) . . . . .	53,200	47,700	54,600
Printing and publishing . . . . .	48,600	47,300	46,200
Primary metals. . . . .	44,200	34,200	37,900
Stone, glass and clay . . . . .	35,900	31,600	33,300
Chemicals. . . . .	31,500	28,600	29,300
Furniture and fixtures . . . . .	30,100	23,000	24,500
Electrical machinery. . . . .	30,100	21,000	20,600

During 1949 an average of 700,100 wage and salary workers were employed in California manufacturing industries. In production of nondurable goods 319,900 were employed, and 380,200 in manufacture of durable goods. Total pay rolls for manufacturing industries amounted to approximately \$2,453,300,000 (1948, \$2,492,400,000).

**Mineral Production.**—Mineral production in California in 1949 was estimated at \$1,103,127,000, or 6.1% less than in 1948.

Table III.—Value of Principal Minerals Produced in California

Product	Value 1949	Value 1948
Petroleum. . . . .	\$753,248,000	\$823,696,000
Natural gas. . . . .	66,244,000	64,803,000
Cement. . . . .	57,394,000	57,742,000
Gold . . . . .	14,361,000	14,752,000

FILMS OF 1950.—*North from Monterey* (Paul Hoefer Productions). (D. C. Cr.)

**Cambodia:** see FRENCH UNION; INDOCHINA.

**Cameroons:** see BRITISH WEST AFRICA; TRUST TERRITORIES.

**Cameroun:** see FRENCH EQUATORIAL AFRICA; FRENCH UNION.

**Camp Fire Girls:** see SOCIETIES AND ASSOCIATIONS.

**Canada.** A member of the British Commonwealth of Nations, America north of the United States except Alaska. Provinces: Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, British Columbia, Prince Edward Island, Alberta, Saskatchewan and Newfoundland. Outside the provincial boundaries are the Yukon and the Northwest Territories, under federal jurisdiction.

Area, 3,843,144 sq.mi. Capital: Ottawa (*q.v.*). Largest English city: Toronto (*q.v.*). Largest French city: Montreal (*q.v.*), pop. (1948 est.) 1,096,000. Governor general: Viscount Alexander of Tunis. Prime minister: Louis Stephen St. Laurent. On June 1, 1950, the dominion bureau of statistics estimated Canada's population at 13,845,000, compared with 11,506,655 in 1941.

**History.**—*Politics.*—The Liberal government under Louis St. Laurent (*q.v.*) remained in power during 1950. Nine federal by-elections were held during the year, of which the Liberals held six and lost two to the Progressive-Conservatives. The Progressive-Conservatives held one. The Social Credit party divided its national party responsibilities between a national leader and a national president; renewed its political invasion of Saskatchewan; and continued its internecine warfare with *L'Union des Électeurs* (the Social Credit arm in Quebec province).

**Legislation.**—The second session of the 21st parliament was called on Feb. 16 and prorogued on June 30. It passed important legislation in the defense, social welfare, agriculture, veterans and hydroelectric fields. An emergency session of parliament met on Aug. 29 and recessed on Sept. 15. It passed legislation: (1) ordering railway strikers back to work and establishing minimum terms of settlement of the railway unions dispute; (2) recognizing by statute for the first time Canada's obligation to contribute overseas forces for collective defense under the United Nations charter and the North Atlantic treaty; and (3) appropriating \$300,000,000 to send arms to other participants of the collective security system. Other special session laws related to economic controls and consumer credit. The government set up two new crown companies: the Canadian Overseas Telecommunication corporation and Defense Construction, Ltd.

**Constitution.**—Dominion-provincial conferences aimed at amending the federal constitution were held during the year. The January meeting agreed that Canada should be able to amend the constitution without recourse to the British parliament, that matters of purely federal jurisdiction should be amendable by the federal parliament without reference to the provinces, that some provisions of the constitution required agreement by all ten provinces and others agreement only by a majority of the ten. A committee was set up to decide where each section of the constitution belonged, and just how the amendment machinery would affect each of the 147 provisions of the British North America act. By the end of the year, there was general agreement about the place of more than 100 of the provisions. One of the chief stumbling blocks was the section which assigned property and civil rights to the provinces.

**Dominion-Provincial Relations.**—The supreme court of Canada ruled that the federal government and the provincial governments could not legally exchange their legislative powers. The court however ruled that its judgment should have no effect upon existing dominion-provincial agreements. During the February-June session of parliament the federal government concluded agreements with provincial governments to implement legislation



on housing and on the transcontinental highway.

*United States-Canada Relations.*—The unsettled international situation drew Canada and the United States close together. A program of United States purchases of defense supplies in Canada on a reciprocal basis was worked out. All restrictions about the operation of warships on the Great Lakes were withdrawn, except that each country must advise the other on the number, disposition, functions and armaments of such ships. Canada approved: (1) the Niagara diversion treaty, to provide for the permanent regulation of the diversion of water from the Niagara for hydroelectric purposes; and (2) the Canada-United States tax convention acts of 1943 and 1944, to avoid double taxation. An agreement eliminated duplication of quarantine inspection requirements for ships and aircraft arriving from other countries.

*Defense.*—Military preparedness was a leading government activity during the year. Parliament unanimously passed Defense Minister Brooke Claxton's 251-clause National Defense act, which concluded a three-year effort to knit Canada's army, navy and air force into a single defense machine. Under the North Atlantic treaty, Canada fully equipped a Netherlands army division and undertook training of air personnel of North Atlantic treaty countries. The Canadian army held arctic manoeuvres, called Exercise "Sweetbriar" and Exercise "Sundog"; more than 44% of the 1949-50 defense appropriations were spent on the air force, the expansion of which included creation of five interceptor fighter squadrons to meet sneak air attacks. The navy was divided into two sections, one to study antisubmarine warfare and the other to train personnel, and the navy was increased until by May 1950 Canada had more men at sea proportionately than had the United States or the United Kingdom. Total army, air force and naval strength was increased from 57,079 to about 81,500 during the year. Secret research—from germ warfare to guided missiles—was conducted in eight laboratories of the Defense Research board. Plans to meet an atomic assault crystallized with the publication of a 46-page government manual on organization for civilian defense.

*Communism.*—Parliament amended the Official Secrets act by extending its provisions to include employees of government boards and commissions in Canada and Canadians outside Canada, by increasing the prison term for espionage from 7 to 14 years and by assuring that persons arrested under the act be fingerprinted. A Progressive-Conservative motion in parliament that communism be outlawed in Canada was defeated 147 to 32, though Canadians voted 7 to 1 in a Gallup poll to enforce registration of Canadian Communists. The royal Canadian mounted police drew up a list of key points which would be automatically placed under guard against sabotage in a war emergency.

*Veterans' Affairs.*—The federal government amended the Militia Pension act by retitling it the Defense Services Pension act, improved the method of computing pensions and gratuities and created a service pension board. The benefits of the War Veterans' Allowance act were extended to British and other Allied veterans with more than 20 years' residence in Canada. Hospitalization and treatment regulations were widened. By 1950 annual postdischarge rehabilitation benefit payments had fallen to \$14,045,500, and Veterans' Land act payments to \$30,500,000.

*Economic Conditions.*—During the first half of 1950 Canada experienced a boom. During May industrial production was 84% greater than in May 1939, 3% greater than in May 1949, and only 2% below peak World War II production. The outbreak of hostilities in Korea modified the boom: business optimism changed to anxiety. Nevertheless, output of iron, steel, gasoline and coal, and production of rubber, leather and wool, were higher in 1950 than during World War II. Production of aluminum, copper, lead, nickel, zinc, chemicals, cotton goods and clothing fell below World War II levels. The cost of living rose to the all-

time high of 170.7 points by November.

*Economic Controls.*—In March the federal government announced the immediate dropping of steel price controls, but in November steel shortages brought a return of compulsory allocation. The government announced federal rent controls would end April 30, 1951. Import bans on U.S. coffee, radios and bathroom fixtures were lifted, which left only a short list of manufactured U.S. products under import control. However, about 90 Canadian products were under close export control, because of Anglo-Canadian food contracts, steel shortages and the possible use of Canada as a back door for reshipment of U.S. goods to Communist countries. The special session of parliament gave the government power, without the declaration of a state of emergency, to control prices, production and distribution of materials within fields to be prescribed by orders in council.

*Taxation.*—The 1950 federal budget gave little tax relief. Corporation taxes were reduced slightly by making 70% ownership necessary before the 10% tax on the first \$10,000 of income applied; petroleum production, refining and marketing were spurred by special tax relief applicable to 1953. The 5% excise tax on soap was repealed; the sales tax on ice cream, fresh milk drinks, prepared whipping cream and articles and materials for use by bona fide public institutions was also repealed.

*Labour Relations.*—The biggest single event in the labour field was the intervention of the federal government in the dispute between management and employees of the Canadian National and the Canadian Pacific railways. At a special session of parliament, the employees were ordered back to work after a 9-day strike, and management and unions were requested to continue their negotiations. Arbitration was undertaken, and on Dec. 19 the government arbitrator announced his decision: a wage increase of seven cents an hour was awarded, effective from Aug. 30, 1950, and a 40-hr. (5-day) week from June 1, 1951. Two days later the railways applied for a 5% freight rate increase, effective at once, and a further unspecified increase effective June 1, 1951.

*Agriculture.*—During 1950, cattle and hog slaughterings and dairy output fell below the World War II rate. Grain production

EVACUATION TRAIN crowded with women and children leaving the flooded areas of Winnipeg, Man. In May 1950, more than a third of the city's residents abandoned their homes as waters from the swollen Red river continued to rush against weakened dikes





was well ahead of the 1943-49 production rate, but October frosts cut deeply into expected production. Wheat estimates of 544,000,000 bu. dropped to 461,730,000 bu., which was still above the 1939-49 annual average of 394,000,000 bu. But the frosts filled the 1950 crop with much poor-quality wheat. Dairy farmers were worried by the expanding sales of margarine and by the privy council decision which sustained a judgment of the Canadian supreme court that the sale of margarine was a matter of provincial jurisdiction. Federal government price support was extended to eggs and butter. Price support operations (for potatoes, apples, dried beans, powdered milk) for the 1946-50 period cost the federal government slightly more than \$10,000,000. The gross value of the 1949 field crops was \$1,420,000,000, or 16% less than for 1948. The cash income of Canadian farmers for the first six months of 1950 was estimated at \$870,516,000, or 18% below the figure for the similar 1949 period.

**Communications.**—The public-owned Canadian Broadcasting corporation ended the 1949-50 fiscal year with a record deficit of \$243,746. Station CBE was opened in Windsor, Ont., 45th in the C.B.C. series. The corporation banned radio bingo and give-away shows early in 1950.

Initial C.B.C. television construction was begun in Toronto and Montreal at a cost of \$4,000,000, with black and white TV planned for Sept. 1951. With the coaxial cable linking Montreal and Toronto to pass through Ottawa, the capital city was promised TV by 1952. In Sept. 1950 there were 19,497 television receivers in Canada on the fringe of U.S. TV broadcasts.

**Natural Resources.**—The biggest individual developments of 1950 came in the oil fields of Alberta and the iron ore deposits of Quebec-Labrador. In Sept. 1950 all-Canada oil output was 2,724,985 bbl. compared with 2,167,332 bbl. in Sept. 1949. During the Jan.-Sept. 1950 period 20,296,851 bbl. of oil and 48,602,675,000 cu.ft. of gas were produced against 15,709,323 bbl. and 42,410,000,000 cu.ft. for the same 1949 period.

Additional test drilling proved that Quebec-Labrador deposits ran to a minimum of 400,000,000 tons of high-grade open-pit ore. Mineral discoveries included vermiculite in Ontario and perlite and quartz crystals in Newfoundland. Canadian mineral production in 1949 reached a record value of \$890,200,000, 8.5% higher than 1948 production.

**Arctic Developments.**—Military activity throughout the arctic was supplemented by much scientific activity. The royal Canadian air force undertook a series of long-range navigational flights over the north pole to develop periscopic sextants to eliminate navigation blisters on aircraft; McGill university (Montreal, Que.) geographers proved that Hudson bay freezes over in mid-winter, contrary to previous beliefs; scientists created a pre-fabricated self-contained arctic hut which could be erected in a few hours, and a lubricant usable in -50° F. weather. United States and Canadian authorities co-operated in a fifth weather station on the northeast tip of Ellesmere Island within 500 mi. of the north pole. The dominion observatory erected Canada's first arctic seismic station at Resolute bay on Cornwallis Island.

**Eskimos and Indians.**—Federal legislation during 1950 extended the vote to Canada's 5,000 Eskimos. To promote Eskimo education, the department of mines and resources issued a third edition of a 95-page volume, *The Book of Wisdom for Eskimo*, which gave simple health and conservation lessons, and supplemented the book with four humorous film strips which told Eskimos about the outside world and helped them solve problems in their own lives.

Indian war veterans became eligible to vote in federal elections, and monthly allowances to aged Indians were raised from \$8 to \$25. Further clarification of the Indian act to fit the Indian for full citizenship was postponed until 1951. Alberta Indians discovered that some of their reserves were potential oil fields,



CANADIAN RAILROAD WORKERS massed for a parade in Toronto, Ont., after a nation-wide strike for higher wages was called on Aug. 22, 1950

but exploration had located no wells by the end of the year. Saskatchewan Indians were given special lessons in gold and uranium prospecting, and Ontario Indians benefited from a federal-provincial agreement to manage and develop Ontario fur resources. The 21 Indian health services centres throughout the dominion were increased to 25; parliament voted \$11,694,839 for 1950-51 Indian-Eskimo medical services.

**Finance.**—The 1950-51 budget estimated revenues at \$2,430,000,000 (1949-50: \$2,549,000,000) and expenditures at \$2,410,000,000 (1949-50: \$2,438,000,000). In 1950 net debt stood at \$13,421,405,490 (1939: \$3,152,559,314). By October Canadian reserves of U.S. dollars reached \$1,600,000,000 (Nov. 1947: \$480,000,000) and the Canadian dollar was unpegged.

**National Income.**—Net national income for 1949 (with 1948 and 1939 in parentheses): salaries, wages and supplementary labour income \$7,630,000,000 (\$7,113,000,000) (\$2,583,000,000); military pay and allowances \$115,000,000 (\$82,000,000) (\$32,000,000); investment income \$2,373,000,000 (\$2,348,000,000) (\$783,000,000); agriculture and unincorporated businesses \$2,859,000,000 (\$2,912,000,000) (\$891,000,000).

**Wages and Hours.**—Average weekly salaries and wages during Aug. 1950 (Aug. 1949 and 1942 monthly average in parentheses): manufacturing \$46.78 (\$44.04) (\$29.17); logging \$42.36 (\$41.06) (\$20.34); mining \$54.81 (\$51.42) (\$34.79); communications \$42.51 (\$40.71) (\$28.13); transportation \$53.19 (\$51.52) (\$35.69); construction and maintenance \$42.96 (\$41.14) (\$26.45); services \$29.05 (\$27.90) (\$17.37); trade \$39.41 (\$37.52) (\$24.07); finance \$42.63 (\$41.50) (\$30.20). Average hours worked per week during Aug. 1950 (Aug. 1949 and 1945 monthly average in parentheses): manufacturing durable goods 42.5 (41.9) (44.3); manufacturing nondurable goods 42.2 (41.7) (43.7); coal mining 39.9 (39.0) (40.2); metallic ore mining 45.3 (45.1) (45.8); building construction 40.3 (41.1) (40.4).

**Employment.**—On March 4, 1950 (compared with year end of 1946 in parentheses), there were 940,000 agricultural workers (1,186,000), 3,856-



000 nonagricultural workers (3,466,000) and 312,000 unemployed (143,000). By Nov. 1950 the number of unemployed had fallen to 167,000.

**Co-operatives.** In 1949 (1948 figures in parentheses) 2,736 (2,608) co-operatives with 1,219,712 (850,608) members did \$1,001,437,990 (\$780,048,955) of business.

**Tourism.**—In 1949 tourists spent \$288,000,000 in Canada (1948: \$280,000,000). During the first six months of 1950 there were 592,369 vehicular entry permits, compared with 573,076 and 503,960 permits for the same 1949 and 1948 periods, respectively.

**Trade.**—Exports for Aug. 1950 (compared with monthly average for 1949 in parentheses) ran to \$257,100,000 (\$249,400,000); imports for Aug. 1950 (compared with monthly average for 1949 in parentheses) to \$259,480,000 (\$230,100,000). The over-all trade deficit for the first eight months of 1950 was \$14,300,000 compared with a surplus of \$83,700,000 for the same 1949 period.

**Industry.**—Production for Aug. 1950 in six lines (with the 1949 monthly averages in parentheses): synthetic rubber, 11,150,000 lb. (8,710,000); shoes, 2,027,000 pairs (3,021,000); wood pulp, 732,800 tons (631,300); steel, 281,300 tons (265,600); automobiles, 24,270 (24,220); radios (July), 56,500 (62,800). Gross manufacturing for 1949 totalled \$12,378,731,000 (\$502,000,000 more than 1948). Total private and public investment for 1950 was estimated at \$3,600,000,000 or \$200,000,000 more than for 1948.

(See also articles on individual Canadian provinces and territories; also ACCIDENT PREVENTION; CANALS AND INLAND WATERWAYS; CHAMBERS OF COMMERCE; CONSUMER CREDIT; EDUCATION; ELECTRICAL INDUSTRIES; ELECTRIC TRANSPORTATION; FISHERIES; FORESTS; HORSE RACING; HOUSING; INDUSTRIAL HEALTH; LABOUR UNIONS; LAW; LITERARY PRIZES; MUNICIPAL GOVERNMENT; NEWSPAPERS AND MAGAZINES; POST OFFICE; PUBLIC UTILITIES; RIVERS AND HARBOURS; RURAL ELECTRIFICATION; SOCIAL SECURITY; STRIKES; THEATRE; VETERANS' ORGANIZATIONS; WILDLIFE CONSERVATION.)

FILMS OF 1950.—*Neighbors to the North* (Teaching Film Custodians, Inc.).

**Canadian Literature.** **Fiction.**—In 1950 four English-Canadian novelists used contemporaneous themes to stress various Canadian areas: Thomas H. Raddall's *The Nymph and the Lamp* was laid on Sable Island off Nova Scotia; Stanley C. Tiller's *Stormswept* described Newfoundland life; Edward McCourt's *Home Is the Stranger* and Flos J. Williams' *Fold Home* both dealt with western Canadian prairies. Grace Campbell reported the problems of a village church minister in *The Tower and the Town*. Historical novels included Louis Vaczek's panoramic *River and Empty Sea*, based on the Canada of the late 1600s; W. A. Plenderleith's lively *Conflict*, going back to the American Revolutionary War; Harwood Steele's *Ghosts Returning*, a brisk account of red-coated mounted police work on the prairies in 1889. *Elizabeth*, by Dick Diespecker, was a character novel with settings in Africa, London and Canada around the turn of the 20th century. Frances Sarah Moore wrote two light romances, *Fair Is My Love* and *Gilded Challenge*. There were English translations of two major 1949 French-Canadian novels, *The Plouffe Family* by Roger Lemelin and *The Outlander* by Germaine Guevremont, translated by Eric Sutton.

**Nonfiction.**—Several important self-revelatory books appeared. *I Kept My Powder Dry* by John Coburn described 50 years of Protestant ministry in Ontario, beginning in 1893. *As the World Wags On* by Arthur R. Ford covered about the same time and ground in the Canadian newspaper field. The most important 1950 biographies were Lorne Pierce's *E. Grace Coombs: Artist*, G. H. Needler's *Goethe and Scott*, H. M. Urquhart's *Sir Arthur Currie* and B. P. Babkin's *Pavlov*.

There were a number of significant books about aspects of World War II. Wilfrid Eggleston reported *Scientists at War*, Scott Young described the Salvation Army's *Red Shield in Action*, Joseph Schull sailed *The Far Distant Ships* of the Canadian navy, R. M. Hickey recalled *The Scarlet Dawn* of his chaplainship and Robert England analyzed the sociological problems of *Twenty Million World War Veterans*. There were side lights of the war in *Canada in World Affairs: September 1941 to May 1944* by C. C. Lingard and R. G. Trotter, and in *Canada in World Affairs: From Normandy to Paris, 1944-1946* by F. H. Soward.

The rest of the 1950 crop of nonfiction books was varied. Dean E. McHenry's *The Third Force in Canada* was a detailed political study of the Co-operative Commonwealth federation (the Socialist party); W. L. Morton's *The Progressive Party in*

Canada similarly studied the agrarian revolt on the prairies in the 1920s. History was prominent: *The Changing Commonwealth* by F. H. Soward, *A Short History of Canada* and *A History of Canadian External Relations* by G. P. de T. Glazebrook, *Empire and Communications* by H. A. Innis and *Empire of the North Atlantic* by G. S. Graham. Books with religious themes included G. R. Cragg's *From Puritanism to the Age of Reason*, Sister Mary Pauline Fitts's *Hands to the Needy* (the Grey nuns), D. A. MacLennan's *A Preacher's Primer*, George C. Pidgeon's *The United Church of Canada*, A. E. Cliffe's *Let Go and Let God* and Lucille A. Neal's *A Way of Life*.

**Poetry and Drama.**—Leading books of poems included James Wreford's *Of Time and the Lover*, Edna Jacques's *Fireside Poems*, J. A. Ross's *The Singer and His Song* and Hyman Edelstein's *Spirit of Israel, and Other Poems*. There were several chapbooks, best of which were Peter North's *Harshly the Rain Fell*, A. S. Bourinot's *Treasures of the Snow*, Goodridge MacDonald's *Beggar Makes Music*, Kathryn Munro's (Mrs. Joseph Freeman Tupper) *Tanager Feather*, Grace Jacombe's *Chalk Dust* and G. Drayton's *Three Meridians*. Robertson Davies' rousing *At My Heart's Core*, set in the Ontario of 1837, was the only play published.

**Juvenile.**—The year 1950 saw the heaviest and best crop of boys' and girls' books ever published in Canada. Fiction with outdoor settings and action had top billing: *Fire Patrol* by Dickson Reynolds (Helen D. Reynolds) was about forest fire fighting; *The Cave at Cormorant Lake* by Frank L. Houghton centred around World War II spies at Halifax; *Abitibi Adventure* by Jack Hambleton had a pulp and paper mill as its theme; *The Mystery Horse* by Louise Riley featured ranching on the prairies; and *The Silent Gulls* by G. E. Tait described game protection along the shores of Lake Huron. T. H. Raddall's *Son of the Hawk* went back to Nova Scotia in 1770, and George F. Clarke's *David Cameron's Adventures* went back to early New Brunswick; both were gripping historical novels. Juvenile nonfiction included books about people: *Canadians*, the lives of 20 great Canadians, by L. J. Henry; *Bay of the North*, the life of Pierre Radisson, by R. Syme; *Football Stars* by Ron McAllister. Maynard Hallman's *Canadians at Work* described Canada's industrial life; Donald Dickie's *The Great Adventure* was an enthralling history of Canada; Foster Hewitt's *Hello Canada! and Hockey Fans in the United States* stated the merits of amateur hockey; L. Knott's *The Children's Guide to Calgary* was packed with western prairie and foothill lore. (See also LITERARY PRIZES.)

(C. CY.)

**Canals and Inland Waterways.** Of the estimated 65,000 mi. of potential inland waterways in the United States, approximately 28,000 mi. had been improved by the end of 1950 for navigation by commercial and pleasure craft. All operations and maintenance of the system, which included 185 harbours and 400 locks, is the responsibility of the corps of engineers, department of the army, under the direction of the congress.

Principal components of the over-all, interrelated system of rivers, lakes, bays and canals include the Great Lakes, the Mississippi river system, the Illinois waterway, the New York state canal system, the Cape Cod canal, the Chesapeake and Delaware canal, the Atlantic Intra-Coastal waterway, the Gulf Intra-Coastal waterway, the Sacramento river system, and the Columbia river system.

The River and Harbor act of 1950 provided \$113,760,500 for the construction of 51 authorized projects in 30 states. An additional \$62,583,906 was appropriated for maintenance, operation and care of the nation's vast network of ports and inland waterways, and \$3,000,000 for planning, preliminary examinations and surveys of new projects. Also in addition, the lower Mississippi





MASSIVE DOWNSTREAM GATES of the Chain of Rocks canal at Granite City, Ill. One of a pair of locks to be completed in 1951, they were to be used for raising and lowering river traffic to levels of the Mississippi channel above and below the hazardous Chain of Rocks by-passed by the canal

river and the Sacramento river in California received separate appropriations of \$61,400,400 and \$2,016,500 respectively for construction, maintenance and operations.

Among the principal projects on which construction was begun or continued during the year were the McNary lock and dam and the Chief Joseph dam on the Columbia river in the interest of navigation, power development and irrigation; the New York and New Jersey channels; Demopolis lock and dam on the Warrior river, Alabama; Houston ship channel, Texas; the Neches and Angelina rivers and the Sabine-Neches waterway in Texas; the lateral canal and lock project on the Mississippi river at Chain of Rocks, near St. Louis, Mo.; Morgantown dam and lock no. 2 on the Monongahela river in Pennsylvania; Cleveland harbour; Missouri river between its mouth and Sioux City, Ia.; Pearl river, Mississippi and Louisiana; San Diego river and Mission bay, California; Jim Woodruff lock and dam, Apalachicola river, Florida. (See also FLOODS AND FLOOD CONTROL; RIVERS AND HARBOURS.)

According to preliminary estimates, the total net water-borne commerce of the United States, eliminating all known duplications of traffic between rivers and ports, was 740,044,573 short tons in the calendar year 1949. Ocean traffic, foreign and coastwise, aggregated 326,729,001 tons.

United States water-borne commerce on the Great Lakes totalled 145,591,636 tons, aggregating 97,503,348,000 ton-miles. Inland waterway commerce, excluding the Great Lakes, totalled 41,892,353,000 ton-miles, including the deep-sea traffic on the Mississippi river below Baton Rouge, La. Of this total, the Mississippi river system accounted for 27,399,192,000 ton-miles.

Preliminary tonnage figures indicated that the following ten were the leading U.S. ocean ports in 1949: New York, N.Y., 128,581,891; Houston, Tex., 36,887,488; Philadelphia, Pa., 34,728,-

541; Baltimore, Md., 33,964,898; New Orleans, La., 29,745,885; Port Arthur, Tex., 23,998,114; Norfolk, Va., 21,179,287; Beaumont, Tex., 20,627,182; Boston, Mass., 15,812,755; Los Angeles, Calif., 15,674,286. (G. H.B.)

**Canada.**—Pressure to create a canal through Chignecto isthmus between Nova Scotia and New Brunswick was increased by the formation of the Chignecto canal committee, which presented a brief to the federal government urging action on the project. Amendments to the shipping act gave police power to curb powerboat speeding in all Canadian canals. Hydraulic gate mechanisms were installed in various Cornwall canal locks on the St. Lawrence river to increase their efficiency. Importance of the St. Lawrence canal system was emphasized when in November a three-day break in the Lachine canal cost shipowners an estimated \$1,500,000. Canal traffic tonnages during the April–October navigation season (with similar 1949 tonnages in parentheses) were: Sault Ste. Marie (Canadian-U.S.) 93,280,572 (91,420,487); Sault Ste. Marie (Canadian only) 1,886,881 (1,979,080); Welland 12,400,905 (11,699,335); St. Lawrence 8,648,438 (6,993,058).

(C. Cy.)

**Great Britain.**—In Aug. 1950 the British Transport commission made its second annual report to the minister of transport, covering the year 1949. A disappointing revenue position was disclosed. In the interests of economy and to eliminate overlapping services, the integration of rail, road and inland waterway services was pressed forward as rapidly as circumstances would allow. A rate plan for merchandise traffic was considered and a draft outline of principles prepared—such principles to be common, wherever possible, to all three services, in particular for classification, conditions of carriage, regulations and chargeable distances. The transport commissioner's report made a useful distinction between canal-owning, on the one hand, and waterway-carrying on the other. On canal-owning in 1949, the commission spent £1,900,000 in working expenses and secured £1,800,000 in gross receipts; in the business of waterway-carrying, working



expenses amounted to £800,000 and gross receipts to £700,000. The deficiencies thus revealed were before reckoning appropriate proportions of the commission's central charges. The commission had added to its fleet in Jan. 1949 by purchasing 172 craft. The net deficit on the year's working (in waterway-carrying) was £86,000 compared with £66,000 in 1948. In canal-owning, the deficiency was slightly reduced. The drought that occurred in 1949 had an adverse effect upon canal-owning revenue, which came mainly from tolls. The closing by the National Coal board of colliery basins on the Staffordshire and Worcester section of the waterways also reduced the tolls.

**France.**—Co-ordination and reconstruction schemes were developed—and in some cases implemented—to repair war damage to the waterways and also to permit the passage of much larger barges. Certain canals connecting with Belgium, Paris and Strasbourg were to accommodate barges of 600 tons and even 1,350 tons as against the old French canal limit of 300 tons. The schemes included major construction projects at the following locks: Jeu de Mail, near Dunkirk; Flandres and Fontinettes, near St.-Omer; Don, between Lille and Lens; Grand Carré at Lille; and Lens.

**Netherlands.**—In 1949 figures were published in the Netherlands showing that inland shipping traffic in 1948 was appreciably higher than in 1947 but still a long way below the pre-World War II level: approximately 24,000 vessels arrived from Belgium, Germany, France and Switzerland, compared with 15,000 in 1947 and 50,000 in 1938.

**Western Germany.**—Traffic through the Kiel canal during Sept. 1950 reached a post-World War II record of 1,790,382 tons, representing 3,670 vessels of which 2,936 were German, 356 Norwegian, 219 Danish and 159 Finnish. (*See also* AQUEDUCTS.)

(A. H. J. B.)

**Canary Islands:** *see* SPAIN.

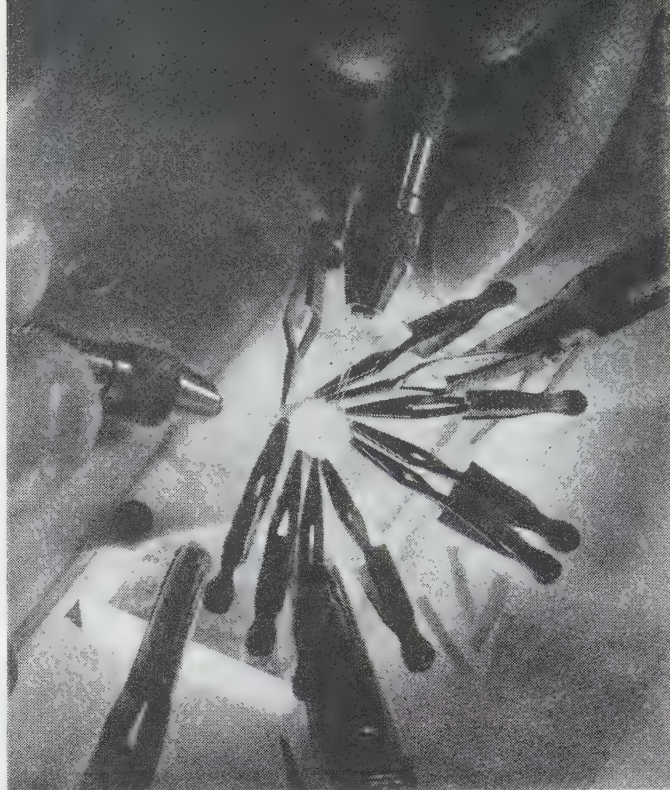
**Canasta.** This remained the most-played card game in the United States at the end of 1950; it was estimated that 22,000,000 were playing it. It had been the most popular game of Argentina and (in various forms) of other South American countries since 1947 or earlier. English players took up the game during 1950 and it spread rapidly there, though not so rapidly as it had in the United States.

However, toward the end of 1950 the sale of special equipment for playing canasta, and of canasta playing cards, dropped so sharply that some authorities believed the game had passed its peak and thereafter would lose rather than continue to gain adherents.

An international code of canasta laws, similar to the international bridge laws, was written in 1950, for publication in the spring of 1951. Walter L. Richard of New York, co-chairman (with Oswald Jacoby of Dallas, Tex.) of the National Canasta Laws commission of the U.S., went to Argentina in the summer of 1950 and negotiated with the similar Argentine laws commission, so that differences in the methods of playing in the respective countries were removed.

(A. H. Md.)

**Cancer.** For years students of cancer had attempted to discover the cause of cancer, that is, the reason for the changes, and what these minute changes are which enable cells to grow freely in the body without normal tissue controls that keep liver cells in the liver and brain cells inside the skull. Changes in chromosomes of the tissues of the body were accused of undergoing a variety of alterations which it was assumed were responsible for the growth capacity of the cancer cell, but during 1950 this theory received a serious blow in an article by S. Timonen and E. Therman in which the changes in mitotic mechanism of cells was studied on normal human tissues. Normal



TRANSPARENT CHAMBER for studying tumorous tissue in living mice under the microscope, a technique in use at the National Cancer Institute during 1950

human cells were obtained by curettage of the healthy endometrium and compared with cells from human malignant tumours. It had been considered characteristic of neoplastic tissue that more cells are dividing than in corresponding normal tissue. But in the endometrium the frequency of mitosis is about the same as in cancer tissue. Comparing the chromosomes of normal tissues showed many alterations which were thought to be characteristic of cancer. Comparison of the two types of tissues showed that in cancer there are a greater number of alterations in number and structure of the chromosomes, but these may be duplicated in normal tissues. Actively dividing cancer cells display chromosome numbers ranging from 12 to a high number, but these are also seen in normal structures.

While the most constant feature characterizing all cancer cells is the general acceleration in the division rate, this is present also in normal structures. Accelerated speed in chromosomal division is the most evident difference in relation to the slower rate of intrachromosomal changes. The investigations therefore suggested that the origin of cancer is not in the chromosomes but in those structures known as plasmagenes; *see* for example C. D. Darlington. As a matter of fact, W. R. Earle and associates had showed several years before that cells from normal tissues, if cultivated over a considerable period of time, would assume all the capacities of cancer cells.

**Cytologic Diagnosis.**—Another subject of wide interest was the extraordinary development of cytologic diagnosis of accessible cancers. This technique permitted a great increase in diagnosis of early types of accessible cancer, including cancer of the lung which had almost always been diagnosed too late for effective therapy, cancer of the throat and especially cancer of the pelvic organs, where smears can be taken of the surface cells of a growth from the rectum, cervix, and so on. It was obvious that when a diagnosis is based upon a smear only, the possibility of error is greater than when an actual piece of tissue is obtained, but the patient with a positive smear diagnosis is often willing to have a small surgical biopsy to confirm the diagnosis before extensive or mutilating surgery is done. (*See also* CHEMOTHERAPY; MEDICINE; SURGERY; X-RAY AND RADIOLOGY.)

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the Mitotic Mechanism of Human Cancer Cells," *Cancer Research*, 10:431-439 (July 1950); C. D. Darlington, "The Plasmagene Theory of the Origin of Cancer," *Brit. J. Cancer*, 2:118-126 (June 1948); Seymour M. Farber, Allen K. McGrath, Jr., Mortimer A. Benioff and Milton Rosenthal, "Evaluation of Cytologic Diagnosis of Lung Cancer," *J.A.M.A.*, 144:1-4 (Sept. 2, 1950).

FILMS OF 1950.—*From One Cell* (Sturgis-Grant Productions, Inc.; American Cancer Society, Inc.). (F. C. W.)

**Candy.** Candy sales in the United States in 1950 amounted to about \$1,000,000,000 on the wholesale level. This was higher than the 1949 value of almost \$900,000,000 and only slightly below the record \$1,001,000,000 reported for 1948. The retail volume was approximately \$2,000,000,000.

Expressed in tonnage, the 1950 confectionery business amounted to 2,780,000,000 lb., compared with 2,600,000,000 lb. in 1949 and the all-time production and sales record of 2,804,000,000 lb. established in 1944, when the armed services took tremendous quantities of candy.

More ten-cent candy bars were put on the market and sold successfully in 1950 than during any previous year, with almost every important bar goods house either offering at least one outstanding dime seller or preparing to do so before the turn of the year. Other important developments of the year were (1) the return of the armed forces as substantial buyers of candy, with the industry and the services working out a new set of confectionery specifications; (2) increased emphasis on the mass selling of candy by syndicates and supermarkets; (3) a concerted move taken by large drug chains to sell an increased volume of candy; (4) the creation of special television confections (especially adapted for consumers to eat while watching television); (5) development of new machines, with special emphasis on wrapping equipment; (6) the acute shortage of Cellophane; (7) the return of Europe as a major source of chocolate and candy equipment, with particularly notable strides having been made in this direction by Belgium and Italy; and (8) the increased flow of candies from the continent, especially from England.

Candy bars, together with five- and ten-cent specialties, comprised considerably more than 50% of all confections made and sold in 1950. Package goods accounted for 22%, bulk goods 20% and penny goods less than 4%.

Chocolate-coated and chocolate-containing candies continued to dominate the consumer demand. Moulded (solid) chocolate goods were also in strong demand, although slightly below the 1948 records. The \$1.00 to \$1.50 per pound box of candy was the most popular range in the fancy goods field, with retail manufacturers charging \$1.25 per pound box in most markets for minimum price chocolate-coated goods. Cellophane window boxes, weighing from six ounces to one pound and containing various types of candies, were among the most popular in mass selling establishments. Panned goods led the field in this category. (See COCOA.)

As in previous years, the United States continued to be the greatest candy-producing country in the world, although Great Britain still led the world in per capita consumption. The per capita consumption in the United States in 1950 was slightly more than 18 lb. In Great Britain it was 22 lb.

More than 5,000,000 lb. of candy were imported into the United States in 1950, compared with 3,364,000 lb. in 1949 and 2,936,000 lb. in 1948. Candy exports from the United States declined to an estimated 10,000,000 lb. in 1950, compared with 13,359,000 lb. in 1949. (H. D. G.)

**Cane Sugar:** see SUGAR.

## Canning Industry.

The United States and territorial pack of canned fruits, juices, vegetables, fish,

milk and fruit and vegetable specialties in 1950 totalled approximately 560,000,000 standard cases (preliminary estimate) compared with 534,000,000 standard cases in 1949. These figures do not include poultry and other unclassified specialty products packed by the canning industry. Preliminary statistics for the 1950 pack compared with that for 1949, in terms of millions of standard cases, were shown as follows:

	1950	1949
Fruits . . . . .	80.0	79.0
Fruit juices . . . . .	60.0	62.0
Vegetables . . . . .	175.0	178.0
Fruit and vegetable specialties . . . . .	110.0	100.0
Milk . . . . .	68.8	66.2
Fish . . . . .	29.0	25.7
Meat* . . . . .	36.9	23.2

\*Total pounds divided by factor of 45.

Small to moderate increases were noted for 1950 in the packs of fruits, fruit and vegetable specialties, milk and fish, with a large increase in the case of canned meats. Packs of fruit juices and vegetables showed small decreases. On the basis of year-end estimates, the total pack increase for 1950 was 4.8%.

As in 1949, retail prices of canned fruits and vegetables, according to data from the U.S. bureau of labour statistics, remained closer to pre-World War II levels than other foods, showing an increase from the 1935-39 base years of about 45% as against 100% for all foods.

The bureau of agricultural economics of the U.S. department of agriculture estimated the per capita consumption of canned fruits and vegetables at 144% of the 1935-39 average.

The International Tin Study group estimated the world production of metallic tin for Jan.-June 1950 at 86,000 long tons with consumption at 70,700 tons during this period. Estimated production and consumption for 1950 were 165,000 tons and 139,000 tons, respectively. Production and consumption for the year 1949 were 168,800 tons and 119,200 tons, respectively. World tin stocks (metallic tin and concentrates) in June 1950 were 218,500 tons which included 100,000 tons (estimated) transferred to the U.S. stock pile.

The price of tin on the world market on Nov. 1, 1950, stood at £1,000 per ton, which represented a 340% increase over the average price of £226 for 1939. Substantial price increases above this point were made before the end of the year. Hostilities in Asia provided cause for concern regarding continuation of the Malayan tin supply. (See also TIN.)

In Dec. 1950 representatives of primary users of tin met with the National Production authority to discuss a pending tin conservation order designed to reduce over-all tin consumption beginning in Jan. 1951. It was understood that NPA was looking to a year's reduction in tin consumption of approximately 25%.

Technological developments in the canning industry showed marked advance during 1950. In particular, attention was directed toward the perfection of equipment adapted to the purpose of "high-short" (high temperature-short time) processing. Most existing equipment of this kind utilizes the principle of rotation or agitation of the can contents during processing. Other types involve the rapid treating of homogeneous products followed by handling of the sterilized product and sealing of the cans under aseptic conditions.

Progress was made on fundamental studies relating to sterilization by means of cathode rays; this investigation promised to be more fruitful than studies on other electronic methods that had been tested. While no commercial application to canning was in sight it was demonstrated that cathode rays would destroy all microorganisms in food products upon exposure of a few seconds with a temperature increase of only a few degrees Fahrenheit.



Nutrition studies supported by the National Canners association and the Can Manufacturers institute were continued with emphasis on a survey of nutritional factors in canned foods for special dietary use. A summary of a principal phase of the eight-year program was prepared for use by nutritionists, dietitians, home economists and others, under the title "Canned Foods in Human Nutrition." (E. J. C.)

**Great Britain and Commonwealth.**—Figures published during 1950 by the ministry of food showed that the production of canned fruit in the United Kingdom increased from 45,200 long tons in 1947 to 89,100 tons in 1949, and of canned vegetables from 242,200 tons in 1947 to 300,800 tons in 1949. Canned soup production fell from 114,100 tons to 71,200 tons, but canned homogenized baby foods increased from 4,300 tons to 7,200 tons.

The canning packs of the following countries in 1950 were roughly proportional to their tin-plate consumption figures which were, in long tons: U.K. 440,000; Canada 190,000; Australia 110,000; South Africa 48,000; western Germany 140,000; France 120,000; the Netherlands 75,000; Italy 55,000; Denmark 30,000; Belgium 25,000; Norway 20,000; remainder of Europe 75,000.

A new can-making factory with a capacity of 300,000,000 cans yearly was built in Canada by the American Can company.

The Commonwealth Scientific and Industrial Research organization investigated the distribution in southeastern Australian waters of tuna, pilchards and other fish for canning. A steady increase in fish canning was noted in western Australia, but the Tasmanian industry experienced difficulties when the British ministry of food ceased to import canned barracuda. The market for dried apples diminished and several factories in Tasmania switched to canning.

In South Africa, the output of canned fish, fish oil and fish meal continued to rise and reached an annual value of £2,000,000. The record production of 5,500,000 thirty-ounce cans of pineapple was reached. The Deciduous Fruit board granted £8,000 and South African canners were invited to contribute a similar amount toward a pilot research cannery. At Thika, Kenya, a new pineapple cannery opened with an annual capacity of 20,000,000 cans.

The British government planned to set up cattle ranches, a canning factory and cold storage in Bechuanaland. A new cannery, costing £500,000, with a capacity of 80,000 cans of beef daily, was opened in Tanganyika in September.

FILMS OF 1950.—*Vitamin Rivers* (American Can Company).

(G. H. M. F.)

**Cape Verde Islands:** see PORTUGUESE COLONIAL EMPIRE.

**Carnegie Trusts:** see SOCIETIES AND ASSOCIATIONS.

**Carnivals:** see SHOWS.

**Caroline Islands:** see TRUST TERRITORIES.

**Cartography.** Cartographic achievements in 1950 were primarily in the nonmilitary field. Use of maps in the United States census, extensive British colonial surveys, and ambitious private and governmental undertakings in the preparation of special atlases were typical of the accomplishments during the year.

**United States.**—The 1950 census involved extensive cartographic preparation by the census bureau that extended over several years. Each census enumerator was provided with a map of the area to be canvassed which ranged from large rural areas to small city tracts. In all, 400,000 maps were prepared. Where suitable, they were direct copies of existing commercial or government maps. In other cases maps were specially compiled for the census from source material available in the census bureau's collection of more than 1,000,000 maps and aerial photographs. The

publication of census data involved further extensive cartographic work in the preparation of many hundreds of maps and cartograms to supplement the statistics.

In May 1950 the U.S. geological survey issued its new official standards for symbolization and style of large-scale maps. Under these specifications linework was finer and symbols embraced topographic features not formerly shown on American maps. The trend toward certain European methods, such as the use of auxiliary contours, was a striking change in the new specifications.

Considerable progress in preparation of shaded contour maps was made by the geological survey during 1950. A special map of the Great Smokies National park, which included geologic as well as topographic data, was outstanding among the shaded maps published in 1950. In addition six standard quadrangles, seven sheets of the Alaska Reconnaissance Topographic Series (1:250,000 scale), two special large-scale maps and three maps of a new state base series at 1:500,000 scale were issued with shaded relief in 1950. The shaded edition of standard large-scale quadrangle maps would ultimately total about 100 sheets selected to include striking examples of various land forms.

The October number of the *Geographical Review* (American Geographical Society of New York) contained the first map of a projected Atlas of Diseases to be published by the society. The map, showing world-wide distribution of poliomyelitis, 1900–50, was prepared by Jacques M. May and was accompanied by a brief text published on the back that listed sources and gave additional data on the disease.

In recognition of the growing need for adequate maps in all phases of urban planning, the city of Cincinnati and Hamilton county, O., instituted a survey to provide large-scale maps of Cincinnati and vicinity. There were 414 sq.mi. involved in the project that would cost approximately \$1,120,000. Aerial photographs were to be the chief source of data for the maps.

The academic position of cartography in the United States was the subject of an interesting review at the meeting of the Association of American Geographers at Clark university, Worcester, Mass., April 5–8, 1950. The papers and discussions of a panel on cartography showed that 70 U.S. colleges had instruction in cartography and in 9 there were distinct series of specialized cartographic courses.

**Europe.**—In Great Britain a revision of the One-Inch Series (1:63,360) was under way in 1950. It was planned to revise all 190 sheets of this series with first emphasis on England and Wales. The first of the revised sheets was scheduled for publication late in 1950. The Half-Inch Series (1:126,720) and Quarter-Inch Series (1:253,440) would be revised progressively as the One-Inch revision was completed. The entire revision program for all scales would cover a period of about ten years. The revision of these maps was in line with a much larger program, initiated after World War II, that involved all the maps of Great Britain.

Extensive cartographic work in British colonies was unveiled in 1950 by M. Hotine of the directorate of colonial surveys. The work was being carried out under provisions of the Colonial Development and Welfare act passed several years before by parliament. The directorate of colonial surveys was established to prosecute the work as cartographic facilities of colonial governments were fully utilized in local cadastral work that had fallen far in arrears during World War II. The program, designed for use in economic development and expansion in the colonies, called for topographic maps at 1:50,000 scale. Contouring on present editions was limited to areas of specific importance with hachures used to express relief elsewhere. The surveys, based primarily on aerial photographs, would utilize about 300 surveyors and cartographers when in full production. In 1950 maps were being drawn covering Nigeria, Uganda, Kenya, Tanganyika,



Northern Rhodesia, Nyasaland, Malaya, Sarawak, North Borneo, Jamaica and the Falkland Island dependencies. In addition surveys were under way in the Gold Coast, British Guiana and Swaziland.

The Lenin Geographical society (U.S.S.R.) early in 1950 announced the completion of a new atlas styled after the *Great Soviet Atlas* issued a decade earlier. The new atlas covered the U.S.S.R. in detail and was accompanied by a gazetteer listing 36,000 place names.

Copies of the first part of a new *Atlas of Denmark*, published late in 1949, were received in the United States in 1950. The atlas was edited by Niels Nielson and sponsored by the Royal Danish Geographical society. The completed atlas would consist of five volumes with more than 800 maps. The text was in Danish and English. Part I was concerned with the landscape of Denmark. Numerous well-designed maps and block diagrams, with descriptive texts, covered the geomorphology in detail.

The European triangulation adjustments that had been under way through the International Association of Geodesy in co-operation with the United States and various European countries since 1945 neared completion in 1950. The central European section was completed in June 1947; the southeastern section in Jan. 1950. The southwestern Europe and northwestern Africa section had been in work for some time while the northern Europe part was initiated in May 1950. The project was planned for completion within a year or two.

**Asia.**—An interesting aspect of the military occupation of Japan appeared in cartography. Previous to World War II there were few road maps of any account in Japan but with the arrival of occupation troops the demand arose. To meet this demand the Nippon Automobile association in 1950 printed several strip maps of important highways. In addition the Japan Travel bureau issued a detailed road map of Tokyo and vicinity. In 1950 the Nippon Map company published a new *Atlas of Japan*, in which the prefectures were shown in detail at scales from 1:130,000 to 1:300,000.

Completion of a large survey project in Iran was revealed by the British in 1950. The mapping was done in conjunction with extensive irrigation and power developments in the Lar valley near Tehran. The project, involving 106 sheets at 1:10,000 and 22 at 1:25,000 scale, was started in 1945, with engineering consultants planning the construction. Photography was undertaken

by the royal air force from June to September 1945 and control was run by royal engineers topographical sections. The drafting of maps was done at Cairo, Egy., but later some were transferred to the war office at London.

In Israel large-scale maps based on aerial photographs were prepared in 1950 for areas selected for economic development. The maps, at scales of 1:1,000 and 1:5,000, were produced by the Jerusalem Institute of Photogrammetry.

**International.**—The fifth general assembly of the Pan-American Institute of Geography and History met at Santiago, Chile, from Oct. 16 to Nov. 1, 1950. The commission on cartography of the institute had representatives from most of the American nations and continued its progress in inter-American co-ordination of mapping.

The International Geographical union established a committee at its Lisbon, Port., meeting in 1949 for the preparation of a world land-use map. The committee, headed by S. Van Valkenburg with members from France, England, Brazil, Switzerland and the United States, met at Clark university, Worcester, Mass., early in 1950 to implement the plan for the map. The committee adopted a scale of 1:1,000,000 for the map base and proposed nine basic units to be shown by colour and pattern in depicting land use. Memoirs explaining land use in detail were planned to accompany the maps. (See also COAST AND GEODETIC SURVEY, U.S.; ELECTRONICS; GEOGRAPHY; NATIONAL GEOGRAPHIC SOCIETY.)

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**FILMS OF 1950.**—*Let's Look at Maps, Maps and Pioneers* (Virginia State Department of Education); *Maps and Their Meaning* (Academy Films). (W. E. Ds.)

**Catastrophes:** see DISASTERS.

**Catholic Church:** see ROMAN CATHOLIC CHURCH.

**Catholic Community Service, National:** see SOCIETIES AND ASSOCIATIONS.

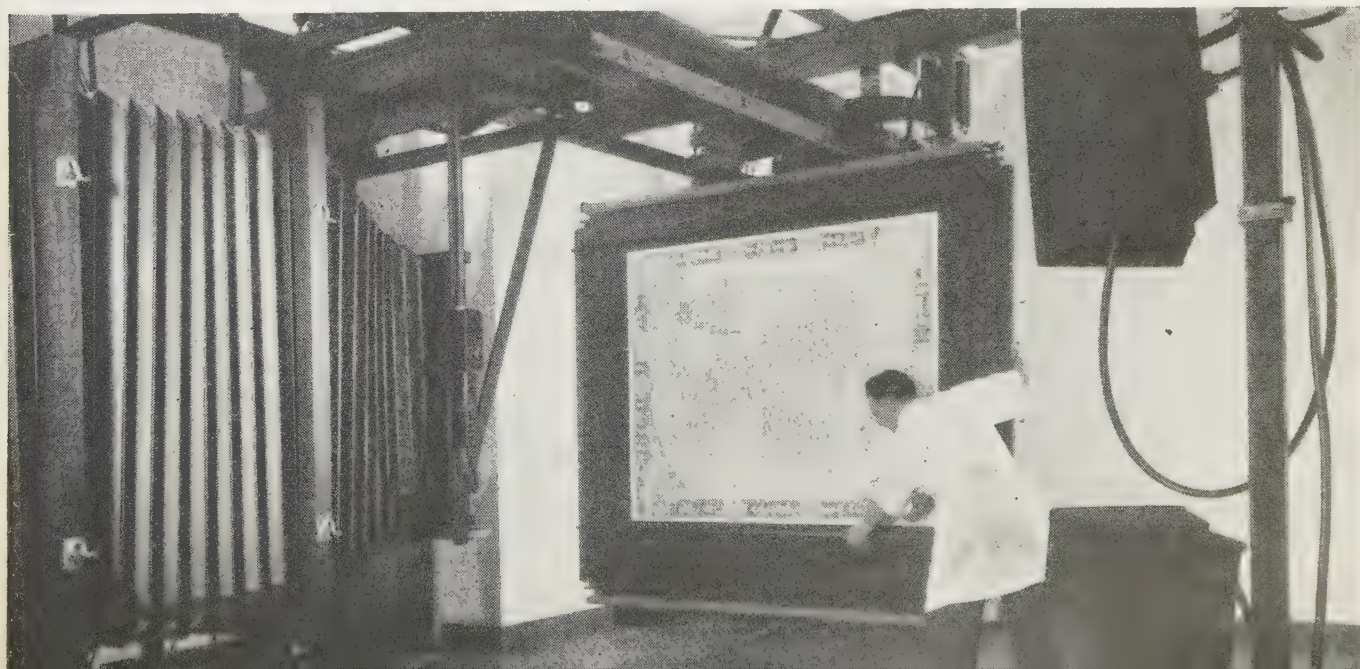
**Catholic Library Association:** see SOCIETIES AND ASSOCIATIONS.

**Catholic Organizations for Youth:** see SOCIETIES AND ASSOCIATIONS.

**Catholic Rural Life Conference, National:** see SOCIETIES AND ASSOCIATIONS.

**Catholic Welfare Conference, National:** see SOCIETIES AND ASSOCIATIONS.

FOUR-TON LANSTON map-copying camera installed in the laboratories of the National Geographic society and first publicized in 1950. This camera is shown photographing a 40-in. by 80-in. map





**Cattle:** see LIVESTOCK.

**Celebes Islands:** see INDONESIA.

**Cellulose Products:** see PLASTICS INDUSTRY; RAYON AND OTHER SYNTHETIC FIBRES.

**Cement.** World production of cement advanced from 111,223,000 short tons in 1948 to 124,656,000 tons in 1949, a rise of 12%. This was about a 22% increase over the pre-war level, and more than double the 1945 war low. The United States is the largest producer, with about one-third of the total—almost as much as the whole of Europe.

**United States.**—The salient features of the cement industry in the United States were reported by the U.S. bureau of mines as follows:

**Cement Industry in the U.S.**

(Millions of barrels)

	1942	1943	1944	1945	1946	1947	1948	1949
Production . . . .	185.3	135.3	92.2	104.3	166.5	189.5	208.9	212.9
Portland cement . .	182.8	133.4	90.9	102.8	164.1	186.5	205.4	209.8
Other varieties . .	2.6	1.8	1.2	1.5	2.5	3.0	3.4	3.2
Shipments . . . .	187.8	129.5	95.6	107.8	172.1	190.4	207.7	209.3
Portland cement . .	185.3	127.6	94.3	106.4	169.6	187.5	204.3	206.1
Other varieties . .	2.5	1.8	1.3	1.5	2.5	2.9	3.4	3.2
Stocks . . . . .								
Portland cement . .	17.4	23.2	20.0	16.4	11.0	10.0	11.2	14.7
Clinker . . . . .	3.5	6.0	5.3	4.5	3.9	3.6	3.8	4.5
Other varieties . .	0.3	0.2	0.2	0.2	0.1	0.1	0.2	0.2
Exports . . . . .	1.1	1.7	4.0	6.5	5.2	6.8	5.9	4.6
Available supply . .	186.7	127.8	91.6	101.4	166.9	183.5	202.0	204.9

In 1949 both output and shipments made new record highs, advancing the 1948 records by 2%, and there was a small surplus to add to stocks. In the first three quarters of 1950, production of portland cement increased to 155,786,000 bbl. and shipments to 171,353,000 bbl., as compared with 155,786,000 bbl. and 164,232,000 bbl. in the same period of 1949.

These figures indicated new record highs in production and shipments for the year.

**Canada.**—Production increased from 14,127,123 bbl. in 1948 to 16,009,019 bbl. in 1949 and 9,726,560 bbl. through July 1950.

(G. A. Ro.)

**Census Data, U. S.** The decennial census was established by the constitution of the United States as a means for putting into effect one of the compromises of the newly established government, namely, the granting to the larger states of a representation in the house of representatives proportional to their population, while all states, without regard to size, had equal representation (two members) in the senate.

The first U.S. census, taken in 1790, canvassed the territory now occupied by 18 states and showed a total population of a little less than 4,000,000. On the basis of this census 105 representatives were apportioned among the 13 states then organized, there being an average of one representative for each 34,436 persons in the apportionment population. The apportionment population of the United States since 1930 has been the total population of continental United States excluding only the population of the District of Columbia, though in earlier years, in accordance with specifications set forth in the constitution, there were deducted also two-fifths of the number of slaves, the number of Indians not taxed, and the population of territories within the area of continental U.S.

This first census recorded for each household the number of persons in each of five categories, namely, free white males under 16 years of age, free white males 16 and over, free white females, free persons other than white, and slaves. Subsequent censuses increased the number of categories somewhat, but still required only a count for each household; and it was not until 1850 that the census taker recorded information for each indi-

vidual person. From that time on, the census schedules (lists of questions) became increasingly complex, until in 1950, in the 17th census, there were 18 questions to be asked (so far as they applied) about each person, 27 additional questions to be asked of a random sample (mostly 20%) of the persons enumerated, and 31 questions (9 on a sample basis) with regard to the dwelling occupied by each family or household. Even these figures do not constitute a full measure of the complexity of the enumerator's task, since for each farm operator there was also a farm schedule containing 332 questions, of which perhaps no more than 60 or 70, however, might require answers on any one farm.

While these large numbers of census questions provided literally acres of published statistics, giving detailed classifications and cross-classifications, requests for simple and purely quantitative data, such as the total population of specified areas on specified dates, were still more frequent (though possibly not more important) than any other type of inquiry received by the bureau of the census.

The final figures for the 1950 population of states became available early in Nov. 1950, or nearly a month in advance of the date on which they were required by law, and the final figures representing the population of counties and cities were expected to become available state by state during the first seven or eight months of the year 1951, along with detailed tabulations giving various classifications of the population by such characteristics as colour, sex, age, marital status, education, employment, etc. In order to give information with regard to the various characteristics of the population of the United States at the earliest possible date, a random sample of 150,000 persons was selected and tabulated. The tabulations included figures not only for the United States as a whole, but also for the four regions and the ten largest states, namely, New York, California, Pennsylvania, Illinois, Ohio, Texas, Michigan, New Jersey, Massachusetts and North Carolina. Some of the data from this sample tabulation are presented below in Tables X, XI and XII, while in Tables XIII to XVI are presented figures based on the current monthly sample



"FROM FIFTH TO SECOND," a 1950 cartoon by Pratt of the McClatchy Newspapers



survey. Though these samples are fairly adequate, especially with respect to United States totals, it should be borne in mind that the sample-based figures are all subject to a moderate sampling variability which increases with the decrease in the size of the figures concerned, and that small differences between one figure and another are even more seriously affected by this variability.

**Population Growth.**—The population of the United States on April 1, 1950, the date of the 17th decennial census, was 150,697,361, as compared with 131,699,275 on April 1, 1940, the date of the 16th census. The increase in population in the decade ending in 1950 thus amounted to 19,028,086 persons, or 14.5% of the 1940 population. Numerically, this was the largest increase attained in any census decade, though the percentage increase was smaller than that recorded in any earlier 10-year period except the period of the depression, between 1930 and 1940, during which the population increased only 7.2%.

The population in 1790, when the first census was taken, was only 3,929,214. Each subsequent census up to 1860 showed an increase of about one-third over the preceding one; from 1860 to 1910 the decennial increase was around 20% or 25%; for the next two decades, around 15% or 16%; and for the decade ending in 1940, only 7.2%, as indicated above. The much more rapid growth which took place between 1940 and 1950 represented, therefore, a reversal of a long-time trend toward slower and slower population growth. The data from the 17 censuses are presented in Table I.

Table I.—Population and Area of Continental United States, 1790–1950

Census year	Population	Increase over preceding census		Land area in square miles	Population per square mile
		Number	Per cent		
1790 . . . . .	3,929,214	—	—	867,980	4.5
1800 . . . . .	5,308,483	1,379,269	35.1	867,980	6.1
1810 . . . . .	7,239,881	1,931,398	36.4	1,685,865	4.3
1820 . . . . .	9,638,453	2,398,572	33.1	1,753,588	5.5
1830 . . . . .	12,866,020	3,227,567	33.5	1,753,588	7.3
1840 . . . . .	17,069,453	4,203,433	32.7	1,753,588	9.7
1850 . . . . .	23,191,876	6,122,423	35.9	2,944,337	7.9
1860 . . . . .	31,443,321	8,251,445	35.6	2,973,965	10.6
1870 . . . . .	39,818,449*	8,375,128	26.6	2,973,965	13.4
1880 . . . . .	50,155,783	10,337,334	26.0	2,973,965	16.9
1890 . . . . .	62,947,714	12,791,931	25.5	2,973,965	21.2
1900 . . . . .	75,994,575	13,046,861	20.7	2,974,159	25.6
1910 . . . . .	91,972,266	15,977,691	21.0	2,973,890	30.9
1920 . . . . .	105,710,620	13,738,354	14.9	2,973,776	35.5
1930 . . . . .	122,775,046	17,064,426	16.1	2,977,128	41.2
1940 . . . . .	131,699,275	8,924,229	7.2	2,977,128	44.2
1950 . . . . .	150,697,361	19,028,086	14.5	2,977,128	50.6

\*Revised figure, including estimate for underenumeration in southern states.

**Annual Estimates.**—Monthly estimates of the population of the United States had been made since 1940 by adding each month the number of births, subtracting the number of deaths (including an allowance for underregistration of births and deaths), and adding the net immigration. The estimates for July 1 of each year, as presented in Table II, together with the three elements on which they were based, indicate significant changes in the rate of population growth within the decade as well as the (unexpected) increase in the decade taken as a unit, in comparison with previous decades.

During the decade 1930 to 1940 the average annual increase in the population of the United States was less than 900,000. Even in the first year of the decade of the 1940s the increase was materially higher than this average, being 1,233,000, with further increases to a wartime maximum of 1,832,000 in the year ending June 30, 1943. These increases resulted mainly from the increased numbers of births which were stimulated by increasing prosperity (in con-

trast at least with the depression atmosphere of most of the 1930s), and by defense and early war conditions.

For the next three years the annual increase was maintained at approximately 1,500,000 or 1,600,000, with a new all-time record of 2,789,000 set in fiscal year 1947, the first full year after demobilization.

In the three remaining years of the decade the annual increase was maintained only a little below this maximum; and population experts, many of whom had regarded the large number of births which took place in 1947 as a temporary matter, a sort of aftermath of demobilization, were uncertain as to whether to look forward to a long-time continuance of the high birth rate or to expect shortly a return to the pre-World War II trend toward lower rates of increase.

Official forecasts even for a date so little distant as 1955 ranged from a minimum of 157,738,000, which would involve a drastic reduction in the number of births, to a maximum of 165,541,000, which would involve an average population increase a little above the level which had been maintained during the four years from 1947 to 1950.

The sources of the increase between July 1, 1949, and July 1, 1950, may be summarized as follows: there were during this 12-mo. period 3,703,000 births, from which were subtracted 1,467,000 deaths, leaving a natural increase of 2,236,000; and the net civilian immigration amounted to 320,000.

The immigration figure, it may be noted, had increased rather rapidly during the decade, rising from around 60,000 in 1941 and 1942 to 230,000 in fiscal year 1947 and to figures materially above 300,000 in each of the remaining years of the decade. (See also IMMIGRATION AND EMIGRATION.)

The estimates given in Table II represent the population of the United States including persons in military service overseas, these being the figures in widest demand and those most appropriately computed by the method outlined. Estimates have been made also on two other bases, namely, the population actually present in continental United States, that is, excluding military overseas, which is the population that would be counted in a census; and finally the civilian population, excluding all persons in military service, which is the most appropriate base for the monthly estimates of employment and labour-force participation which have likewise been provided since 1940.

To make clear the interrelations between one and another of these estimates a brief summary of the three series is presented in Table III.

The differences between one series and another depend largely on the military situation, as one might expect. Both in 1940 and again in 1950 (July 1) the differences were small. There were much larger differences in 1943 and especially in 1945, which was the year of maximum numbers in the armed forces, both in the United States and overseas.

**Births and Deaths.**—While emphasis has been put on the recent increases in the birth rate in the foregoing discussions of population increase, the fact that there were also significant,

Table II.—Estimated Population of Continental United States, Including Military Forces Overseas, 1940–50

Date	Estimated total population	Increase over preceding date		Change in preceding period		Excess of births over deaths	Net civilian immigration
		Number	Per cent	Births*	Deaths*		
July 1, 1940 . . . . .	131,970,000	—	—	—	—	—	—
July 1, 1941 . . . . .	133,203,000	1,233,000	0.93	2,628,000	1,454,000	1,174,000	59,000
July 1, 1942 . . . . .	134,665,000	1,462,000	1.10	2,808,000	1,415,000	1,393,000	69,000
July 1, 1943 . . . . .	136,497,000	1,832,000	1.36	3,209,000	1,487,000	1,722,000	110,000
July 1, 1944 . . . . .	138,083,000	1,586,000	1.16	3,017,000	1,556,000	1,460,000	126,000
July 1, 1945 . . . . .	139,586,000	1,502,000	1.09	2,955,000	1,652,000	1,303,000	199,000
July 1, 1946 . . . . .	141,235,000	1,649,000	1.18	2,897,000	1,440,000	1,457,000	192,000
July 1, 1947 . . . . .	144,024,000	2,789,000	1.98	3,986,000	1,427,000	2,559,000	230,000
July 1, 1948 . . . . .	146,571,000	2,547,000	1.77	3,690,000	1,456,000	2,235,000	312,000
July 1, 1949 . . . . .	149,215,000	2,644,000	1.80	3,723,000	1,442,000	2,281,000	363,000
July 1, 1950 . . . . .	151,772,000	2,556,000	1.71	3,703,000	1,467,000	2,236,000	320,000

\*Estimated total, including adjustment for underregistration.



though much slower, changes in the death rate ought not to be overlooked. While the birth rate (based on estimated total births, not registered births alone) declined from a recent maximum of

1948. For white females the figures were 53.6 in 1910, 62.7 in 1930 and 71.0 in 1948.

For nonwhite males the 1948 expectation of life was 58.1 and for nonwhite females, 62.5.

**Population by States.**—The population in 1950 and 1940 is shown by regions, divisions and states in Table V, with the amount of increase between 1940 and 1950 and the percentage of increase both for this decade and for the preceding one. The accompany-

Table III.—Three Types of Estimates of the Population of the United States, 1940–50

Date	Total population including armed forces overseas	Population resident in the U.S.*	Civilian population
July 1, 1940 . . . . .	131,970,000	131,954,000	131,659,000
July 1, 1943 . . . . .	136,497,000	133,966,000	127,410,000
July 1, 1945 . . . . .	139,586,000	132,019,000	127,452,000
July 1, 1949 . . . . .	149,215,000	148,720,000	147,752,000
July 1, 1950 . . . . .	151,772,000	151,376,000	150,457,000

1950 by months:			
January . . . . .	150,604,000	150,161,000	149,196,000
February . . . . .	150,808,000	150,388,000	149,442,000
March . . . . .	150,998,000	150,588,000	149,653,000
April . . . . .	151,188,000	150,778,000	149,859,000
May . . . . .	151,358,000	150,953,000	150,037,000
June . . . . .	151,553,000	151,159,000	150,242,000
July . . . . .	151,772,000	151,376,000	150,457,000
August . . . . .	152,016,000	151,562,000	150,679,000
September . . . . .	152,271,000	151,695,000	150,817,000

\*This is the estimate which has the same coverage as the decennial census. The series of estimates had not been revised to eliminate the small difference between the estimate for April 1, 1950, and the census.

28.1 per 1,000 of the population in 1921 to an all-time low of 18.4 in 1933 and 1936, the death rate declined from 13.5 in 1920, with annual fluctuations of usually no more than 0.5, to 9.7 in 1949 and 1950. The effect of this decline in the death rate on population increase may be illustrated by computing the number of deaths that would have taken place in 1950 if the 1920 death rate had been maintained. This figure would amount to 2,044,000, in comparison with an actual 1,467,000, and would leave a natural increase of only 1,659,000, which in turn would reduce the population increase in 1950 to less than 2,000,000 or 20% less than the actual increase.

The data on births and deaths for the period from 1920 to 1950 are presented in Table IV.

Table IV.—Births and Deaths in the United States, 1920–50\*

Calendar year	Births, estimated total	Deaths, estimated total	Excess of births over deaths	Rate per 1,000 of the population		
				Births	Deaths	Excess of Births
1920 . . . . .	2,950,000	1,442,000	1,508,000	27.7	13.5	14.2
1921 . . . . .	3,055,000	1,300,000	1,755,000	28.1†	12.0	16.2
1925 . . . . .	2,909,000	1,411,000	1,498,000	25.1	12.2	12.9
1930 . . . . .	2,618,000	1,457,000	1,161,000	21.3	11.8	9.4
1931 . . . . .	2,506,000	1,434,000	1,072,000	20.2	11.6	8.6
1932 . . . . .	2,440,000	1,419,000	1,021,000	19.5	11.4	8.2
1933 . . . . .	2,307,000	1,402,000	905,000	18.4‡	11.2	7.2
1934 . . . . .	2,396,000	1,458,000	938,000	19.0	11.5	7.4
1935 . . . . .	2,377,000	1,452,000	925,000	18.7	11.4	7.3
1936 . . . . .	2,355,000	1,542,000	813,000	18.4‡	12.0	6.3
1937 . . . . .	2,413,000	1,511,000	902,000	18.7	11.7	7.0
1938 . . . . .	2,496,000	1,438,000	1,058,000	19.2	11.1	8.1
1939 . . . . .	2,466,000	1,444,000	1,022,000	18.8	11.0	7.8
1940 . . . . .	2,558,000	1,474,000	1,084,000	19.4	11.2	8.2
1941 . . . . .	2,710,000	1,443,000	1,267,000	20.3	10.8	9.5
1942 . . . . .	3,003,000	1,434,000	1,569,000	22.3	10.7	11.7
1943 . . . . .	3,127,000	1,548,000	1,579,000	22.9	11.6	11.8
1944 . . . . .	2,969,000	1,580,000	1,389,000	21.5	11.9	10.5
1945 . . . . .	2,894,000	1,576,000	1,318,000	20.7	11.9	10.0
1946 . . . . .	3,458,000	1,406,000	2,052,000	24.5	10.1	14.7
1947 . . . . .	3,876,000	1,452,000	2,424,000	27.0	10.1	16.9
1948 . . . . .	3,702,000	1,455,000	2,247,000	25.3	10.0	15.4
1949 . . . . .	3,729,000	1,442,000	2,287,000	25.1	9.7	15.4
1950 . . . . .	3,703,000	1,467,000	2,236,000	24.4	9.7	14.7

\*Figures represent estimated totals, including adjustment for underregistration and, for years prior to 1933, estimates for states outside the registration area. Rates are based on estimated total numbers of births and deaths, not, as usually heretofore, on registered births and deaths alone.

†Maximum rate since 1920.

‡All-time minimum rate.

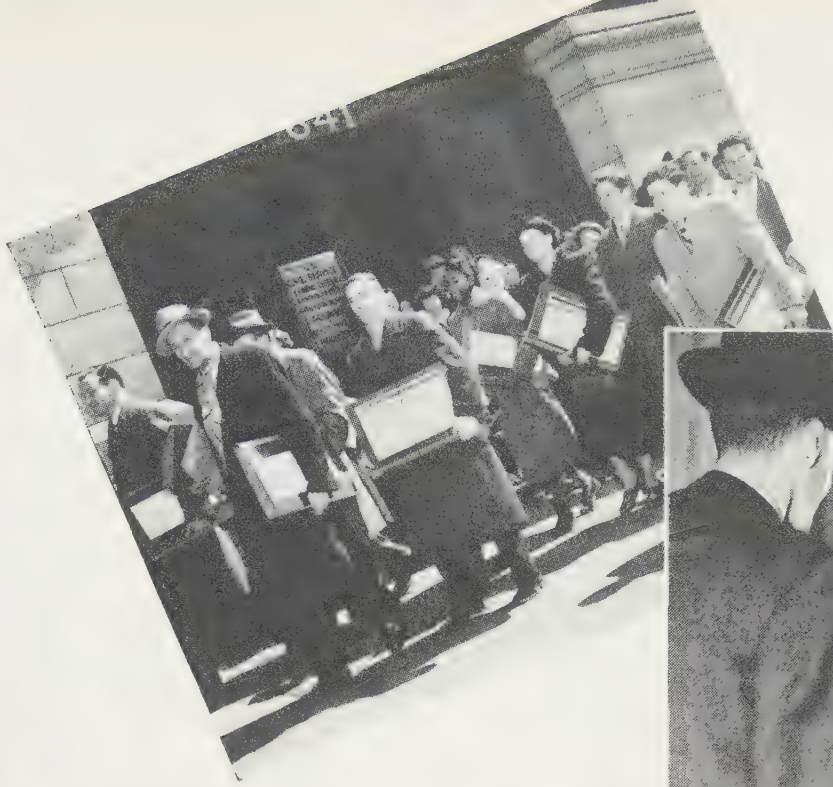
The decreasing death rate reflects the increasing length of life in the United States—though perhaps it does not express this change as emphatically as the figures for life expectation or average length of life. The life expectation for white males had increased from 50.2 years in 1910 to 59.1 in 1930 and to 65.6 in

Table V.—Population of the United States by Regions, Divisions and States, 1950 and 1940

Region, division and state	1950	1940	Increase* 1940 to 1950	Percent of increase* 1940 to 1950	Percent of increase* 1930 to 1940
United States . . . . .	150,697,361	131,669,275	19,028,086	14.5	7.2
Regions:					
Northeast . . . . .	39,477,986	35,976,777	3,501,209	9.7	4.5
North central . . . . .	44,460,762	40,143,332	4,317,430	10.8	4.0
South . . . . .	47,197,088	41,665,901	5,531,187	13.3	10.1
West . . . . .	19,561,525	13,883,265	5,678,260	40.9	16.7
North-east:					
New England . . . . .	9,314,453	8,437,290	877,163	10.4	3.3
Middle Atlantic . . . . .	30,163,533	27,539,487	2,624,046	9.5	4.9
North central:					
East north central . . . . .	30,399,368	26,626,342	3,773,026	14.2	5.3
West north central . . . . .	14,061,394	13,516,990	544,404	4.0	1.7
South:					
South Atlantic . . . . .	21,182,335	17,823,151	3,359,184	18.8	12.9
East south central . . . . .	11,477,181	10,778,225	698,956	6.5	9.0
West south central . . . . .	14,537,572	13,064,525	1,473,047	11.3	7.3
West:					
Mountain . . . . .	5,074,998	4,150,003	924,995	22.3	12.1
Pacific . . . . .	14,486,527	9,733,262	4,753,265	48.8	18.8
New England:					
Maine . . . . .	913,774	847,226	66,548	7.9	6.2
New Hampshire . . . . .	533,242	491,524	41,718	8.5	5.6
Vermont . . . . .	377,747	359,231	18,516	5.2	—0.1
Massachusetts . . . . .	4,690,514	4,316,721	373,793	8.7	1.6
Rhode Island . . . . .	791,896	713,346	78,550	11.0	3.8
Connecticut . . . . .	2,007,280	1,709,242	298,038	17.4	6.4
Middle Atlantic:					
New York . . . . .	14,830,192	13,479,142	1,351,050	10.0	7.1
New Jersey . . . . .	4,835,329	4,160,165	675,164	16.2	2.9
Pennsylvania . . . . .	10,498,012	9,900,180	597,832	6.0	2.8
East north central:					
Ohio . . . . .	7,946,627	6,907,612	1,039,015	15.0	3.9
Indiana . . . . .	3,934,224	3,427,796	506,428	14.8	5.8
Illinois . . . . .	8,712,176	7,897,241	814,935	10.3	3.5
Michigan . . . . .	6,371,766	5,256,106	1,115,660	21.2	8.5
Wisconsin . . . . .	3,434,575	3,137,587	296,988	9.5	6.8
West north central:					
Minnesota . . . . .	2,982,483	2,792,300	190,183	6.8	8.9
Iowa . . . . .	2,621,073	2,538,268	82,805	3.3	2.7
Missouri . . . . .	3,954,653	3,784,664	169,989	4.5	4.3
North Dakota . . . . .	619,636	641,935	—22,299	—3.5	—5.7
South Dakota . . . . .	652,740	642,961	9,779	1.5	—7.2
Nebraska . . . . .	1,325,510	1,315,834	9,676	0.7	—4.5
Kansas . . . . .	1,905,299	1,801,028	104,271	5.8	—4.3
South Atlantic:					
Delaware . . . . .	318,085	266,505	51,580	19.4	11.8
Maryland . . . . .	2,343,001	1,821,244	521,757	28.6	11.6
District of Columbia . . . . .	802,178	663,091	139,087	21.0	36.6
Virginia . . . . .	3,318,680	2,677,773	640,907	23.9	10.6
West Virginia . . . . .	2,005,552	1,901,974	103,578	5.4	10.0
North Carolina . . . . .	4,061,929	3,571,623	490,306	13.7	12.7
South Carolina . . . . .	2,117,027	1,899,804	217,223	11.4	9.3
Georgia . . . . .	3,444,578	3,123,723	320,855	10.3	7.4
Florida . . . . .	2,771,305	1,897,414	873,891	46.1	29.2
East south central:					
Kentucky . . . . .	2,944,806	2,845,627	99,179	3.5	8.8
Tennessee . . . . .	3,291,718	2,915,841	375,877	12.9	11.4
Alabama . . . . .	3,061,743	2,832,961	228,782	8.1	7.1
Mississippi . . . . .	2,178,914	2,183,796	—4,882	—0.2	8.7
West south central:					
Arkansas . . . . .	1,909,511	1,949,387	—39,876	—2.0	5.1
Louisiana . . . . .	2,683,516	2,363,880	319,636	13.5	12.5
Oklahoma . . . . .	2,233,351	2,336,434	—103,083	—4.4	—2.5
Texas . . . . .	7,711,194	6,414,824	1,296,370	20.2	10.1
Mountain:					
Montana . . . . .	591,024	559,456	31,568	5.6	4.1
Idaho . . . . .	588,637	524,873	63,764	12.1	17.9
Wyoming . . . . .	290,529	250,742	39,787	15.9	11.2
Colorado . . . . .	1,325,089	1,123,296	201,793	18.0	8.4
New Mexico . . . . .	581,187	531,818	49,369	8.1	25.6
Arizona . . . . .	749,587	499,261	250,326	50.1	14.6
Utah . . . . .	688,862	550,310	138,552	25.2	8.4
Nevada . . . . .	160,083	110,247	49,836	45.2	21.1
Pacific:					
Washington . . . . .	2,378,963	1,736,191	642,772	37.0	11.1
Oregon . . . . .	1,521,341	1,089,684	431,657	39.6	14.2
California . . . . .	10,586,223	6,907,387	3,678,836	53.3	21.7

\*A minus sign (—) denotes decrease.





Left: CENSUS TAKERS leaving the Federal building in New York city, headquarters of the 1950 count of population in the nation's largest city. Interviews were designed to require less than two minutes each



Above: ONE OF THE 141,000 enumerators who gathered 1950 data on U.S. housing, vital statistics, ownership of television sets and other facts, in the 17th of a series of counts required by the U.S. constitution



Left: SEMINOLE INTERPRETER (second right) assisting a federal census enumerator assigned to the Everglades region of Florida during the 1950 tally



Right: WIDELY PUBLICIZED PHOTO of one of the hazards of census taking in 1950. The newspaperwoman in the picture was accompanying an enumerator sent to interview coast guardsmen at a lighthouse off the Florida coast. At the landing, a sudden wave upset her footing and she received an unexpected dunking



ing map shows in graphic fashion the extent of the increase in each state.

Most prominent among the states in the matter of population increase was California, whose population increased from 6,907,387 in 1940 to 10,586,223 in 1950, the increase amounting to 3,678,836, or 53.3%. As a result of this spectacular increase California ranked second in population in 1950, whereas in 1940 it ranked fifth. The ten states with the largest population in 1950 were as follows:

1. New York . . . . 14,830,192
2. California . . . . 10,586,223
3. Pennsylvania . . . 10,498,012
4. Illinois . . . . . 8,712,376
5. Ohio . . . . . 7,946,627
6. Texas . . . . . 7,711,194
7. Michigan . . . . . 6,371,766
8. New Jersey . . . . 4,835,329
9. Massachusetts . . . 4,690,514
10. North Carolina . . 4,061,929

There were four states besides California in which the population increase amounted to more than 1,000,000 namely, New York, Texas, Michigan and Ohio. Florida, with 46.1%, was the only state outside the west to show a percentage increase above 28.6%, while the District of Columbia, which headed the list in relative increase between 1930 and 1940, gained only 21.0% in the later decade.

In four states the population was smaller in 1950 than in 1940, though the rates of decrease were low: 0.2% in Mississippi, 2.0% in Arkansas, 3.5% in North Dakota and 4.4% in Oklahoma.

The rates of increase shown for groups of states, that is, for regions and geographic divisions, are perhaps more significant than those for individual states, possibly excepting California and Florida, where the winter climate seems to attract in-migrants, entirely without regard to changing economic conditions in various parts of the country. The lowest rate of increase (4.0%) among the divisions was recorded for the west north central division. This is an area mainly agricultural, which includes a part of the Dust Bowl where agriculture had not been too prosperous. The next lowest rate (6.5%) was for the east south central division, another farming area, though with rapidly growing manufacturing centres; and the next (9.5%) for the middle Atlantic division which is primarily a manufacturing area. It is difficult, then, to establish any relation between the domi-

nance of agriculture or manufacturing and the trend of population increase. The only divisions having a rate of increase in excess of the weighted average represented by the rate for the U.S. as a whole (14.5%) were the south Atlantic with 18.8%, the mountain with 22.3% and the Pacific with (thanks to California) 48.8%.

Especially in view of the possibility of statehood for Alaska and Hawaii, it is of interest to consider the 1950 population of the various territories and possessions of the U.S. These data are presented, with comparative figures for 1940 and 1930, in Table VI.

Table VI.—Population of Territories and Outlying Possessions, 1930-50

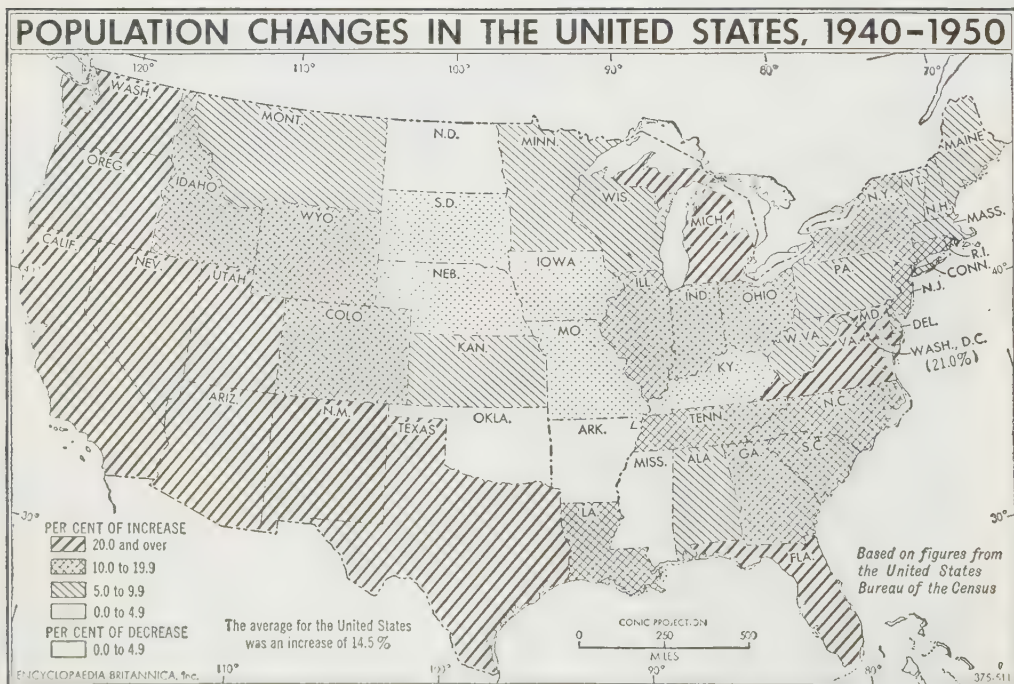
Area	Population			Per cent of increase		Area in square miles	Population per sq. mi., 1950
	1950*	1940	1930	1940-50	1930-40		
Alaska . . . . .	128,643	72,524	59,278	77.4	22.3	571,065	0.2
American Samoa . . . . .	18,602	12,908	10,055	44.1	28.4	76	244.8
Guam . . . . .	58,754	22,290	18,509	163.6	20.4	203	289.4
Hawaii . . . . .	499,794	423,330	368,336	18.1	14.9	6,420	77.9
Panama Canal Zone	52,300	51,827	39,467	0.9	31.3	362	144.5
Puerto Rico . . . . .	2,210,703	1,869,255	1,543,913	18.3	21.1	3,423	645.8
Virgin Islands of the United States	26,654	24,889	22,012	7.1	13.1	132	201.9

\*The 1950 figures for American Samoa, Guam, Panama Canal Zone and the Virgin Islands are preliminary.

By far the largest of the outlying areas now under the jurisdiction of the U.S. is Puerto Rico with a 1950 population of 2,210,703 and a current rate of increase of nearly 2% a year. Puerto Rico has not been set up as an organized territory, however, partly because of its current economic dependence on the U.S. government and partly without doubt by reason of language differences (Spanish being still the dominant language in Puerto Rico), though similar differences did not prevent the province of Quebec (with its dominant French language) from being an integral part of Canada.

The population of Hawaii increased from 423,330 in 1940 to 499,794 in 1950, or 18.1%, indicating a rate of natural increase not much different from that prevailing in Puerto Rico. The population of Alaska increased from 72,524 in Oct. 1939 to 128,643 in April 1950, or 77.4%, mainly by reason of the expansion of military operations, though the change in the census date from October to April brought into the scope of the census considerable numbers of temporary workers who come to Alaska each year for the canning season and later return to the states.

Populationwise. Hawaii is larger than Nevada, Delaware, Vermont or (by a slight margin) Arizona, and the general pattern of its social and economic activities is not so far different from that prevailing in some states on the mainland. But Alaska, with even fewer people than Nevada (128,643 as compared with 160,083), and with nearly one-third of these comprising persons of native stock living for the most part outside the conventional commercial and industrial system, and another third comprising temporary residents not likely to remain in the territory for more than a few months in any one year or men in the military service of the U.S., can hardly make as good a showing as this.





The other possessions are relatively unimportant as regards population, but each has its own importance in what might be termed international relations.

**Apportionment.**—One of the most important functions of the decennial census—perhaps still the most important single function—is that of providing a basis for the reapportionment of representation in the house of representatives in accordance with the changing distribution of the population. Prior to 1920 such a reapportionment was made by congress following each census. No reapportionment was made on the basis of the 1920 census; and in the act providing for the 1930 and subsequent censuses (under which the censuses of 1940 and 1950 were taken) provision was made that if congress did not legislate otherwise within a specified time reapportionment on the basis of the new census should go into effect without specific legislation. This law, as amended, required that the president submit to congress at the first session of the congress assembling after the census date, a statement showing the new population of each state and the number of representatives to which each state is entitled on the basis of these figures, under the method of apportionment known as "equal proportions"—a method which makes the relative difference between one state and another in the population per

Table VIII.—Population in Groups of Urban Places Classified by Size, 1950 and 1940

Size group	Number of places		Population	
	1950*	1940	1950, preliminary	1940†
All urban places . . . . .	4,270	3,464	87,992,647	74,423,702
Places with population of—				
1,000,000 or more . . . . .	5	5	17,302,538	15,910,866
500,000 to 1,000,000 . . . . .	13	9	9,110,922	6,456,959
250,000 to 500,000 . . . . .	23	23	8,131,010	7,827,514
100,000 to 250,000 . . . . .	65	55	9,410,440	7,792,650
50,000 to 100,000 . . . . .	125	107	8,826,709	7,343,917
25,000 to 50,000 . . . . .	246	213	8,644,050	7,417,093
10,000 to 25,000 . . . . .	780	665	11,962,110	9,666,898
5,000 to 10,000 . . . . .	1,174	965	8,123,192	6,681,894
2,500 to 5,000 . . . . .	1,839	1,422	6,481,676	5,025,911
Cumulative summary				
Places with population of—				
1,000,000 or more . . . . .	5	5	17,302,538	15,910,866
500,000 or more . . . . .	18	14	26,413,460	22,367,825
250,000 or more . . . . .	41	37	34,544,470	30,195,339
100,000 or more . . . . .	106	92	43,954,910	37,987,989
50,000 or more . . . . .	231	199	52,781,619	45,331,906
25,000 or more . . . . .	477	412	61,425,669	52,748,999
10,000 or more . . . . .	1,257	1,077	73,387,779	62,715,897
5,000 or more . . . . .	2,431	2,042	81,510,971	69,397,791
2,500 or more . . . . .	4,270	3,464	87,992,647	74,423,702

\*Includes 397 unincorporated places, as follows: 3 between 25,000 and 50,000; 26 between 10,000 and 25,000; 82 between 5,000 and 10,000; and 286 between 2,500 and 5,000.

†Figures represent the population of the places that were in the specified size-groups in 1940, not the population in 1940 of the places included in 1950.

Table VII.—Apportionment Based on Censuses of 1950 and 1940

State	Apportionment of 435 representatives based on 1950 census			Apportionment, based on 1940 census			Apportionment of 450 representatives based on 1950 census		
	Rep.	Gain or loss	Pop. per rep.	Rep.	Gain or loss	Pop. per rep.	Rep.	Gain or loss	Pop. per rep.
Total . . . . .	435	0	344,587	435	0	301,164	450	+15	
New England:									
Maine . . . . .	3	0	304,591	3	0	282,409	3	0	
New Hampshire . . . . .	2	0	266,621	2	0	245,762	2	0	
Vermont . . . . .	1	0	377,747	1	0	359,231	1	0	
Massachusetts . . . . .	14	0	335,037	14	0	308,337	14	0	
Rhode Island . . . . .	2	0	395,948	2	0	356,673	2	0	
Connecticut . . . . .	6	0	334,547	6	0	284,874	6	0	
Middle Atlantic:									
New York . . . . .	43	-2	344,888	45	2	299,536	44	-1	
New Jersey . . . . .	14	0	345,381	14	0	297,155	14	0	
Pennsylvania . . . . .	30	-3	349,934	33	3	300,005	31	-2	
East north central:									
Ohio . . . . .	23	0	345,506	23	0	300,331	24	+1	
Indiana . . . . .	11	0	357,657	11	0	311,618	12	+1	
Illinois . . . . .	25	-1	348,487	26	1	303,740	26	0	
Michigan . . . . .	18	+1	353,987	17	-1	309,183	19	+2	
Wisconsin . . . . .	10	0	343,458	10	0	313,759	10	0	
West north central:									
Minnesota . . . . .	9	0	331,387	9	0	310,256	9	0	
Iowa . . . . .	8	0	327,634	8	0	297,284	8	0	
Missouri . . . . .	11	-2	359,514	13	2	311,128	12	-1	
North Dakota . . . . .	2	0	309,818	2	0	320,968	2	0	
South Dakota . . . . .	2	0	326,370	2	0	321,481	2	0	
Nebraska . . . . .	4	0	331,378	4	0	328,959	4	0	
Kansas . . . . .	6	0	317,550	6	0	300,171	6	0	
South Atlantic:									
Delaware . . . . .	1	0	318,085	1	0	266,505	1	0	
Maryland . . . . .	7	+1	334,714	6	-1	303,541	7	+1	
Virginia . . . . .	10	+1	331,868	9	-1	297,330	10	+1	
West Virginia . . . . .	6	0	334,259	6	0	316,996	6	0	
North Carolina . . . . .	12	0	338,494	12	0	297,635	12	0	
South Carolina . . . . .	6	0	352,838	6	0	316,634	6	0	
Georgia . . . . .	10	0	344,458	10	0	312,372	10	0	
Florida . . . . .	8	+2	346,413	6	-2	316,236	8	+2	
East south central:									
Kentucky . . . . .	8	-1	368,101	9	1	316,181	9	0	
Tennessee . . . . .	9	-1	365,746	10	1	291,584	10	0	
Alabama . . . . .	9	0	340,194	9	0	314,773	9	0	
Mississippi . . . . .	6	-1	363,152	7	1	311,971	7	0	
West south central:									
Arkansas . . . . .	6	-1	318,252	7	1	278,484	6	-1	
Louisiana . . . . .	8	0	335,440	8	0	295,485	8	0	
Oklahoma . . . . .	6	-2	372,225	8	2	292,054	7	-1	
Texas . . . . .	22	+1	350,509	21	-1	305,468	23	+2	
Mountain:									
Montana . . . . .	2	0	295,512	2	0	279,728	2	0	
Idaho . . . . .	2	0	294,318	2	0	262,437	2	0	
Wyoming . . . . .	1	0	290,529	1	0	250,742	1	0	
Colorado . . . . .	4	0	331,272	4	0	280,824	4	0	
New Mexico . . . . .	2	0	340,594	2	0	265,909	2	0	
Arizona . . . . .	2	0	374,794	2	0	249,631	2	0	
Utah . . . . .	2	0	344,431	2	0	275,155	2	0	
Nevada . . . . .	1	0	160,083	1	0	110,247	1	0	
Pacific:									
Washington . . . . .	7	+1	339,852	6	-1	289,365	7	+1	
Oregon . . . . .	4	0	380,335	4	0	272,421	5	+1	
California . . . . .	30	+7	352,874	23	-7	300,321	32	+9	

representative the least that is possible. The computation of this distribution is much more complicated than the simple division of the population of each state by a new average per representative, computed on the basis of the new census totals. Since it is not possible for a state to have a fraction of a representative, the method must allocate representatives for some of the fractions and disregard other fractions altogether in such fashion that the difference between the average population per representative, in the case of those states where the competition is closest, is less than it would be under any different apportionment.

The new apportionment, as computed for a house of 435 members, is presented in Table VII, with the gain or loss from the former allotment of representatives and the average population per representative. The 1940 apportionment and its averages are also included as background for comparison. Since it had been proposed, as early as Dec. 1950, that the membership of the house be increased to 450, an apportionment of this number with corresponding gains or losses is also presented—though there was no very stable basis for opinion at the close of the year 1950 as to what action, if any, would be taken.

By way of comment on the proposal just mentioned, it may be noted that California would get 2 of the 15 additional representatives and that even with 15 added to the house membership, five states would lose 1 representative each. If the membership of the house was not changed, California would gain seven members by virtue of its extensive population increase; Florida would gain two members; Michigan, Maryland, Virginia, Texas and Washington would gain one each; Pennsylvania would lose three members; New York, Missouri and Oklahoma would lose two each; and the following states would lose one each: Illinois, Kentucky, Tennessee, Mississippi and Arkansas.

**Population of Cities.**—In 1950 there were in the U.S. 4,270 places having a population of 2,500 or more, including 397 unincorporated places for most of which official census figures would be shown for the first time in the 1950 census reports.

Both the presentation of census data and the classification of places of requisite size as urban were formerly limited to incorporated places since these places have definite boundaries, set up as a part of the requirement for incorporation. For the 397 unincorporated places referred to above (and for a much larger number of unincorporated places having a population between 1,000 and 2,500) arbitrary boundaries were established by the census bureau in advance of the 1950 enumeration. The numbers



of places in significant size-groups in 1950 and in 1940, with the population represented by each group, are presented in Table VIII.

The number of cities in the U.S. having 1,000,000 inhabitants or more remained unchanged, there being five such cities in 1950 as in 1940, but there were considerable increases in most of the other groups. The number of places having a population of 50,000 or more increased from 199 in 1940 to 231 in 1950; the number with a population of 25,000 or more increased from 412 to 427; and the number with 10,000 or more increased from 1,077 to 1,257, the latter figure including 29 of the newly counted unincorporated places, while the whole number of urban places—those with 2,500 inhabitants or more—increased from 3,464 to 4,270, including 397 unincorporated places.

According to the preliminary figures there were 106 cities with a population of 100,000 or more in 1950, as compared with 92 such cities in 1940. There were 15 cities whose population increased between 1940 and 1950 from something less than 100,000 to something more than that number. One city, Lowell, Mass., dropped out of the list by reason of decrease in population. Of the 15 cities which appeared on the list for the first time in 1950, 9 were in the south, 3 in the west, 2 in the northeast and only 1 in the north central region. Data for the 106 cities are presented in Table IX.

Table IX.—Population of Cities of 100,000 or More, 1950 (Preliminary Count) and 1940

City	1950, preliminary	1940	Increase,* 1940-50	Per cent of increase*	
Total, 106 cities	43,954,910	39,128,471	4,826,439	12.3	5.2
1. New York, N.Y. . . . .	7,835,099	7,454,995	380,104	5.1	7.6
2. Chicago, Ill. . . . .	3,606,436	3,396,808	209,628	6.2	0.6
3. Philadelphia, Pa. . . . .	2,064,794	1,931,334	133,460	6.9	-1.0
4. Los Angeles, Calif. . . . .	1,957,692	1,504,277	453,415	30.1	21.5
5. Detroit, Mich. . . . .	1,838,517	1,623,452	215,065	13.2	3.5
6. Baltimore, Md. . . . .	940,205	859,100	81,105	9.4	6.7
7. Cleveland, O. . . . .	905,636	878,336	27,300	3.1	-2.5
8. St. Louis, Mo. . . . .	852,623	816,048	36,575	4.5	-0.7
9. Washington, D.C. . . . .	797,670	663,091	134,579	20.3	36.2
10. Boston, Mass. . . . .	790,863	770,816	20,047	2.6	-1.3
11. San Francisco, Calif. . . . .	760,753	634,536	126,217	19.9	0.0
12. Pittsburgh, Pa. . . . .	673,763	671,659	2,104	0.3	0.3
13. Milwaukee, Wis. . . . .	632,651	587,472	45,179	7.7	1.6
14. Houston, Tex. . . . .	594,321	384,514	209,807	54.6	31.5
15. Buffalo, N.Y. . . . .	577,393	575,901	1,492	0.3	0.5
16. New Orleans, La. . . . .	567,257	494,537	72,720	14.7	7.8
17. Minneapolis, Minn. . . . .	517,277	492,370	24,907	5.1	6.0
18. Cincinnati, O. . . . .	500,510	455,610	44,900	9.9	1.0
19. Seattle, Wash. . . . .	462,440	368,302	94,138	25.6	0.7
20. Kansas City, Mo. . . . .	453,290	399,178	54,112	13.6	-0.1
21. Newark, N.J. . . . .	437,857	429,760	8,097	1.9	-2.8
22. Dallas, Tex. . . . .	432,927	294,734	138,193	46.9	13.2
23. Indianapolis, Ind. . . . .	424,683	386,972	37,711	9.7	6.3
24. Denver, Colo. . . . .	412,856	322,412	90,444	28.1	12.0
25. San Antonio, Tex. . . . .	406,811	253,854	152,957	60.3	9.6
26. Memphis, Tenn. . . . .	394,012	292,942	101,070	34.5	15.7
27. Oakland, Calif. . . . .	380,576	302,163	78,413	26.0	6.4
28. Columbus, O. . . . .	374,770	306,087	68,683	22.4	5.3
29. Portland, Ore. . . . .	371,011	305,394	65,617	21.5	1.2
30. Louisville, Ky. . . . .	367,359	319,077	48,282	15.1	3.7
31. Rochester, N.Y. . . . .	331,252	324,975	6,277	1.9	-1.0
32. Atlanta, Ga. . . . .	327,090	302,288	24,802	8.2	11.8
33. San Diego, Calif. . . . .	321,485	203,341	118,144	58.1	37.4
34. St. Paul, Minn. . . . .	309,474	287,736	21,738	7.6	5.9
35. Toledo, O. . . . .	301,358	282,349	19,009	6.7	-2.9
36. Jersey City, N.J. . . . .	300,447	301,173	-726	-0.2	-1.0
37. Birmingham, Ala. . . . .	298,720	267,583	31,137	11.6	3.0
38. Fort Worth, Tex. . . . .	277,047	177,662	99,385	55.9	9.7
39. Akron, O. . . . .	273,139	244,791	28,348	11.6	-4.0
40. Providence, R.I. . . . .	247,700	253,504	-5,804	-2.3	0.2
41. Omaha, Neb. . . . .	247,408	223,844	23,564	10.5	4.6
42. Miami, Fla. . . . .	246,983	172,172	74,811	43.5	55.6
43. Long Beach, Calif. . . . .	244,072	164,271	79,801	48.6	15.7
44. Dayton, O. . . . .	243,108	210,718	32,390	15.4	4.8
45. Oklahoma City, Okla. . . . .	242,450	204,424	38,026	18.6	10.3
46. Richmond, Va. . . . .	229,906	193,042	36,864	19.1	5.5
47. Syracuse, N.Y. . . . .	220,067	205,967	14,100	6.8	-1.6
48. Jacksonville, Fla. . . . .	203,404	173,065	30,339	17.5	33.6
49. Worcester, Mass. . . . .	201,885	193,694	8,191	4.2	-0.8
50. Norfolk, Va. . . . .	188,601	144,332	44,269	30.7	11.3
51. Salt Lake City, Utah . . . . .	181,718	149,934	31,784	21.2	6.9
52. Tulsa, Okla. . . . .	180,586	142,157	38,429	27.0	0.6
53. Hartford, Conn. . . . .	177,073	166,267	10,806	6.5	1.3
54. Des Moines, Ia. . . . .	176,954	159,819	17,135	10.7	12.1
55. Grand Rapids, Mich. . . . .	175,647	164,292	11,355	6.9	-2.6

Table IX.—Population of Cities of 100,000 or More, 1950 (Preliminary Count) and 1940—(Continued)

City	1950, preliminary	1940	Increase,* 1940-50	Per cent of increase*	
56. Nashville, Tenn. . . . .	173,359	167,402	5,957	3.6	8.8
57. Youngstown, O. . . . .	167,643	167,720	-77	-0.0	-1.3
58. Wichita, Kan. . . . .	166,306	114,966	51,340	44.7	3.5
59. New Haven, Conn. . . . .	163,344	160,605	2,739	1.7	-1.3
60. Flint, Mich. . . . .	162,800	151,543	11,257	7.4	-3.2
61. Springfield, Mass. . . . .	162,601	149,554	13,047	8.7	-0.2
62. Spokane, Wash. . . . .	160,484	122,001	38,483	31.5	5.6
63. Bridgeport, Conn. . . . .	159,352	147,121	12,231	8.3	0.3
64. Yonkers, N.Y. . . . .	152,533	142,598	9,935	7.0	5.9
65. Tacoma, Wash. . . . .	142,975	109,408	33,567	30.7	2.4
66. Paterson, N.J. . . . .	139,423	139,656	-233	-0.2	0.8
67. Sacramento, Calif. . . . .	135,761	105,958	29,803	28.1	13.0
68. Albany, N.Y. . . . .	134,382	130,577	3,805	2.9	2.5
69. Charlotte, N.C. . . . .	133,219	100,899	32,320	32.0	22.0
70. Fort Wayne, Ind. . . . .	132,840	118,410	14,430	12.2	3.0
71. Gary, Ind. . . . .	132,496	111,719	20,777	18.6	11.2
72. Austin, Tex. . . . .	131,964	87,930	44,034	50.1	65.5
73. Chattanooga, Tenn. . . . .	130,333	128,163	2,170	1.7	7.0
74. Erie, Pa. . . . .	130,125	116,955	13,170	11.3	0.9
75. El Paso, Tex. . . . .	130,003	96,810	33,193	34.3	-5.5
76. Kansas City, Kan. . . . .	129,583	121,458	8,125	6.7	-0.3
77. Trenton, N.J. . . . .	127,867	124,697	3,170	2.5	1.1
78. Mobile, Ala. . . . .	127,151	78,720	48,431	61.5	15.4
79. Shreveport, La. . . . .	125,426	98,167	27,259	27.8	28.1
80. Scranton, Pa. . . . .	124,747	140,404	-15,657	-11.2	-2.1
81. Camden, N.J. . . . .	124,543	117,536	7,007	6.0	1.0
82. Knoxville, Tenn. . . . .	124,183	111,580	12,603	11.3	5.5
83. Tampa, Fla. . . . .	124,073	108,391	15,682	14.5	7.1
84. Baton Rouge, La. . . . .	123,957	34,719	89,238	257.0	13.0
85. Cambridge, Mass. . . . .	120,676	110,879	9,797	8.8	-2.4
86. Savannah, Ga. . . . .	119,689	95,996	23,693	24.7	12.9
87. Canton, O. . . . .	116,312	108,401	7,911	7.3	3.3
88. South Bend, Ind. . . . .	115,698	101,268	14,430	14.2	-2.8
89. Berkeley, Calif. . . . .	113,217	85,547	27,670	32.3	4.2
90. Elizabeth, N.J. . . . .	112,675	109,912	2,763	2.5	-4.1
91. Fall River, Mass. . . . .	111,759	115,428	-3,669	-3.2	0.1
92. Peoria, Ill. . . . .	111,523	105,087	6,436	6.1	0.1
93. Wilmington, Del. . . . .	109,907	112,504	-2,597	-2.3	5.5
94. Evansville, Ind. . . . .	109,869	97,062	12,807	13.2	-5.1
95. Reading, Pa. . . . .	109,062	110,568	-1,506	-1.4	-0.5
96. New Bedford, Mass. . . . .	109,033	110,341	-1,308	-1.2	-2.0
97. Corpus Christi, Tex. . . . .	108,053	57,301	50,752	88.6	106.6
98. Allentown, Pa. . . . .	106,233	96,904	9,329	9.6	4.7
99. Phoenix, Ariz. . . . .	105,442	65,414	40,028	61.2	35.9
100. Montgomery, Ala. . . . .	105,098	78,084	27,014	34.6	18.2
101. Waterbury, Conn. . . . .	104,242	99,314	4,928	5.0	-0.6
102. Pasadena, Calif. . . . .	104,087	81,864	22,223	27.1	7.6
103. Duluth, Minn. . . . .	104,066	101,065	3,001	3.0	-0.4
104. Somerville, Mass. . . . .	102,254	102,177	77	0.1	-1.7
105. Utica, N.Y. . . . .	101,479	100,518	961	1.0	-1.2
106. Little Rock, Ark. . . . .	101,387	88,039	13,348	15.2	7.8

\*A minus sign (—) denotes decrease.

There were a number of changes between 1940 and 1950 in the ranking of the leading cities with respect to population. The three cities standing at the head of the list, New York, N.Y., Chicago, Ill., and Philadelphia, Pa., ranked first, second and third, respectively, both in 1940 and in 1950. St. Louis, Mo., also retained its rank as eighth, but Los Angeles, Calif., replaced Detroit, Mich., as the fourth largest city, Baltimore, Md., replaced Cleveland, O., as sixth, Washington, D.C., replaced Boston, Mass., in the ninth position, and Pittsburgh, Pa., which was tenth in 1940, ranked 12th in 1950, while San Francisco, Calif., which was 12th in 1940 became 11th in 1950.

In the matter of absolute increase, there were 12 cities which added more than 100,000 to their population between 1940 and 1950, including 3 for which this addition represented a relative increase of more than 54%, namely, San Antonio, Tex., San Diego, Calif., and Houston, Tex. Some of the smaller cities likewise registered increases of more than 50%; and one of the new cities on the list, Baton Rouge, La., increased from 34,719 to 123,957, or 257.0%.

The increase between 1940 and 1950 in the population of the 106 cities taken together amounted to 12.3% as compared with 5.2% in the same cities between 1930 and 1940. Most of the individual cities increased in population more rapidly between 1940 and 1950 than in the preceding decade, though there were a few exceptions. For example, among the cities of more than 150,000 in 1950 which registered a decline in rate of growth were Minneapolis, Minn., Atlanta, Ga., Providence, R.I., Miami, Fla.,



Jacksonville, Fla., and Des Moines, Ia. New York and Washington, D.C., also showed materially lower rates of increase in the more recent decade, mainly, perhaps, because of trends toward suburban residence.

The population of all cities and other urban places of 5,000 or more, arranged alphabetically by states, is shown for 1950 and 1940 in Table XVII at the end of this article.

**Urban and Rural.**—From 1910 to 1940 the urban population of the U.S. was defined substantially as the population living in incorporated places of 2,500 or more. This definition left out of the count the population living in the larger unincorporated places and much of the population living in the suburbs of the larger cities. To bring into the urban classification these two fairly large groups of population, two changes were made in the definition adopted for the 1950 census. First, the suburban areas around all cities of 50,000 or more were carefully mapped and boundaries were established for an area termed the "urban fringe." This included, of course, some incorporated places already classified as urban in their own right, but it also covered many thickly settled suburban areas previously classified as rural. Second, arbitrary boundaries were established for a large number of unincorporated villages so that separate counts could be made for these places and they could be classified as urban if they had 2,500 inhabitants or more, without regard to the fact that they were not incorporated. The 1950 data available for this article were based mainly on the preliminary count of the population of the constituent places, as presented in Tables VIII and IX, just preceding, though it was not expected that the final figures would make any material change in the urban-rural classification. A summary of the urban and rural data is presented in Table X, in which final totals for urban and rural population were estimated by distributing between the two classes the small margin between the preliminary population of the U.S. and the final figures which were established for the U.S. and for states. The table presents not only the 1950 urban population based on the new method of classification outlined above, but also a 1950 urban total obtained by applying the 1940 rules to the 1950 census returns. This last figure makes possible direct comparisons with 1940.

Table X.—Urban and Rural Population of the United States, 1950\* and 1940

Item	1950 population 1950 method	1940 method	1940 population	Per cent of in- crease*
Total population, final . .	150,697,361	150,697,361	131,669,275	14.5
Urban, final (estimated†) . .	96,430,181	88,866,106	74,423,702	19.4
Rural, final (estimated‡) . .	54,267,180	61,831,255	57,245,573	6.8
Per cent urban . . . . .	64.0	59.0	56.5	—

\*A new method of classifying population as urban was adopted in 1950; figures for 1950 are shown in this table both for the new method and for the 1940 method, thus providing data comparable with 1940.

†Per cent of increase over 1940 represented by the 1950 urban and rural population as classified by the 1940 method.

‡Estimates for 1950 based on the assumption that the percentage urban in the final population will be the same as in the preliminary.

On the basis of the comparable figures (using the 1950 urban based on the 1940 method), it may be noted that the urban population increased by 19.4% in the decade ending in 1950, and the rural by 6.8%, whereas during the decade ending in 1940 the urban increase amounted to 7.9% and the rural to 6.4%. It appeared from these 1940 figures that the pattern of much more rapid increase in urban areas, which had been typical of the decades prior to 1930, might have been changed, perhaps permanently, after the same fashion as the pattern of general population increase. The percentage of urban increase between 1940 and 1950, however, was almost three times the percentage of rural increase—which might (or might not) indicate that the older pattern had been re-established.

The estimated total urban population in 1950 on the new basis was 96,430,181, as compared with 88,866,106 on the old basis, the effect of the change in definition or method of classification being to add 7,564,075 to the urban group, while the decade's increase on the old basis was 14,442,404. The preliminary urban total was 95,891,539, which figure was made up of the population of the urban places recorded in Table VIII, namely, 87,992,647, and that part of the urban-fringe population not already counted as urban because it was made up of incorporated places of 2,500 or more, which amounted to 7,898,881.

The percentage urban in the total population, which increased only from 56.2 to 56.5 between 1930 and 1940, had increased to 56.5 in 1950 using the 1940 definition of urban; and was further increased to 64.0 by the more inclusive definition established for 1950.

**Sex Distribution.**—The sex ratio, that is the number of males per 100 females in the total population, was 100.7 in 1940, and the number of males exceeded the number of females by 453,909. At some time between 1940 and 1950 the number of females in the population passed the number of males and began to build up an excess, which by 1950 amounted to at least 600,000 or 700,000 on a basis comparable with 1940.

**Colour and Nativity.**—The proportions of the population white and nonwhite remained practically the same in 1950 as in 1940, 89.7% of the 1950 population being classified as white and 10.3% as nonwhite. Between 1940 and 1950 the white population increased from 118,214,870 to 135,215,000, or 14.4% while the nonwhite population, mainly Negro, increased from 13,454,405 to 15,482,000, or 15.1%. It may be noted, however, that the native white population alone increased 17.1%, while the foreign-born white population decreased from 11,419,138 to 10,147,000, or 11.1%. As a basis for estimating probable future trends in the white-nonwhite relationship, it may be better to compare with the 14.1% increase in the nonwhite population the 17.1% increase in the native white population, rather than the figure for total white population. The foreign-born white population had been decreasing since 1930, and the average age of the 10,437,000 foreign born enumerated in 1950 was very high, and its death rate correspondingly high. If, however, immigration should be maintained at the level of the annual average for the last half of the decade ending in 1950, it might be sufficient to offset the rather large number of deaths bound to occur in the foreign-born white population.

The data on population classified by colour and nativity for 1950 and 1940 are presented, by regions, in Table XI.

While the percentage of nonwhites in the population of the U.S. as a whole remained practically unchanged between 1940 and 1950, there was an increase in the western division from 3.8% to 4.8%, there being an increase in the number of Negroes alone in that division from 170,706 in 1940 to 576,000 in 1950, partly offset by a slight decline in the number of other nonwhites.

In the south, where two-thirds of the nonwhite population is located, there was a decline in the percentage nonwhite in the total population from 24.0 to 21.9. This change resulted from the migration of Negroes from southern farming areas to northern and western manufacturing centres, as evidenced by significant increases in the proportions nonwhite in both the northeastern and the north central regions, as well as in the west.

**Age Distribution.**—The general level of the age of the population of the U.S. had been steadily increasing for a long time. The median age in 1950 was 30.1 years, as compared with 29.0 in 1940, 26.4 in 1930 and 16.7 in 1920, the earliest date for which age data for the entire population are available. Between 1940 and 1950, however, there were important changes in the opposite direction as a result of the much higher birth rates which prevailed, especially during the latter part of that decade, though



Table XI.—Population by Colour and Nativity, by Regions, 1950\* and 1940

Class	1950	1940	Increase†		Per cent of total	
			Number	Per cent	1950	1940
United States						
Total . . . .	150,697,000	131,669,275	19,027,725	14.5	100.0	100.0
White . . . .	135,215,000	118,214,870	17,000,130	14.4	89.7	89.8
Native . . . .	125,068,000	106,795,732	18,272,268	17.1	83.0	81.1
Foreign-born . . . .	10,147,000	11,419,138	-1,272,138	-11.1	6.7	8.7
Nonwhite . . . .	15,482,000	13,454,405	2,027,595	15.1	10.3	10.2
Negro . . . .	14,894,000	12,865,518	2,028,482	15.8	9.9	9.8
Other . . . .	588,000	588,887	-887	-0.2	0.4	0.4
Northeast						
Total . . . .	39,478,000	35,976,777	3,501,223	9.7	100.0	100.0
White . . . .	37,456,000	34,566,768	2,889,232	8.4	94.9	96.1
Native . . . .	32,240,000	28,545,927	3,694,073	12.9	81.7	79.3
Foreign-born . . . .	5,216,000	6,020,841	-804,841	-13.4	13.2	16.7
Nonwhite . . . .	2,022,000	1,410,009	611,991	43.4	5.1	3.9
Negro . . . .	1,975,000	1,369,875	605,125	44.2	5.0	3.8
Other . . . .	47,000	40,134	6,866	17.1	0.1	0.1
North central						
Total . . . .	44,461,000	40,143,332	4,317,668	10.8	100.0	100.0
White . . . .	42,248,000	38,639,970	3,608,030	9.3	95.0	96.3
Native . . . .	39,622,000	35,291,033	4,330,967	12.3	89.1	87.9
Foreign-born . . . .	2,625,000	3,348,937	-723,937	-21.6	5.9	8.3
Nonwhite . . . .	2,213,000	1,503,362	709,638	47.2	5.0	3.7
Negro . . . .	2,134,000	1,420,318	713,682	50.2	4.8	3.5
Other . . . .	79,000	83,044	-4,044	-4.9	0.2	0.2
South						
Total . . . .	47,197,000	41,665,901	5,531,099	13.3	100.0	100.0
White . . . .	36,881,000	31,658,578	5,222,422	16.5	78.1	76.0
Native . . . .	36,146,000	31,032,902	5,113,098	16.5	76.6	74.5
Foreign-born . . . .	735,000	625,676	109,324	17.5	1.6	1.5
Nonwhite . . . .	10,316,000	10,007,323	308,677	3.1	21.9	24.0
Negro . . . .	10,208,000	9,904,619	303,381	3.1	21.6	23.8
Other . . . .	108,000	102,704	5,296	5.2	0.2	0.2
West						
Total . . . .	19,562,000	13,883,265	5,678,735	40.9	100.0	100.0
White . . . .	18,631,000	13,349,554	5,281,446	39.6	95.2	96.2
Native . . . .	17,060,000	11,925,870	5,134,130	43.1	87.2	85.9
Foreign-born . . . .	1,571,000	1,423,684	147,316	10.3	8.0	10.3
Nonwhite . . . .	930,000	533,711	396,289	74.3	4.8	3.8
Negro . . . .	576,000	170,706	405,294	237.4	2.9	1.2
Other . . . .	354,000	363,005	-9,005	-2.5	1.8	2.6

\*Figures for 1950 are based on the tabulation of a small sample.  
†A minus sign (—) denotes decrease.

and over increased from 6.9 to 8.2.

**Employment Status.**—Estimates of the number of persons in the civilian labour force, the number employed, the number unemployed, etc., based on a series of sample surveys, have been published each month since 1940. For the purpose of these statistics a person who did any work for pay or profit during the week preceding the inquiry, or who had a job from which he was temporarily absent, was counted as employed; and a person who was seeking work, using the word seeking in a rather broad sense, was counted as unemployed. The employed and unemployed, taken together, constituted the labour force. These figures are summarized for the month of November in 1950 and 1949 in Table XIII.

Table XIII.—Employment Status of the Population of the United States,\* Nov. 1950 and Nov. 1949

Employment status	Nov. 5-11, 1950	Nov. 6-12, 1949	Increase†	
			Number	Per cent
Total noninstitutional population 14 years old and over	111,235,000	110,063,000	1,172,000	1.1
Total labour force, including				
armed forces . . . . .	65,453,000	64,363,000	1,090,000	1.7
Armed forces . . . . .	1,941,000	1,436,000	505,000	35.2
Civilian labour force . . . . .	63,512,000	62,927,000	585,000	0.9
Employed . . . . .	61,271,000	59,518,000	1,753,000	2.9
At work . . . . .	59,681,000	57,838,000	1,843,000	3.2
With a job but not at work . . . . .	1,590,000	1,680,000	-90,000	-5.4
Unemployed . . . . .	2,240,000	3,409,000	-1,169,000	-34.3
Not in the labour force . . . . .	45,782,000	45,701,000	81,000	0.2

\*Figures based on a small sample.  
†A minus sign (—) denotes decrease.

The civilian labour force increased from 62,927,000 in Nov. 1949 to 63,512,000 in Nov. 1950. This increase of 585,000, plus an increase of more than 500,000 in the armed forces, was less than 100,000 short of the increase in the total population 14 years old and over. The number of persons employed increased from 59,518,000 to 61,271,000, or 2.9%, while the number of unemployed decreased from 3,409,000 to 2,240,000, or 34.3%.

The changes in the several elements in the labour force for the entire period from 1940 to Nov. 1950 are presented in graphic form in the chart on p. 159.

The more significant items of the labour-force classification are presented by months from July 1949 to Nov. 1950 in Table XIV, which provides data for evaluating rather important short-time changes.

Table XII.—Population of the United States by Age, 1950\* and 1940

Age	1950	1940	Increase†		Per cent of total	
			Number	Per cent	1950	1940
Total . . . .	150,697,000	131,669,275	19,027,725	14.5	100.0	100.0
Under 5 years . . . .	16,324,000	10,541,524	5,782,476	54.9	10.8	8.0
5 to 9 years . . . .	13,241,000	10,684,622	2,556,378	23.9	8.8	8.1
10 to 14 years . . . .	11,361,000	11,745,935	-384,935	-3.3	7.5	8.9
15 to 19 years . . . .	10,732,000	12,333,523	-1,601,523	-13.0	7.1	9.4
20 to 24 years . . . .	11,327,000	11,587,835	-260,835	-2.3	7.5	8.8
25 to 29 years . . . .	12,093,000	11,096,638	996,362	9.0	8.0	8.4
30 to 34 years . . . .	11,601,000	10,242,388	1,358,612	13.3	7.7	7.8
35 to 39 years . . . .	11,193,000	9,545,377	1,647,623	17.3	7.4	7.2
40 to 44 years . . . .	10,058,000	8,787,843	1,270,157	14.5	6.7	6.7
45 to 49 years . . . .	8,990,000	8,255,225	734,775	8.9	6.0	6.3
50 to 54 years . . . .	8,274,000	7,256,846	1,017,154	14.0	5.5	5.5
55 to 59 years . . . .	7,230,000	5,843,865	1,386,135	23.7	4.8	4.4
60 to 64 years . . . .	5,950,000	4,728,340	1,221,660	25.8	3.9	3.6
65 to 69 years . . . .	5,060,000	3,806,657	1,253,343	32.9	3.4	2.9
70 to 74 years . . . .	3,425,000	2,569,532	855,468	33.3	2.3	2.0
75 years and over . . . .	3,337,000	2,643,125	1,193,875	45.2	2.5	2.0
Median age . . . .	30.1	29.0	—	—	—	—

\*Figures for 1950 are based on the tabulation of a small sample.  
†A minus sign (—) denotes decrease.

As a result of these differing rates of increase there were considerable changes in the age distribution of the population on a percentage basis, as shown in the last two columns of Table XII. The percentage under 5 years of age, for example, increased from 8.0 in 1940 to 10.8 in 1950; the percentage 15 to 19 years of age decreased from 9.4 to 7.1; and the percentage 65 years old

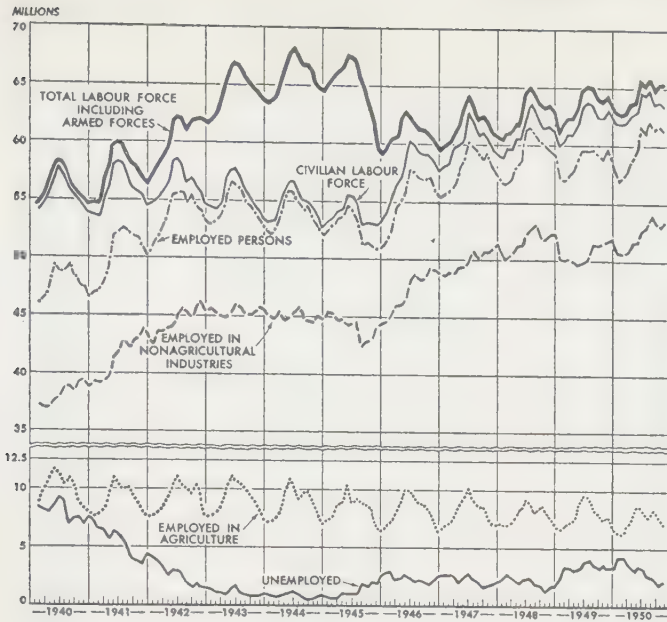
Table XIV.—Employment and Unemployment by Months,\* July 1949 to Nov. 1950

Week ending	Civilian labour force		Unemployed		
	Number	Per cent of population†	Employed	Number	Per cent of labour force
1949					
July 9 . . . . .	63,815,000	54.5	59,720,000	4,095,000	6.4
Aug. 13 . . . . .	63,637,000	54.6	59,947,000	3,689,000	5.8
Sept. 10 . . . . .	62,763,000	54.1	59,411,000	3,351,000	5.3
Oct. 8 . . . . .	62,576,000	53.6	59,001,000	3,576,000	5.7
Nov. 12 . . . . .	62,927,000	54.1	59,518,000	3,409,000	5.4
Dec. 10 . . . . .	62,045,000	53.2	58,556,000	3,489,000	5.6
1950					
Jan. 14 . . . . .	61,427,000	51.6	56,947,000	4,480,000	7.3
Feb. 11 . . . . .	61,637,000	51.6	56,953,000	4,684,000	7.6
March 11 . . . . .	61,675,000	52.1	57,551,000	4,123,000	6.7
April 8 . . . . .	62,183,000	53.1	58,668,000	3,515,000	5.7
May 13 . . . . .	62,788,000	54.0	59,731,000	3,057,000	4.9
June 10 . . . . .	64,866,000	55.5	61,482,000	3,384,000	5.2
July 8 . . . . .	64,427,000	55.2	61,214,000	3,213,000	5.0
Aug. 12 . . . . .	64,867,000	56.2	62,367,000	2,500,000	3.9
Sept. 9 . . . . .	63,567,000	55.1	61,226,000	2,341,000	3.7
Oct. 14 . . . . .	63,704,000	55.6	61,764,000	1,940,000	3.0
Nov. 11 . . . . .	63,512,000	55.1	61,271,000	2,240,000	3.5

\*Figures based on a small sample.  
†Total non-institutional population 14 years old and over.

The labour-force participation, that is the proportion of the population 14 years old and over (omitting institutions) which was in the labour force, ranged, during the period covered by





TRENDS in the labour force, 1940 to 1950 (Source: U.S. Bureau of the Census)

Table XIV, from a minimum of 51.6% in Jan. and Feb. 1950 to a maximum of 56.2% in Aug. 1950. Two important factors contributed to this variation: first, a much larger proportion of the members of farm families were actually at work on the farms in the summer months than in midwinter; and second, large numbers of students entered the labour force in quest of temporary jobs for the school vacation period.

The number of persons actually employed is also materially affected by these seasonal changes, though employment increased during the period under discussion somewhat more rapidly than the number of persons in the labour force, reaching a maximum of 62,367,000 in Aug. 1950. The unemployment figures are perhaps a better—or at least a simpler—index of changes in labour market conditions. The number of unemployed reached a postwar maximum of 4,684,000, or 7.6% of the labour force, in Feb. 1950, from which point it declined rather rapidly to a minimum of 1,940,000 in October, with a slight increase to 2,240,000 in Nov. 1950.

Between Nov. and Dec. 1950, the number of workers employed in agriculture declined from 7,551,000 to 6,234,000, a decrease of 1,317,000, only partly offset by an increase of 354,000 in non-agricultural employment. The number of unemployed declined slightly, from 2,240,000 in November to 2,229,000 in December. The average number of persons employed during the year 1950 was 60,000,000, however, as compared with an average of 58,700,000 in 1949.

Table XV.—Employment in Agricultural and Nonagricultural Industries,\* by Months, Nov. 1949 to Nov. 1950

Week ending	Total number employed	In non-agricultural industries	In agriculture Number	Per cent of total
<b>1949</b>				
Nov. 12 . . . . .	59,518,000	51,640,000	7,878,000	13.2
Dec. 10 . . . . .	58,556,000	51,783,000	6,773,000	11.6
<b>1950</b>				
Jan. 14 . . . . .	56,947,000	50,749,000	6,198,000	10.9
Feb. 11 . . . . .	56,953,000	50,730,000	6,223,000	10.9
March 11 . . . . .	57,551,000	50,877,000	6,675,000	11.6
April 8 . . . . .	58,668,000	51,473,000	7,195,000	12.3
May 13 . . . . .	59,731,000	51,669,000	8,062,000	13.5
June 10 . . . . .	61,482,000	52,436,000	9,046,000	14.7
July 8 . . . . .	61,214,000	52,774,000	8,440,000	13.8
Aug. 12 . . . . .	62,367,000	54,207,000	8,160,000	13.1
Sept. 9 . . . . .	61,226,000	53,415,000	7,811,000	12.8
Oct. 14 . . . . .	61,764,000	53,273,000	8,491,000	13.7
Nov. 21 . . . . .	61,271,000	53,721,000	7,551,000	12.3

\*Figures based on a small sample.

Because a large part of the seasonal variation in employment takes place in agriculture, figures are presented in Table XV showing separately by months, from Nov. 1949 to Nov. 1950, employment in agricultural and in nonagricultural industries.

These figures indicate a decline in agricultural employment from 7,878,000 in November to 6,198,000 in January, followed by a rather rapid increase to 9,046,000 in June. From this point there was a gradual decline to 7,811,000 in September, with a temporary increase to 8,491,000 in October (resulting from unusual seasonal conditions), and then a figure for Nov. 1950 of 7,551,000 which was a little lower than in Nov. 1949.

Employment in nonagricultural industries was much less affected by seasonal conditions, though there was a period from January to March where this type of employment was somewhat below 52,000,000. From April to August there was fairly rapid increase to a maximum (for the year) of 54,207,000, followed by lower figures for September, October and November. Employment in nonagricultural industries formed 89.1% of the total employment in January and February, but only 85.3% in June and 87.7% in November.

While the net change in employment or unemployment between one month and another is usually not very great, the number of persons who change from a status of employment to a status of unemployment or vice versa is much larger. For example, between October and November of 1950, as shown in Table XIV, employment declined from 61,764,000 to 61,271,000 or by 493,000, and unemployment increased slightly from 1,940,000 to 2,240,000 (or by 300,000).

During the same time, however, more than 3,000,000 persons came into the employment status, and more than 3,500,000 passed out of it. These figures are presented in some detail, by sex, in Table XVI.

Table XVI.—Gross Changes in Employment between October and November, 1950, by Type of Change and Sex

Type of change	Both sexes		Male		Female	
	Number (000 omitted)	Per cent	Number (000 omitted)	Per cent	Number (000 omitted)	Per cent
Total additions to employment . . . . .	3,091	100.0	1,229	100.0	1,862	100.0
Unemployment in October . . . . .	647	20.9	456	37.1	191	10.3
Not in labour force in October . . . . .	2,444	79.1	773	62.9	1,671	89.7
Keeping house . . . . .	1,454	47.0	15	1.2	1,439	77.3
In school . . . . .	522	16.9	353	28.7	169	9.1
Other . . . . .	468	15.1	405	33.0	63	3.4
Total reductions in employment . . . . .	3,582	100.0	1,615	100.0	1,967	100.0
Unemployed in November . . . . .	763	21.3	523	32.4	240	12.2
Not in labour force in November . . . . .	2,819	78.7	1,092	67.6	1,727	87.8
Keeping house . . . . .	1,419	39.6	15	0.9	1,404	71.4
In school . . . . .	659	18.4	391	24.2	268	13.6
Other . . . . .	741	20.7	686	42.5	55	2.8
Transfers between agricultural and non-agricultural industries: . . . . .	—	—	—	—	—	—
From agricultural in October to nonagricultural in November . . . . .	521	—	412	—	109	—
From nonagricultural in October to agricultural in November . . . . .	231	—	190	—	41	—

Of the 3,091,000 persons who became employed between the week ending Oct. 14 and the week ending Nov. 11, 647,000 were unemployed at the time of the survey in October and 2,444,000 were outside the labour force—that is, neither working nor seeking work.

Of this number the larger part (1,439,000) were women engaged in home housework.

On the other hand, of the 3,582,000 persons who were employed in October but not in November 763,000 had become unemployed (but were still seeking work) and 2,819,000 had passed out of the labour force altogether and were not even looking for work. About half of this total, likewise, were women who had returned to their household activities, though considerable numbers



of both men and women (659,000) had given up gainful work for school.

In addition to these extensive transfers between labour-force status and status outside the labour force, there were transfers from agriculture in October to nonagriculture in November amounting to 521,000, partly offset by transfers in the reverse direction amounting to 231,000.

**Places of 5,000 or More.**—Table XVII gives the 1950 population for all places of 5,000 or more, including unincorporated places as well as incorporated, arranged by states. The 1950 figures are the result of a preliminary count of the population and are subject to later revision—for the most part a slight revision upward. (See also ALIENS; BIRTH STATISTICS; CARTOGRAPHY; EMPLOYMENT; HOUSING; MARRIAGE AND DIVORCE; WAGES AND HOURS; WEALTH AND INCOME, DISTRIBUTION OF.)

(L. E. T.)

Table XVII.—Population of Cities and Other Urban Places of 5,000 or More, by States

(The 1950 figures represent a preliminary count of the population, subject to later revision)

Place	1950	1940	Place	1950	1940
<b>ALABAMA:</b>					
Albertville . . .	5,395	3,651			
Alexander City . .	6,433	6,649			
Andalusia . . .	9,176	6,886			
Annisson . . .	31,150	25,523			
Athens . . .	6,204	4,342			
Atmore . . .	5,751	3,200			
Attalla . . .	7,554	4,885			
Auburn . . .	12,943	4,652			
Bessemer . . .	28,471	22,826			
Birmingham . . .	298,720	267,583			
Brewton . . .	5,157	3,323			
Cullman . . .	7,524	5,774			
Decatur . . .	19,879	10,604			
Dothan . . .	6,008	4,137			
Enterprise . . .	21,556	17,194			
Eufaula . . .	7,270	4,353			
Fairfield . . .	6,013	6,269			
Florence . . .	13,812	15,043			
Fort Payne . . .	6,227	4,424			
Gadsden . . .	55,528	36,075			
Greenville . . .	6,705	5,378			
Guntersville . . .	5,209	4,035			
Homewood . . .	12,808	7,397			
Huntsville . . .	16,406	13,050			
Jasper . . .	8,558	6,847			
Lanett . . .	7,429	6,141			
Mobile . . .	127,151	78,720			
Montgomery . . .	105,008	78,084			
Mountain Brook . .	8,326	†			
Opelika . . .	12,264	8,487			
Opp . . .	5,212	3,178			
Ozark . . .	5,244	3,601			
Phenix City . . .	23,285	15,351			
Prichard . . .	18,910	6,084			
Roanoke . . .	5,410	4,168			
Russellville . . .	6,010	3,510			
Selma . . .	22,629	19,810			
Sheffield . . .	10,728	7,933			
Sylacauga . . .	9,618	6,269			
Talladega . . .	13,186	9,298			
Tarrant City . . .	7,560	6,983			
Troy . . .	8,474	7,053			
Tuscaloosa . . .	46,304	27,493			
Tusculum . . .	6,722	5,513			
Tuskegee . . .	6,840	3,937			
West Huntsville* . .	8,207	†			
<b>ARIZONA:</b>					
Ajo* . . .	5,777	†			
Amphitheater* . . .	12,620	†			
Douglas . . .	9,393	8,623			
Flagstaff . . .	6,733	5,080			
Glendale . . .	8,174	4,855			
Globe . . .	6,456	6,141			
Mesa . . .	16,766	7,224			
Morenci* . . .	6,549	†			
Nogales . . .	6,141	5,135			
Pasqua Village-El Rio* . . .	5,460	†			
Phoenix . . .	105,442	65,414			
Prescott . . .	6,734	6,018			
Tempe . . .	7,688	2,906			
Tucson . . .	45,064	36,818			
Wakefield* . . .	8,801	†			
Winslow . . .	6,408	4,577			
Yuma . . .	9,095	5,325			
<b>ARKANSAS:</b>					
Arkadelphia . . .	6,796	5,078			
Batesville . . .	6,371	5,267			
Benton . . .	6,263	3,502			
Blytheville . . .	16,221	10,652			
Camden . . .	11,341	8,975			
Conway . . .	8,546	5,782			
El Dorado . . .	23,047	15,858			

Place	1950	1940	Place	1950	1940
CALIFORNIA—Cont.:			CALIFORNIA—Cont.:		
Hawthorne . . .	16,278	8,263	Woodland . . .	9,318	6,637
Hayward . . .	14,273	6,736	Yuba City . . .	7,856	4,968
Hermosa Beach . .	11,766	7,197	COLORADO:		
Huntington Beach .	5,258	3,738	Alamosa . . .	5,342	5,613
Huntington Park . .	29,376	28,648	Aurora . . .	11,396	3,437
Indio . . .	5,281	2,296	Boulder . . .	19,916	12,958
Inglewood . . .	46,046	30,114	Canon City . . .	6,313	6,690
Laguna Beach . . .	6,188	4,460	Colorado Springs .	45,268	36,789
La Brea Airport* . .	7,864	†	Denver . . .	412,856	322,412
La Mesa . . .	10,008	3,925	Durango . . .	7,437	5,887
Lindsay . . .	5,033	4,397	Englewood . . .	16,619	9,680
Lodi . . .	13,727	11,079	Fort Collins . . .	14,932	12,251
Lompoc . . .	5,514	3,379	Fort Morgan . . .	5,202	4,884
Long Beach . . .	244,072	164,271	Golden . . .	5,176	3,175
Los Angeles . . .	1,957,692	1,504,277	Grand Junction . .	14,454	12,479
Lynwood . . .	25,534	10,982	Greely . . .	20,286	15,999
Madera . . .	10,428	6,457	La Junta . . .	7,679	7,040
Manhattan Beach .	17,278	6,398	Lamar . . .	7,715	4,445
Martinez . . .	8,216	7,381	Lamar . . .	8,061	7,406
Marysville . . .	7,777	6,646	Longmont . . .	6,750	6,145
Maywood . . .	13,193	10,731	Loveland . . .	6,561	52,162
Menlo Park . . .	13,537	3,258	Pueblo . . .	63,561	7,411
Merced . . .	15,144	10,135	Sterling . . .	7,470	13,223
Millbrae . . .	8,958	†	Trinidad . . .	12,206	5,855
Mill Valley . . .	7,241	4,847	Walsenburg . . .	5,567	
Modesto . . .	17,347	10,379	CONNECTICUT:		
Monrovia . . .	20,274	12,807	Ansonia . . .	18,711	19,210
Montebello . . .	21,754	8,016	Bridgeport . . .	159,352	147,121
Monterey . . .	16,120	10,084	Bristol . . .	35,873	30,167
Monterey Park . . .	20,113	8,531	Danbury† . . .	22,424	22,330
Mountain View . . .	6,548	3,946	Derby . . .	10,264	10,287
Napa . . .	13,542	7,740	Groton† . . .	6,990	4,719
National City . . .	21,132	10,344	Hartford . . .	177,073	160,267
Newport Beach . . .	12,220	4,438	Meriden . . .	43,747	39,494
North Modesto* . .	5,039	†	Middletown . . .	29,665	26,495
North Sacramento .	6,016	3,053	Naugatuck . . .	17,463	15,388
Oakland . . .	380,576	302,163	New Britain . . .	73,663	68,685
Oceanside . . .	12,880	4,651	New Haven . . .	163,344	160,605
Oildale* . . .	16,616	†	New London . . .	30,367	30,456
Ontario . . .	22,823	14,197	Norwalk . . .	49,458	39,840
Orange . . .	10,053	7,901	Norwich . . .	23,382	23,052
Oroville . . .	5,345	4,421	Pawcatuck* . . .	5,263	†
Oxnard . . .	21,519	8,510	Putnam† . . .	8,165	7,775
Pacific Grove . . .	9,573	6,249	Rockville† . . .	8,020	7,572
Palin Springs . . .	7,428	3,434	Seymour* . . .	5,346	†
Palo Alto . . .	25,290	16,774	Shelton . . .	12,384	10,971
Pasadena . . .	104,087	81,864	Southington* . . .	5,948	†
Petaluma . . .	10,390	8,034	Stamford . . .	73,584	47,938
Piedmont . . .	10,121	9,866	Thomaston* . . .	5,435	†
Pittsburg . . .	12,662	9,520	Thompsonville* . .	9,013	†
Pleasant Hills* . . .	5,397	†	Torrington . . .	27,770	26,088
Pomona . . .	35,157	23,539	Wallford . . .	11,943	11,425
Porterville . . .	6,857	6,270	Waterbury . . .	104,242	99,314
Redding . . .	10,137	8,109	Willimantic† . . .	13,565	12,101
Redlands . . .	18,411	14,324	Winsted† . . .	8,729	7,674
Redondo Beach . .	25,208	13,092	DELAWARE:		
Redwood City . . .	25,342	12,453	Dover . . .	6,322	5,517
Richmond . . .	99,218	23,642	Elsmere . . .	5,351	1,630
Riverside . . .	46,399	34,696	Milford . . .	5,179	4,214
Roseville . . .	8,715	6,653	Newark . . .	6,701	4,502
Sacramento . . .	135,761	105,958	New Castle . . .	5,399	4,414
Salinas . . .	13,895	11,586	Wilmington . . .	109,907	112,504
San Anselmo . . .	9,177	5,790	DISTRICT-OF		
San Bernardino . . .	62,792	43,646	COLUMBIA:		
San Bruno . . .	12,409	6,519	Washington, D.C.	797,670	663,091
San Buenaventura .	16,535	13,264	FLORIDA:		
San Carlos . . .	14,339	3,520	Bartow . . .	8,675	6,158
San Diego . . .	321,485	203,341	Belle Glade . . .	6,889	3,866
San Fernando . . .	12,858	9,094	Bradenton . . .	13,699	7,444
San Francisco . . .	760,753	634,536	Brownsville . . .		
San Gabriel . . .	20,294	11,867	Brentwood . . .		
Sanger . . .	6,376	4,017	Gaulding* . . .	20,356	†
San Jose . . .	95,044	68,457	Chattahoochee . .	8,466	7,110
San Leandro . . .	27,498	14,601	Clearwater . . .	15,535	10,136
San Luis Obispo . .	14,162	8,881	Coral Gables . . .	10,668	8,294
San Marino . . .	11,199	8,175	Daytona Beach . .	29,254	22,584
San Mateo . . .	41,536	19,493	DeLand . . .	8,536	7,041
San Pablo . . .	14,511	†	DelRay Beach . . .	6,264	3,737
San Rafael . . .	13,830	8,573	Fort Lauderdale . .	36,000	17,996
Santa Ana . . .	45,534	31,921	Fort Myers . . .	13,145	10,604
Santa Barbara . . .	44,764	34,958	Fort Pierce . . .	13,418	8,040
Santa Clara . . .	11,668	6,650	Gainesville . . .	20,577	13,757
Santa Cruz . . .	21,848	16,896	Haines City . . .	5,620	3,890
Santa Maria . . .	10,403	8,522	Hialeah . . .	19,742	3,958
Santa Monica . . .	71,299	53,500	Hollywood . . .	14,135	6,239
Santa Paula . . .	11,039	8,986	Jacksonville . . .	203,404	173,065
Santa Rosa . . .	17,995	12,605	Jacksonville . . .		
Seaside* . . .	10,251	†	Beach . . .	6,242	3,566
Selma . . .	5,938	3,667	Key West . . .	21,724	12,927
Sierra Madre . . .	7,288	4,581	Lake City . . .	7,469	5,836
South Bakersfield*	12,124	†	Lakeland . . .	39,846	22,068
South Gate . . .	50,684	26,945	Lake Wales . . .	6,802	5,024
South Pasadena . .	16,950	14,350	Lake Worth . . .	11,714	7,408
South San Francisco			Leesburg . . .	7,305	4,687
Francisco . . .	19,250	6,629	Marianna . . .	5,830	5,079
Stockton . . .	71,660	54,714	Miami . . .	246,983	172,172
Sunnyvale . . .	9,849	4,373	Miami Beach . . .	45,541	28,012
Susanville . . .	5,320	1,575	Miami Shores . . .	5,008	1,956
Torrance . . .	22,206	9,950	Miami Springs . . .	5,099	898
Tracy . . .	8,455	4,056	New Smyrna . . .		
Tulare . . .	12,367	8,259	Beach . . .	5,747	4,492
Turlock . . .	6,221	4,839	North Miami . . .	10,721	1,973
Twin Lakes . . .			Ocala . . .	11,588	8,866
Delmar* . . .	6,680	†	Opalocka . . .	5,191	497
Ukiah . . .	6,135	3,731	Orlando . . .	51,826	36,736
Upland . . .	9,166	6,316	Palatka . . .	9,172	7,140
Vallejo . . .	23,164	20,072	Panama City . . .	26,248	11,610
Visalia . . .	11,690	8,904	Pensacola . . .	43,293	37,441
Watsonville . . .	11,516	8,937			
Wesco . . .	5,580	†			
Whittier . . .	23,866	16,115			



## CENSUS DATA, U.S.

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Place	1950	1940	Place	1950	1940	Place	1950	1940	Place	1950	1940
FLORIDA—Cont.:			ILLINOIS—Cont.:			ILLINOIS—Cont.:			IOWA—Cont.:		
Plant City . . . . .	9,208	7,491	De Kalb . . . . .	11,567	9,146	Washington Park . . . . .	5,842	4,523	Dubuque . . . . .	49,528	43,802
Pompano Beach . . . . .	5,708	4,427	Des Plaines . . . . .	14,975	9,518	Waukegan . . . . .	39,099	34,241	Estherville . . . . .	6,725	5,651
Quincy . . . . .	6,586	3,888	Dixon . . . . .	11,532	10,671	Western Springs . . . . .	6,353	4,856	Fairfield . . . . .	7,042	6,773
St. Augustine . . . . .	13,418	12,000	Dolton . . . . .	5,556	3,068	West Frankfort . . . . .	11,251	12,383	Fort Dodge . . . . .	25,025	22,904
St. Petersburg . . . . .	95,712	60,812	Downers Grove . . . . .	11,868	9,526	Wheaton . . . . .	11,574	7,389	Fort Madison . . . . .	14,943	14,063
Sanford . . . . .	11,742	10,217	DuQuoin . . . . .	7,139	7,515	Wilmette . . . . .	18,184	17,226	Grinnell . . . . .	6,770	5,210
Sarasota . . . . .	18,705	11,141	East Alton . . . . .	7,311	4,680	Winnetka . . . . .	12,545	12,430	Indianola . . . . .	5,146	4,123
Tallahassee . . . . .	25,158	16,240	East Moline . . . . .	13,896	12,359	Wood River . . . . .	10,217	8,197	Iowa City . . . . .	27,018	17,182
Tampa . . . . .	124,073	108,397	East Peoria . . . . .	8,697	6,806	Woodstock . . . . .	7,183	6,123	Keokuk . . . . .	16,076	15,076
Warrington* . . . . .	12,964	†	East St. Louis . . . . .	81,950	75,000	Zion . . . . .	8,989	6,555	Knoxville . . . . .	7,604	6,936
West Palm Beach . . . . .	43,053	33,603	Edwardsville . . . . .	8,800	8,008	INDIANA:			Le Mars . . . . .	5,840	5,353
Winter Haven . . . . .	8,263	6,109	Effingham . . . . .	6,893	6,180	Alexandria . . . . .	5,139	4,801	Marion . . . . .	5,841	4,721
Winter Park . . . . .	8,219	4,715	Elgin . . . . .	43,534	38,333	Anderson . . . . .	46,809	41,572	Marshalltown . . . . .	19,750	19,210
GEORGIA:			Elmhurst . . . . .	21,204	15,458	Angola . . . . .	5,082	3,141	Mason City . . . . .	27,593	27,080
Albany . . . . .	30,087	19,055	Elmwood Park . . . . .	18,771	13,680	Auburn . . . . .	5,890	5,415	Mount Pleasant . . . . .	5,831	4,610
Americus . . . . .	11,367	9,281	Evanston . . . . .	73,039	65,389	Bedford . . . . .	12,566	12,514	Muscatine . . . . .	19,483	18,286
Athens . . . . .	28,102	20,650	Evergreen Park . . . . .	10,515	3,313	Beech Grove . . . . .	5,089	3,907	Newton . . . . .	11,600	10,462
Atlanta . . . . .	327,000	302,288	Fairfield . . . . .	5,575	4,008	Bloomington . . . . .	28,191	20,870	Oelwein . . . . .	7,838	7,801
Augusta . . . . .	71,597	95,970	Flora . . . . .	5,250	5,474	Bluffton . . . . .	6,058	5,417	Oskaloosa . . . . .	11,095	11,021
Bainbridge . . . . .	7,568	6,352	Forest Park . . . . .	14,946	14,840	Boonville . . . . .	5,099	4,526	Ottumwa . . . . .	33,640	31,570
Brunswick . . . . .	18,086	15,035	Franklin Park . . . . .	8,897	3,007	Brazil . . . . .	8,426	8,126	Perry . . . . .	6,161	5,977
Cairo . . . . .	5,578	4,653	Freeport . . . . .	22,425	22,366	Clarksville . . . . .	5,890	2,386	Red Oak . . . . .	6,451	5,763
Carrollton . . . . .	7,767	6,214	Galesburg . . . . .	31,357	28,876	Clinton . . . . .	6,576	7,092	Shenandoah . . . . .	6,917	6,846
Cartersville . . . . .	7,282	6,141	Geneva . . . . .	5,032	4,101	Columbus . . . . .	18,365	11,738	Sioux City . . . . .	84,035	82,364
Cedartown . . . . .	9,409	9,025	Glencoe . . . . .	6,050	6,825	Connerville . . . . .	15,545	12,898	Spencer . . . . .	7,421	6,599
College Park . . . . .	14,404	8,213	Glen Ellyn . . . . .	5,533	8,055	Crownsville . . . . .	12,804	11,089	Storm Lake . . . . .	6,030	5,274
Columbus . . . . .	79,510	53,280	Glenview . . . . .	6,112	2,500	Crawfordville . . . . .	5,862	4,643	Washington . . . . .	5,880	5,227
Cordele . . . . .	9,434	7,020	Granite City . . . . .	29,139	22,974	Crown Point . . . . .	7,272	5,861	Waterloo . . . . .	64,354	57,173
Covington . . . . .	5,176	3,900	Harrisburg . . . . .	10,901	11,453	Decatur . . . . .	7,272	5,861	Waverly . . . . .	5,097	4,150
Dalton . . . . .	15,962	10,448	Harvey . . . . .	20,636	17,878	East Chicago . . . . .	54,124	54,037	Webster City . . . . .	7,004	6,738
Decatur . . . . .	21,626	16,561	Herrin . . . . .	9,401	9,352	East Gary . . . . .	5,606	3,401	West Des Moines . . . . .	5,608	4,252
Douglas . . . . .	7,437	5,175	Highland Park . . . . .	16,767	14,476	Elkhart . . . . .	35,556	33,434	KANSAS:		
Dublin . . . . .	10,213	7,814	Hinsdale . . . . .	8,664	7,336	Elwood . . . . .	11,350	10,913	Abilene . . . . .	5,580	5,671
East Point . . . . .	21,628	12,403	Homewood . . . . .	5,863	4,078	Evansville . . . . .	109,869	97,062	Arkansas City . . . . .	12,887	12,752
Elberton . . . . .	6,753	6,188	Hoopston . . . . .	6,019	5,381	Fort Wayne . . . . .	132,840	118,410	Atchison . . . . .	12,759	12,658
Fitzgerald . . . . .	8,170	7,388	Inglis Park* . . . . .	6,843	†	Frankfort . . . . .	14,933	13,706	Chanute . . . . .	10,241	10,142
Fort Valley . . . . .	6,826	4,953	Jacksonville . . . . .	20,374	19,844	Franklin . . . . .	7,355	6,264	Coffeyville . . . . .	17,114	17,355
Gainesville . . . . .	11,881	10,243	Jerseyville . . . . .	5,787	4,809	Gary . . . . .	132,496	111,719	Concordia . . . . .	7,139	6,255
Griffin . . . . .	13,952	13,222	Joliet . . . . .	52,460	42,365	Goshen . . . . .	12,977	11,375	Dodge City . . . . .	11,237	8,487
Hapeville . . . . .	8,504	5,059	Kankakee . . . . .	25,873	22,241	Greencastle . . . . .	6,856	4,872	El Dorado . . . . .	10,923	10,045
La Grange . . . . .	24,954	21,983	Kewanee . . . . .	16,770	16,901	Greenfield . . . . .	6,142	4,821	Emporia . . . . .	15,560	13,188
Macon . . . . .	70,106	57,805	La Grange . . . . .	11,950	10,479	Greensburg . . . . .	6,599	6,065	Fort Scott . . . . .	10,330	10,557
Marietta . . . . .	20,688	8,667	La Grange Park . . . . .	6,149	3,406	Hammond . . . . .	87,423	70,184	Garden City . . . . .	10,893	6,285
Medway . . . . .	†	†	Lake Forest . . . . .	7,694	6,885	Hartford City . . . . .	7,228	6,946	Great Bend . . . . .	12,620	9,044
Hardwick* . . . . .	14,792	†	Lansing . . . . .	8,677	4,462	Highland . . . . .	5,676	2,723	Hays . . . . .	8,600	6,385
Milledgeville . . . . .	8,850	6,778	La Salle . . . . .	12,023	12,812	Hobart . . . . .	10,479	7,166	Hutchinson . . . . .	33,524	30,913
Moultrie . . . . .	11,612	10,147	Lawrenceville . . . . .	6,351	6,213	Huntington . . . . .	15,033	13,903	Independence . . . . .	11,432	11,595
Newnan . . . . .	8,190	7,182	Libertyville . . . . .	5,420	3,930	Indianapolis . . . . .	424,683	386,972	Iola . . . . .	7,081	7,244
North Atlanta . . . . .	5,902	1,365	Lincoln . . . . .	14,344	12,752	Jasper . . . . .	5,213	5,041	Junction City . . . . .	13,370	8,507
Rome . . . . .	29,617	26,282	Litchfield . . . . .	7,211	7,048	Jeffersonville . . . . .	14,671	11,493	Kansas City . . . . .	129,583	121,458
Savannah . . . . .	119,689	95,996	Lombard . . . . .	9,799	7,075	Kendallville . . . . .	6,123	5,431	Lawrence . . . . .	23,292	14,390
Statesboro . . . . .	6,089	5,028	Loves Park . . . . .	5,352	†	Kokomo . . . . .	38,600	33,795	Leavenworth . . . . .	20,543	19,220
Thomaston . . . . .	6,580	6,396	Lyons . . . . .	6,103	4,960	Lafayette . . . . .	35,508	28,798	Liberal . . . . .	7,124	4,410
Thomasville . . . . .	14,446	12,683	Macomb . . . . .	10,586	8,764	La Porte . . . . .	17,280	16,180	McPherson . . . . .	8,659	7,194
Tifton . . . . .	6,817	5,228	Madison . . . . .	7,960	7,782	Lebanon . . . . .	7,619	6,529	Manhattan . . . . .	18,990	11,659
Toccoa . . . . .	6,788	5,494	Marion . . . . .	10,130	9,251	Linton . . . . .	5,951	6,263	Newton . . . . .	11,541	11,048
Valdosta . . . . .	20,004	15,595	Mattoon . . . . .	17,993	15,827	Logansport . . . . .	20,933	20,177	Olathe . . . . .	5,580	3,979
Vidalia . . . . .	5,827	4,109	Maywood . . . . .	27,409	26,648	Madison . . . . .	7,485	6,923	Ottawa . . . . .	10,051	10,193
Warner Robins . . . . .	7,947	†	Melrose Park . . . . .	13,109	10,933	Marion . . . . .	30,059	26,767	Parsons . . . . .	14,706	14,294
Waycross . . . . .	18,842	16,763	Mendota . . . . .	5,131	4,215	Martinsville . . . . .	5,994	5,009	Pittsburg . . . . .	19,371	17,571
IDAHO:			Metropolis . . . . .	6,079	6,287	Michigan City . . . . .	28,379	26,476	Pratt . . . . .	7,505	6,591
Blackfoot . . . . .	5,178	3,681	Milton* . . . . .	8,244	†	Mishawaka . . . . .	32,878	28,298	Russell . . . . .	6,471	4,819
Boise . . . . .	34,152	26,130	Moline . . . . .	37,296	34,608	Mount Vernon . . . . .	6,148	5,638	Salina . . . . .	26,141	21,073
Burley . . . . .	5,877	5,329	Monmouth . . . . .	10,190	9,096	Muncie . . . . .	58,364	49,720	Topeka . . . . .	77,827	67,833
Caldwell . . . . .	10,462	7,272	Morris . . . . .	6,917	6,145	New Albany . . . . .	29,297	25,414	Wellington . . . . .	7,770	7,246
Coeur d'Alene . . . . .	12,189	10,049	Mount Carmel . . . . .	8,709	6,987	New Castle . . . . .	18,227	16,620	Wichita . . . . .	106,306	114,966
Franklin . . . . .	†	†	Mount Vernon . . . . .	15,503	14,724	Noblesville . . . . .	6,563	5,575	Winfield . . . . .	10,238	9,560
Whitney Airport* . . . . .	7,791	†	Murphysboro . . . . .	8,417	8,976	Peru . . . . .	13,281	12,432	KENTUCKY:		
Idaho Falls . . . . .	18,855	15,024	Naperville . . . . .	7,023	5,272	Plymouth . . . . .	6,707	5,713	Ashland . . . . .	31,228	29,537
Lewiston . . . . .	12,910	10,548	Normal . . . . .	9,832	6,983	Portland . . . . .	7,050	6,362	Bellevue . . . . .	9,936	8,741
Moscow . . . . .	10,548	6,014	North Chicago . . . . .	8,700	8,465	Princeton . . . . .	7,636	7,786	Bowling Green . . . . .	18,124	14,585
Nampa . . . . .	16,142	12,149	Oak Lawn . . . . .	8,732	3,483	Richmond . . . . .	39,504	35,147	Corbin . . . . .	7,715	7,



Place	1950	1940	Place	1950	1940	Place	1950	1940	Place	1950	1940
LOUISIANA—Cont.:			MASSACHUSETTS—Cont.:			MICHIGAN—Cont.:			MISSOURI—Cont.:		
Bastrop . . . . .	12,775	6,620	Malden . . . . .	59,779	58,010	Plymouth . . . . .	6,649	5,360	Brookfield . . . . .	5,790	6,174
Baton Rouge . . . . .	123,957	34,719	Marlborough . . . . .	15,741	15,154	Pontiac . . . . .	73,112	66,626	Cape Girardeau . . . . .	21,539	19,426
Bogalusa . . . . .	17,722	14,604	Maynard* . . . . .	6,687	†	Port Huron . . . . .	35,597	32,750	Carthage . . . . .	11,150	10,585
Bossier City . . . . .	15,368	5,786	Medford . . . . .	66,109	63,083	River Rouge . . . . .	20,366	17,008	Caruthersville . . . . .	8,578	6,612
Covington . . . . .	5,102	4,123	Melrose . . . . .	26,919	25,333	Roseville . . . . .	15,801	9,023	Charleston . . . . .	5,500	5,182
Crowley . . . . .	12,704	9,523	Middleborough* . . . . .	5,878	†	Royal Oak . . . . .	46,817	25,087	Chillicothe . . . . .	8,649	8,012
De Ridder . . . . .	5,776	3,750	Millis* . . . . .	11,361	†	Saginaw . . . . .	92,352	82,794	Clayton . . . . .	15,925	13,060
Eunice . . . . .	8,186	5,242	New Bedford . . . . .	109,033	110,341	St. Clair Shores . . . . .	19,785	10,495	Clinton . . . . .	6,069	6,041
Franklin . . . . .	6,125	4,274	Newburyport . . . . .	14,073	13,916	St. Joseph . . . . .	10,123	8,903	Columbia . . . . .	31,731	18,399
Goosport* . . . . .	8,340	†	Newton . . . . .	80,996	69,873	Sault Ste. Marie . . . . .	17,750	15,847	De Soto . . . . .	5,337	5,121
Gretna . . . . .	13,848	10,879	North Adams . . . . .	21,475	22,213	South Haven . . . . .	5,596	4,745	Excelsior Springs . . . . .	5,522	4,864
Hammond . . . . .	8,015	6,033	Northampton . . . . .	28,998	24,794	Springfield Place . . . . .	†	†	Ferguson . . . . .	11,527	5,724
Houma . . . . .	11,480	9,052	Peabody . . . . .	22,647	21,711	Lakeview* . . . . .	13,172	†	Festus . . . . .	5,183	4,620
Jackson . . . . .	6,767	5,384	Pittsfield . . . . .	53,055	49,684	Sturgis . . . . .	7,789	7,214	Flat River . . . . .	5,312	5,401
Jennings . . . . .	9,735	7,343	Plymouth* . . . . .	10,580	†	Three Rivers . . . . .	6,757	6,710	Fulton . . . . .	10,040	8,297
Kenner . . . . .	5,512	2,375	Quincy . . . . .	83,190	75,810	Traverse . . . . .	10,679	14,455	Hannibal . . . . .	20,540	20,865
Lafayette . . . . .	33,405	19,210	Revere . . . . .	36,663	34,405	Trenton . . . . .	6,214	5,284	Independence . . . . .	36,832	10,666
Lake Charles . . . . .	41,202	21,207	Salem . . . . .	41,842	41,213	Wayne . . . . .	9,372	4,223	Jefferson City . . . . .	24,990	24,268
Minden . . . . .	9,776	6,677	Somerville . . . . .	102,254	102,177	Willow Run* . . . . .	11,334	†	Jennings . . . . .	15,236	†
Monroe . . . . .	38,375	28,309	Southbridge . . . . .	†	†	Wyandotte . . . . .	36,666	30,618	Joplin . . . . .	38,515	37,144
Morgan City . . . . .	9,759	6,960	Globe* . . . . .	16,744	†	Ypsilanti . . . . .	18,267	12,121	Kansas City . . . . .	453,290	399,178
Natchitoches . . . . .	9,548	6,812	Spencer* . . . . .	5,281	†	MINNESOTA:			Kennett . . . . .	8,678	6,335
New Iberia . . . . .	16,460	13,747	Springfield . . . . .	162,601	149,554	Albert Lea . . . . .	13,488	12,200	Kinloch . . . . .	5,970	†
New Orleans . . . . .	567,257	494,537	Taunton . . . . .	40,056	37,395	Alexandria . . . . .	6,326	5,051	Kirkville . . . . .	10,948	10,080
Oakdale . . . . .	5,500	3,933	Turners Falls* . . . . .	5,167	†	Anoka . . . . .	7,379	6,426	Kirkwood . . . . .	18,587	12,132
Opelousas . . . . .	11,600	8,980	Waltham . . . . .	47,198	40,020	Austin . . . . .	23,035	18,307	Ladue . . . . .	5,614	3,981
Pineville . . . . .	6,396	4,297	Ware* . . . . .	6,192	†	Bemidji . . . . .	9,035	9,427	Lebanon . . . . .	6,752	5,025
Plaquemine . . . . .	5,737	5,049	Webster* . . . . .	12,174	†	Brainerd . . . . .	12,558	12,071	Lexington . . . . .	5,071	5,341
Rayne . . . . .	6,493	4,974	Westfield . . . . .	20,961	18,793	Chisholm . . . . .	6,854	7,487	Maplewood . . . . .	13,238	12,875
Ruston . . . . .	10,346	7,107	Whitinsville* . . . . .	5,624	†	Cloquet . . . . .	7,663	7,304	Marshall . . . . .	8,819	8,533
Shreveport . . . . .	125,426	98,167	Woburn . . . . .	20,260	19,751	Columbia Heights . . . . .	8,208	6,035	Maryville . . . . .	6,814	5,700
Sulphur . . . . .	5,991	3,504	Worcester . . . . .	201,885	193,694	Crookston . . . . .	7,352	7,161	Mexico . . . . .	11,011	9,953
Tallulah . . . . .	7,775	5,712	MICHIGAN:			Crystal . . . . .	5,097	2,373	Moberly . . . . .	12,833	12,920
Thibodaux . . . . .	7,733	5,851	Adrian . . . . .	18,402	14,230	Detroit Lakes . . . . .	5,734	5,015	Neosho . . . . .	5,780	5,318
Ville Platte . . . . .	6,618	3,721	Albion . . . . .	10,395	8,345	Duluth . . . . .	104,066	101,065	Nevada . . . . .	7,986	8,181
West Monroe . . . . .	10,286	8,560	Allen Park . . . . .	12,293	3,487	East Grand Forks . . . . .	5,042	3,511	Overland . . . . .	11,463	2,931
Westwego . . . . .	8,281	4,992	Alma . . . . .	8,327	7,202	Edina . . . . .	9,659	5,855	Pine Lawn . . . . .	6,422	†
Winnfield . . . . .	5,616	4,512	Alpena . . . . .	13,053	12,808	Ely . . . . .	5,462	5,970	Poplar Bluff . . . . .	15,120	11,163
MAINE:			Ann Arbor . . . . .	47,279	29,815	Evereth . . . . .	5,829	6,887	Richmond . . . . .	†	†
Auburn . . . . .	23,078	19,817	Battle Creek . . . . .	48,460	43,453	Fairmont . . . . .	8,175	6,988	Richmond Heights . . . . .	11,827	12,802
Augusta . . . . .	20,900	19,360	Bay City . . . . .	52,372	47,950	Faribault . . . . .	10,612	14,527	Rolla . . . . .	9,313	5,111
Bangor . . . . .	31,473	29,822	Benton Harbor . . . . .	18,612	10,668	Fergus Falls . . . . .	12,873	10,848	St. Charles . . . . .	14,307	10,803
Bath . . . . .	10,594	10,235	Berkley . . . . .	17,913	6,406	Golden Valley . . . . .	5,599	2,048	St. Joseph . . . . .	75,572	75,711
Belfast . . . . .	5,927	5,540	Big Rapids . . . . .	5,732	4,987	Grand Rapids . . . . .	5,966	4,875	St. Louis . . . . .	852,623	810,048
Biddeford . . . . .	20,785	19,790	Birmingham . . . . .	15,370	11,196	Hastings . . . . .	6,593	5,662	Sedalia . . . . .	20,660	20,428
Brewer . . . . .	6,817	6,510	Buchanan . . . . .	5,441	4,050	Hibbing . . . . .	10,212	10,385	Sikeston . . . . .	11,663	7,944
Brunswick* . . . . .	7,300	†	Cadillac . . . . .	10,345	9,855	Hopkins . . . . .	6,630	4,100	Springfield . . . . .	66,302	61,238
Gardiner . . . . .	6,314	6,041	Center Line . . . . .	7,643	3,198	International Falls . . . . .	6,261	5,626	Trenton . . . . .	6,110	7,046
Houlton* . . . . .	6,005	†	Charlotte . . . . .	6,580	5,544	Little Falls . . . . .	6,670	0,047	University City . . . . .	39,595	33,023
Kittery* . . . . .	6,408	†	Cheboygan . . . . .	5,507	5,673	Mankato . . . . .	18,785	15,564	Warrensburg . . . . .	6,845	5,868
Lewiston . . . . .	41,142	38,598	Clawson . . . . .	5,176	4,000	Marshall . . . . .	5,888	4,590	Washington . . . . .	6,860	6,756
Millinocket* . . . . .	5,739	†	Coldwater . . . . .	8,542	7,343	Minneapolis . . . . .	517,277	492,370	Webb City . . . . .	6,886	7,033
Old Town . . . . .	8,256	7,688	Dearborn . . . . .	94,529	63,584	Montevideo . . . . .	5,443	5,220	Webster Groves . . . . .	23,280	18,394
Portland . . . . .	70,930	73,643	Detroit . . . . .	1,838,517	1,623,452	Moorhead . . . . .	14,798	9,491	Wellston . . . . .	9,361	†
Presque Isle . . . . .	9,945	7,939	Dowagiac . . . . .	6,534	5,007	New Ulm . . . . .	9,312	8,743	MONTANA:		
Rockland . . . . .	9,138	8,899	East Detroit . . . . .	21,373	8,584	Northfield . . . . .	7,471	4,533	Anaconda . . . . .	11,221	11,004
Rumford* . . . . .	7,866	†	East Grand Rapids . . . . .	6,357	4,899	Owatonna . . . . .	10,149	8,694	Billings . . . . .	31,725	23,261
Saco . . . . .	10,349	8,631	Rapids . . . . .	20,310	5,839	Pipestone . . . . .	5,256	4,682	Bozeman . . . . .	11,252	8,665
Sanford . . . . .	11,079	†	East Lansing . . . . .	17,457	13,209	Red Wing . . . . .	10,626	9,962	Butte . . . . .	32,904	37,081
Skowhegan* . . . . .	6,174	†	Ecorse . . . . .	15,068	14,830	Richfield . . . . .	17,415	6,750	Glendive City . . . . .	5,238	4,524
South Portland . . . . .	21,732	15,781	Escanaba . . . . .	20,670	22,523	Robbinsdale . . . . .	11,239	6,018	Great Falls . . . . .	39,006	20,928
Waterville . . . . .	18,232	10,688	Ferndale . . . . .	20,670	22,523	Rochester . . . . .	20,634	26,312	Haure . . . . .	8,094	6,427
Westbrook . . . . .	12,280	11,087	Flint . . . . .	162,800	151,543	Roseville . . . . .	6,433	†	Helena . . . . .	17,498	15,056
MARYLAND:			Garden City . . . . .	8,986	4,096	St. Cloud . . . . .	28,375	24,173	Kalispell . . . . .	9,094	8,245
Annapolis . . . . .	15,016	13,069	Grand Haven . . . . .	9,466	8,799	St. Louis Park . . . . .	22,495	7,737	Lewistown . . . . .	6,540	5,874
Baltimore . . . . .	940,205	859,100	Grand Rapids . . . . .	175,647	164,292	St. Paul . . . . .	309,474	287,736	Livingston . . . . .	7,667	6,642
Cambridge . . . . .	10,366	10,102	Greenville . . . . .	6,056	5,321	St. Peter . . . . .	7,766	5,870	Miles City . . . . .	9,184	7,313
College Park . . . . .	11,137	†	Grosse Pointe . . . . .	6,279	6,179	South St. Paul . . . . .	15,996	11,844	Missoula . . . . .	22,320	18,449
Cumberland . . . . .	37,632	39,483	Grosse Pointe Farms . . . . .	9,365	7,217	Stillwater . . . . .	7,643	7,013	Silver Bow Park . . . . .	†	†
Elkton . . . . .	5,254	3,518	Grosse Pointe Park . . . . .	13,029	12,646	Thief River Falls . . . . .	6,923	6,019	Floral Park* . . . . .	5,117	†
Frederick . . . . .	18,092	15,802	Grosse Pointe Woods . . . . .	10,407	2,805	Virginia . . . . .	12,332	12,264	NEBRASKA:		
Frederick . . . . .	18,092	15,802	Hancock . . . . .	5,216	5,554	West St. Paul . . . . .	7,943	5,733	Alliance . . . . .	7,852	6,255
Frederick . . . . .	18,092	15,802	Hastings . . . . .	6,060	5,175	Willmar . . . . .	9,338	7,623	Beatrice . . . . .	11,788	10,883
Greenbelt . . . . .	7,076	2,831	Hazel Park . . . . .	17,791	†	Winona . . . . .	2				



Place	1950	1940	Place	1950	1940	Place	1950	1940	Place	1950	1940
NEW HAMPSHIRE—Cont.:			NEW JERSEY—Cont.:			NEW YORK—Cont.:			NORTH CAROLINA—Cont.:		
Portsmouth . . .	18,793	14,821	Riverside* . . .	7,201	†	Ithaca . . .	20,305	19,730	Hickory . . .	14,691	13,487
Rochester . . .	13,768	12,012	Roselle . . .	17,046	13,597	Jamestown . . .	43,250	42,638	High Point . . .	30,930	18,111
Somerset . . .	6,909	6,136	Roselle Park . . .	11,521	9,661	Johnson City . . .	19,503	18,030	Kannapolis* . . .	28,451	†
NEW JERSEY:			Rutherford . . .	17,304	15,466	Johnstown . . .	10,861	10,666	Kings Mountain . . .	7,193	6,547
Asbury Park . . .	17,035	14,617	Salem . . .	9,077	8,618	Kenmore . . .	20,232	18,612	Kinston . . .	18,278	15,388
Atlantic City . . .	61,642	64,094	Sayreville . . .	10,323	8,186	Kings Park* . . .	10,944	†	Laurinburg . . .	7,126	5,685
Audubon . . .	9,503	8,906	Secaucus . . .	9,857	9,754	Kingston . . .	28,860	28,580	Lenoir . . .	7,863	7,593
Bayonne . . .	76,657	79,108	Somerville . . .	11,566	8,720	Lackawanna . . .	27,646	24,058	Lexington . . .	13,562	10,550
Belleville . . .	32,059	28,167	South Amboy . . .	8,430	7,802	Lancaster . . .	8,678	7,236	Lincolnton . . .	5,419	4,525
Bellmawr . . .	5,223	1,250	Southeast . . .	†	†	Larchmont . . .	6,293	5,970	Lumberton . . .	9,104	5,803
Bergenfield . . .	17,611	10,275	Vineland* . . .	6,407	†	Lindenhurst . . .	8,632	4,756	Mills—East . . .	†	†
Bloomfield . . .	49,313	41,623	South Orange . . .	15,175	13,742	Little Falls . . .	9,522	10,163	Rockingham* . . .	5,181	†
Bogota . . .	7,668	7,346	South Plainfield . . .	8,012	5,379	Lockport . . .	25,136	24,379	Monroe . . .	10,113	6,475
Boonton . . .	7,581	6,739	South River . . .	11,323	10,714	Long Beach . . .	15,534	9,036	Mooreville . . .	7,118	6,682
Bordentown . . .	5,454	4,223	Summit . . .	17,800	16,165	Lynbrook . . .	17,258	14,557	Morehead City . . .	5,055	3,665
Bound Brook . . .	8,356	7,616	Tenafly . . .	9,619	7,413	Malone . . .	9,490	8,743	Morganton . . .	8,252	7,670
Bridgeton . . .	18,385	15,902	Totowa . . .	6,050	5,130	Malverne . . .	8,034	5,153	Mount Airy . . .	7,194	6,286
Burlington . . .	12,083	10,905	Trenton . . .	127,807	124,697	Mamaroneck . . .	15,041	13,034	New Bern . . .	15,784	11,815
Caldwell . . .	6,222	4,932	Union City . . .	55,322	50,173	Masena . . .	13,123	11,328	Newton . . .	6,015	5,407
Camden . . .	124,543	117,536	Ventnor City . . .	8,104	7,905	Mechanicville . . .	7,506	7,449	Oxford . . .	6,793	3,991
Carlstadt . . .	5,614	5,676	Verona . . .	10,910	8,957	Medina . . .	6,187	5,871	Raleigh . . .	65,123	40,897
Carteret . . .	13,003	11,970	Vineland . . .	8,128	7,914	Middletown . . .	22,505	21,908	Reidsville . . .	11,760	10,387
Chatham . . .	7,321	4,888	Wallington . . .	8,916	8,981	Minneapolis . . .	15,574	10,064	Roanoke Rapids . . .	8,123	8,545
Cliffside Park . . .	17,123	16,892	Westfield . . .	21,335	18,458	Mount Kisco . . .	5,919	5,941	Rocky Mount . . .	27,644	25,568
Clifton . . .	64,567	48,827	West New York . . .	37,754	39,439	Mount Vernon . . .	71,837	67,362	Salisbury . . .	19,999	19,037
Collingswood . . .	15,255	12,685	West Orange . . .	28,624	25,662	Newark . . .	10,275	9,646	Sanford . . .	10,004	4,960
Dover . . .	11,210	10,491	Westwood . . .	6,775	5,388	Newburgh . . .	31,924	31,883	Shelby . . .	15,508	14,037
Dumont . . .	13,030	7,556	Whitesville-West . . .	†	†	New Hyde Park . . .	7,323	4,691	Smithfield . . .	5,574	3,678
Dunellen . . .	6,288	5,300	Grove-Bradley . . .	7,472	†	New Rochelle . . .	59,626	58,408	South Gastonia* . . .	6,471	†
East Orange . . .	78,057	68,945	Parlin* . . .	†	†	New York City . . .	7,835,099	7,454,995	Spray* . . .	5,533	†
East Paterson . . .	15,391	4,937	Wildwood . . .	5,468	5,150	Bronx . . .	1,444,993	1,394,711	Statesville . . .	16,793	11,440
East Rutherford . . .	7,430	7,268	Woodbury . . .	10,900	8,306	Brooklyn . . .	2,716,347	2,668,285	Tarboro . . .	8,069	7,148
Elizabeth . . .	112,675	109,912	Wood-Ridge . . .	6,271	5,739	Manhattan . . .	1,936,540	1,889,924	Thomasville . . .	11,126	11,041
Englewood . . .	23,092	18,966	NEW MEXICO:			Queens . . .	1,546,294	1,297,634	Washington . . .	9,616	8,560
Fair Lawn . . .	23,865	9,017	Alamogordo . . .	6,767	3,950	Richmond . . .	101,015	174,441	Waynesville . . .	5,288	2,940
Fairview . . .	8,676	8,770	Albuquerque . . .	97,012	35,449	Niagara Falls . . .	90,875	78,029	Wilmington . . .	44,975	33,407
Florence . . .	†	†	Artesia . . .	8,115	4,071	North Pelham . . .	5,057	5,052	Wilson . . .	22,964	19,234
Roebeling* . . .	6,791	†	Atrisco-Five . . .	†	†	North Tarrytown . . .	8,833	8,804	Winston-Salem . . .	86,816	79,815
Fort Lee . . .	11,611	9,468	Points* . . .	7,389	†	Tonawanda . . .	24,730	20,254	NORTH DAKOTA:		
Freehold . . .	7,603	6,952	Carlsbad . . .	17,915	7,116	Norwich . . .	8,945	8,694	Bismarck . . .	18,544	15,406
Garfield . . .	27,605	28,044	Clovis . . .	17,168	10,065	Nyack . . .	5,867	5,206	Devils Lake . . .	6,419	6,204
Glassboro . . .	5,906	4,925	Deming . . .	5,697	3,608	Ogdenburg . . .	16,126	16,346	Dickinson . . .	7,457	5,830
Glen Ridge . . .	7,640	7,331	Gallup . . .	9,143	7,041	Olean . . .	22,842	21,506	Fargo . . .	37,981	32,580
Glen Rock . . .	7,138	5,177	Hobbs . . .	13,801	10,619	Oneida . . .	11,367	10,291	Grafton . . .	6,680	4,070
Gloucester City . . .	14,283	13,692	Las Cruces . . .	12,280	8,385	Ontonaga . . .	13,531	11,731	Grand Forks . . .	26,617	20,228
Guttenberg . . .	5,575	6,200	Las Vegas City . . .	7,449	5,941	Ossining . . .	16,055	15,996	Jamestown . . .	10,601	8,790
Hackensack . . .	29,207	26,279	Las Vegas Town . . .	6,250	6,421	Oswego . . .	22,611	22,062	Mandan . . .	7,268	6,685
Haddonfield . . .	10,500	9,742	Los Alamos* . . .	9,927	†	Owego . . .	5,352	5,068	Minot . . .	21,924	16,577
Haddon Heights . . .	7,329	5,555	Portales . . .	8,093	5,104	Oyster Bay* . . .	5,228	†	Valley City . . .	6,823	5,917
Haledon . . .	6,190	5,303	Raton . . .	7,927	7,607	Patchogue . . .	7,359	7,181	Wahpeton . . .	5,090	3,747
Hammonton . . .	8,426	7,668	Roswell . . .	25,572	13,482	Peekskill . . .	17,746	17,311	Williston . . .	7,353	5,790
Harrison . . .	13,535	14,171	Santa Fe . . .	27,547	20,325	Pelham Manor . . .	5,293	5,302	OHIO:		
Hasbrouck . . .	†	†	Silver City . . .	7,019	5,044	Pen Yan . . .	5,479	5,308	Akron . . .	273,189	244,791
Heights . . .	9,157	6,716	Tucumcari . . .	8,369	6,194	Plattsburgh . . .	17,726	16,351	Alliance . . .	26,112	22,405
Hawthorne . . .	14,828	12,610	NEW YORK:			Port Chester . . .	23,969	23,073	Ashland . . .	14,277	12,453
Highland Park . . .	9,706	9,002	Albany . . .	134,382	130,577	Port Jervis . . .	9,348	9,749	Ashtabula . . .	23,093	21,405
Hoboken . . .	50,510	50,115	Amityville . . .	6,139	5,058	Potsdam . . .	7,489	4,821	Athens . . .	11,604	7,606
Irvining . . .	59,142	55,328	Amsterdam . . .	32,269	33,329	Poughkeepsie . . .	40,975	40,478	Barberton . . .	27,893	24,028
Jersey City . . .	300,447	301,173	Arlington* . . .	5,338	†	Rensselaer . . .	10,745	10,768	Bay . . .	6,562	3,356
Keansburg . . .	5,604	2,904	Auburn . . .	36,667	35,753	Rochester . . .	331,252	324,975	Bedford . . .	9,073	7,390
Kearny . . .	39,828	39,467	Babylon . . .	5,994	4,742	Rockville Centre . . .	22,274	18,613	Bellaire . . .	12,553	13,790
Keport . . .	5,900	5,147	Batavia . . .	17,807	17,267	Rome . . .	41,379	34,214	Bellefontaine . . .	10,259	9,808
Lakewood* . . .	9,902	†	Bath . . .	5,409	4,696	Rye . . .	11,745	9,865	Bellevue . . .	6,901	6,127
Leonia . . .	7,371	5,763	Bay Shore* . . .	9,648	†	Salamanca . . .	8,850	9,011	Berea . . .	11,064	6,025
Linden . . .	30,434	24,115	Beacon . . .	14,110	12,572	Saranac Lake . . .	6,000	7,138	Bexley . . .	12,235	8,705
Lodi . . .	15,384	11,552	Binghamton . . .	81,132	78,300	Saratoga Springs . . .	15,434	13,795	Bowling Green . . .	11,972	7,190
Long Branch . . .	23,049	17,408	Bronxville . . .	6,718	6,888	Scarsdale . . .	13,086	12,966	Brooklyn . . .	6,307	1,108
Madison . . .	10,412	7,944	Buffalo . . .	577,393	575,901	Schenectady . . .	92,070	87,549	Bryan . . .	6,405	5,404
Manville . . .	8,298	6,065	Canandaigua . . .	8,296	8,321	Scotia . . .	7,854	7,960	Bucyrus . . .	10,280	9,727
Maywood . . .	8,649	4,052	Catskill . . .	5,336	5,429	Seneca Falls . . .	6,620	6,452	Cambridge . . .	14,693	15,044
Metuchen . . .	9,858	6,557	Cedarhurst . . .	6,021	5,463	Solvay . . .	7,667	8,201	Campbell . . .	12,830	13,785
Middlesex . . .	5,933	3,763	Cohoes . . .	21,235	21,955	Syracuse . . .	220,067	205,967	Canton . . .	116,312	108,401
Midland Park . . .	5,146	4,525	Corning . . .	17,723	16,212	Tarrytown . . .	8,819	6,874	Celina . . .	5,686	4,841
Millville . . .	16,116	14,806	Cortland . . .	18,120	15,881	Tonawanda . . .	14,610	13,008	Chesnot . . .	9,927	9,043
Montclair . . .	43,775	39,807	Dansville . . .	5,238	4,976	Troy . . .	71,659	70,394	Chillicothe . . .	20,121	20,129
Morristown . . .	17,078	15,270	Depew . . .	7,219	6,084	Tuckaheo . . .	5,099	6,563	Cincinnati . . .	500,510	455,610
Mount Holly* . . .	8,216	†	Dobbs Ferry . . .	6,246	5,883	Tupper Lake . . .	5,449	5,451	Circleville . . .	8,655	7,982
Newark . . .	437,857	429,760	Dunkirk . . .	17,965	17,713	Utica . . .	101,479	100,518	Cleveland . . .	905,630	878,336
New Brunswick . . .	38,768	33,180	East Aurora . . .	5,962	5,253	Valley Stream . . .	26,833	16,070	Heights . . .	58,782	54,992
New Milford . . .	6,018	3,215	East Rochester . . .	7,020	6,691	Watertown . . .	34,280	33,385	Columbus . . .	374,770	306,087
Newton . . .	5,771	5,533	East Rockway . . .	7,973	5,610	Watervliet . . .	15,036	16,114	Conneaut . . .	10,073	9,355
North Arlington . . .	15,977	9,904	Elmira . . .	49,690	45,106	Waverly . . .	6,031	5,450	Coshocton . . .	11,626	11,590
Northeast . . .	†	†	Elmira Heights . . .	5,020	4,829	Wellsbury . . .	6,358	5,942	Cuyahoga Falls . . .	29,076	20,546
Vineland* . . .	5,646	†	Endicott . . .	20,168	17,702	Westbury . . .	7,055	4,524	Dayton . . .	243,108	210,718
North Plainfield . . .	12,760	10,586	Fairport . . .	5,263	4,644	White Plains . . .	43,501	40,327	Deer Park . . .	7,245	3,510
Nutley . . .	26,746	21,954	Floral Park . . .	14,533	12,950	Williston Park . . .	7,469	5,750	Defiance . . .	11,270	9,744
Ocean City . . .	5,949	4,672	Fredonia . . .	7,070	5,738	Yonkers . . .	152,533	142,598	Delaware . . .	11,783	8,944
Oceanport . . .	7,662	3,159	Freeport . . .	24,589	20,410	NORTH CARO-			Delphos . . .	6,260	5,746
Orange . . .	38,413	35,717	Fulton . . .	13,993	13,362	LINA:			Dover . . .	9,787	9,691
Palisades Park . . .	9,617	8,141	Garden City . . .	14,364	11,223	Albamarle . . .	11,751	4,060	East Cleveland . . .	39,875	39,495
Palmyra . . .	5,800	5,178	Geneva . . .	17,087	15,555	Arlington* . . .	5,085	†	Eastlake . . .	7,460	†
Paramus . . .	6,253	3,688	Glen Cove . . .	15,084	12,415	Asheboro . . .	7,674	6,981	East Liverpool . . .	24,072	23,555



Place	1950	1940	Place	1950	1940	Place	1950	1940	Place	1950	1940
OHIO—Cont.:			OKLAHOMA—Cont.:			PENNSYLVANIA—Cont.:			PENNSYLVANIA—Cont.:		
Greenville	8,820	7,745	Frederick	5,449	5,109	Donora	11,831	13,180	Pottstown	22,616	20,194
Hamilton	57,717	50,592	Guthrie	10,019	10,018	Dormont	12,731	12,974	Pottsville	23,642	24,530
Hillsboro	5,110	4,713	Henryetta	8,010	6,905	Doylestown	5,263	4,976	Prospect Park	5,851	5,100
Ironton	16,320	15,851	Hobart	5,366	5,177	Du Bois	11,466	12,080	Punksatunway	8,902	9,382
Jackson	6,508	6,205	Holdenville	6,101	6,632	Dunmore	20,302	23,086	Quakertown	5,682	5,150
Kent	12,383	8,581	Hugo	5,950	5,000	Duquesne	17,612	20,093	Rankin	6,052	7,470
Kenton	8,467	7,593	Lawton	34,537	18,055	Duryea	6,076	8,275	Reading	100,062	110,508
Lakewood	67,878	60,100	McAlester	17,800	12,401	Easton	34,410	33,580	Red Lion	5,087	4,891
Lancaster	24,140	21,940	Miami	11,703	8,345	East Pittsburgh	5,175	6,070	Ridgway	6,251	6,253
Lima	49,880	44,711	Midwest City	10,152	11,429	East Stroudsburg	7,272	6,404	Rochester	7,166	7,441
Lincoln Heights	5,528	5,280	Muskogee	37,255	32,332	Edgewood	5,283	4,697	St. Clair	5,863	6,809
Lockland	5,723	5,601	Norman	26,972	11,429	Edgewood-Fern-			St. Marys	7,852	7,653
Logan	5,965	6,177	Oklahoma City	242,450	204,424	dale-Fairview*	8,757	7,098	Sayre	7,682	7,590
London	5,196	4,697	Okmulgee	18,298	10,051	Edwardsville	6,705	4,315	Schuykill Haven	6,008	6,518
Lorain	50,819	44,125	Pails Valley	6,867	5,104	Elizabethtown	5,095	4,315	Scottdale	6,245	6,493
Lyndhurst	7,320	2,301	Pawhuska	5,307	5,443	Elwood City	12,808	12,320	Scranton	124,747	140,404
Mansfield	43,363	37,154	Perry	5,155	5,045	Emmaus	7,785	6,731	Sewickley	5,730	5,614
Maple Heights	15,556	6,728	Ponca City	20,185	16,794	Ephrata	7,050	6,100	Shamokin	16,884	18,810
Marietta	16,024	14,543	Sand Springs	6,982	6,137	Erie	130,125	116,955	Sharon	20,305	25,022
Marion	33,786	30,817	Sapulpa	13,018	12,249	Etna	6,744	7,223	Sharon Hill	5,465	4,467
Martins Ferry	13,214	14,720	Seminole	11,853	11,547	Exeter	5,122	5,802	Sharpsburg	7,202	8,202
Massillon	20,524	26,644	Shawnee	24,457	22,053	Farrell	13,667	13,800	Sharsville	5,307	5,129
Maumee	5,521	4,683	Stillwater	20,155	10,097	Forest City	5,356	5,795	Shenandoah	15,702	19,790
Mayfield			Tulsa	180,586	142,157	Forest Hills	6,337	5,248	Shillington	3,058	4,932
Heights	5,806	2,696	Vinita	5,501	5,685	Forty Fort	6,164	6,293	Shippensburg	5,710	5,244
Medina	5,086	4,359	Wewoka	6,753	10,315	Fountain Hill	5,440	4,804	Somerset	5,940	5,430
Miamisburg	6,421	5,544	Woodward	5,896	5,406	Frackville	6,518	8,035	South Williams-		
Middletown	33,634	31,220	OREGON:			Franklin			port	6,342	6,033
Mount Healthy	5,557	3,997	Albany	10,076	5,654	(Venango Co.)	9,992	9,948	State College	17,142	6,226
Mount Vernon	12,021	10,122	Altamont*	9,381	5,916	Freeland	5,900	6,593	Steelton	12,564	13,115
Napoleon	5,326	4,825	Ashland	7,702	4,744	Gettysburg	7,043	5,916	Stroudsburg	6,313	6,180
Newark	34,178	31,487	Astoria	12,220	10,380	Glassport	8,698	8,748	Sunbury	15,000	15,402
New			Baker	9,425	9,342	Glendolen	6,452	4,825	Swissvale	16,407	15,910
Philadelphia	12,966	12,328	Bend	11,347	10,021	Greensburg	17,237	16,743	Swoyersville	7,793	9,234
Niles	16,733	16,273	Coos Bay			Greenville	9,177	8,149	Tamaqua	11,491	12,486
North College			(Marshfield)	5,956	5,259	Grove City	7,408	6,296	Tarentum	9,540	9,846
Hill	7,910	5,231	Corvallis	10,173	8,392	Hanover	14,065	13,076	Taylor	7,107	9,002
North Olmsted	6,574	3,487	Eugene	35,672	20,838	Harrisburg	89,091	83,893	Throop	5,871	7,382
Norwalk	9,779	8,211	Hillsboro	5,122	3,747	Hazleton	35,486	38,000	Titusville	8,921	8,126
Norwood	34,626	34,010	Grants Pass	7,980	6,028	Hellertown	5,444	4,931	Turtle Creek	12,347	9,805
Oakwood	6,618	7,652	Hillsboro	5,122	3,747	Hershey-Swatawa*	6,072	5,010	Tyone	8,200	8,845
Oberlin	6,457	4,305	Klamath Falls	15,803	16,497	Hollidaysburg	6,456	5,010	Uniontown	20,423	21,810
Orville	5,104	4,484	La Grande	8,596	7,747	Homestead	10,031	10,041	Vandergrift	9,581	10,725
Oxford	6,926	2,750	Lebanon	5,829	2,729	Honesdale	5,650	5,687	Warren	14,747	14,891
Painesville	14,365	12,235	McMinnville	6,503	3,706	Huntingdon	7,344	7,170	Washington	25,898	26,166
Parma	28,852	16,305	Medford	17,170	11,381	Indiana	11,706	10,050	Waynesboro	10,321	10,321
Piqua	17,426	16,049	Milwaukee	5,254	1,871	Jennette	10,179	10,220	Waynesburg	5,494	4,891
Port Clinton	5,538	4,505	North Bend	5,960	4,262	Jenkintown	5,114	5,024	West Chester	15,109	13,289
Portsmouth	30,663	40,466	Oregon City	7,616	6,124	Jersey Shore	5,571	5,432	West Hazleton	6,082	7,523
Ravenna	9,783	8,538	Pendleton	11,701	8,847	Johnstown	62,723	66,668	West Mifflin	17,029	8,604
Reading	7,824	6,079	Pontland	371,011	305,394	Kane	5,664	6,133	West Pittston	7,206	7,943
Rocky River	11,086	8,291	Roseburg	8,205	4,924	Kingston	21,061	20,679	West Reading	5,095	4,907
St. Bernard	7,057	7,387	Salem	43,064	30,068	Kittanning	7,705	7,550	West View	7,551	7,215
St. Mary's	6,211	5,532	Springfield	10,771	3,805	Kulpmont	5,195	6,159	West York	5,740	5,590
Salem	12,683	12,301	The Dalles	7,645	6,266	Lancaster	63,061	61,345	Whitehall	7,286	7,286
Sandusky	20,000	24,874	PENNSYLVANIA:			Landsdale	9,707	9,316	White Oak	6,106	6,106
Shaker Heights	27,980	23,393	Aliquippa	26,067	27,023	Lansdowne	12,140	10,837	Wilkes-Barre	76,638	86,236
Shelby	7,905	6,613	Allentown	106,233	96,904	Lansford	7,477	8,710	Wilkinsburg	31,281	29,853
Sidney	11,413	9,790	Altoona	76,844	80,214	Larksville	6,276	8,467	Williamsport	44,964	44,355
South Euclid	15,415	6,146	Ambridge	16,415	18,968	Latrobe	11,952	11,111	Wilmerding	5,316	5,662
Springfield	78,029	70,662	Archbald	6,335	8,296	Lebanon	28,134	27,206	Wilson	8,099	8,217
Steubenville	35,695	37,651	Arnold	10,271	10,898	Lehigh	6,557	6,615	Windber	8,040	9,057
Struthers	11,095	11,730	Ashland	6,185	7,045	Lewisburg	5,232	3,571	Winton	6,256	7,080
Tallmadge	5,811	3,452	Ashley	5,235	6,371	Lewistown	13,875	13,017	Yeadon	11,322	8,524
Tiffin	18,943	16,102	Avalon	6,438	6,155	Lititz	5,548	4,840	York	59,704	50,712
Toledo	301,358	282,349	Bangor	6,049	5,687	Lock Haven	11,325	10,810			
Toronto	7,258	7,426	Beaver	6,345	5,641	Luzerne	6,165	7,082			
Troy	10,628	9,607	Beaver Falls	17,335	17,008	Lyndora-Highfield*	5,393	5,393	RHODE ISLAND:		
Urichsville	6,609	6,435	Bellefonte	5,614	5,304	McKeesport	51,223	55,355	Bristol*	10,331	1
University			Bellevue	11,573	10,488	McKees Rocks	16,278	17,021	Central Falls	23,610	25,248
Heights	11,488	5,981	Berwick	14,022	13,181	Mahanoy City	10,930	13,442	Cranston	55,130	47,085
Upper Arlington	8,170	5,370	Bethel	11,118	1	Meadville	18,006	18,019	Newport	32,090	30,532
Urbana	8,430	8,335	Bethlehem	66,027	58,490	Mechanicburg	6,772	5,709	Pawtucket	81,180	75,797
Van Wert	10,317	9,247	Bethlehem	66,027	58,490	Media	5,735	5,351	Providence	247,700	253,504
Wadsworth	7,943	6,405	Blairsville	5,014	5,002	Middletown	9,166	7,046	Wakefield		
Wapakoneta	5,771	5,225	Blakely	6,848	8,106	Midland	6,472	6,373	Peace-dale*	5,213	1
Warren	49,674	42,837	Bloomsburg	10,621	9,799	Milvale	7,275	7,811	Warwick	43,027	28,757
Washington			Brackenridge	6,186	6,400	Milton	8,573	8,313	Westerly*	8,408	1
Court House	10,457	9,402	Bradock	16,518	18,326	Minersville	7,792	8,686	Woonsocket	50,186	49,303
Wellston	5,687	5,537	Bradford	17,281	17,091	Monaca	7,410	7,061			
Wellsville	7,856	7,672	Brentwood	12,312	7,552	Monessen	17,929	20,257	SOUTH CAROLINA:		
Wickliffe	5,004	3,155	Bridgeport	5,823	5,904	Monongahela	8,921	8,825	Abbeville	5,377	4,930
Willoughby	5,574	4,364	Bridgeville	5,653	4,459	Morrisville	6,770	5,493	Aiken	7,067	6,168
Winnington	7,412	5,971	Bristol	12,690	11,805	Mount Carmel	14,208	17,780	Anderson	19,718	19,424
Wooster	13,806	11,543	Brownsville	7,644	8,015	Mount Oliver	6,790	6,981	Beaufort	5,087	3,185
Wyoming	5,558	4,466	Buder	23,571	24,477	Mount Pleasant	5,911	5,824	Bennettsville	5,108	4,895



## CENSUS DATA, U.S.

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Place	1950	1940	Place	1950	1940	Place	1950	1940	Place	1950	1940
SOUTH CAROLINA—Cont.:			TEXAS—Cont.:			UTAH—Cont.:			WASHINGTON—Cont.:		
Riverside-City			Cuero	7,456	5,474	Bountiful	5,969	3,357	Yakima	38,375	27,221
View-Woodside*	8,468	†	Dalhart	5,899	4,682	Brigham	6,777	5,641	WEST VIRGINIA:		
Rock Hill	24,472	15,009	Dallas	432,927	294,734	Cedar City	6,172	4,605	Beckley	10,255	12,852
Sans Souci-Union			Del Rio	14,191	13,343	Logan	16,802	11,868	Bluefield	21,341	20,641
Bleachery*	9,342	†	Denison	17,444	15,581	Murray	8,998	5,740	Buckhannon	5,997	4,450
Shannontown*	5,822	†	Denton	21,345	11,192	Ogden	50,910	43,688	Charleston	72,818	67,914
Spartanburg	36,674	32,249	Donna	7,161	4,712	Orem	8,338	2,914	Clarksburg	31,817	30,579
Sumter	19,812	15,874	Dumas	6,108	2,117	Price	5,999	5,214	Dunbar	8,019	5,266
Union	9,699	8,478	Eagle Pass	7,247	6,459	Provo	28,899	18,071	Elkins	9,117	8,133
Whites Bridge			Edinburg	12,340	8,718	Salt Lake City	181,718	149,934	Fairmont	29,273	23,105
Road-North			El Campo	6,216	3,906	South Salt Lake	7,668	5,701	Grafton	7,297	7,431
Winyah			El Paso	130,003	96,810	Spanish Fork	5,227	4,167	Hinton	5,737	5,815
Heights*	5,085	†	Ennis	7,817	7,087	Springville	6,481	4,790	Huntington	86,160	78,836
SOUTH DAKOTA:			Falfurrias	6,697	†	Tooele	7,265	5,001	Keyser	6,302	6,177
Aberdeen	20,976	17,015	Fort Worth	277,047	177,662	Washington			Logan	5,005	5,166
Brookings	7,730	5,340	Freeport	6,008	2,579	Terrace*	5,813	†	Martinsburg	15,566	15,065
Huron	12,713	10,843	Gainesville	11,219	9,051	VERMONT:			Morgantown	25,446	16,055
Lead	6,419	7,520	Galena Park	7,162	1,562	Barre	10,866	10,909	Moundsville	13,759	14,168
Madison	5,142	5,018	Galveston	65,808	60,862	Bennington	7,988	7,628	Parkersburg	29,510	30,103
Mitchell	12,062	10,633	Garland	10,291	2,233	Brattleboro*	9,586	†	Princeton	8,317	7,426
Pierre	5,690	4,322	Gladewater	5,310	4,454	Burlington	33,039	27,680	Richwood	5,306	5,051
Rapid City	25,179	13,844	Gonzales	5,630	4,722	Montpelier	8,585	8,006	St. Albans	9,853	3,558
Sioux Falls	52,161	40,832	Graham	6,756	5,175	Newport	5,215	4,902	South Charleston	16,027	10,377
Vermillion	5,328	3,324	Grand Prairie	14,707	15,595	Rutland	17,647	17,082	burg*	11,364	†
Watertown	12,662	10,617	Greenville	14,697	13,995	St. Albans	8,571	8,037	Vienna	5,988	2,338
Yankton	7,704	6,798	Haltom City	5,740	†	St. Johnsbury	7,367	7,437	Weirton	24,143	†
TENNESSEE:			Harlingen	23,202	13,300	Winooski	6,722	6,036	Welch	6,545	6,264
Alcoa	6,486	5,131	Henderson	6,802	4,437	VIRGINIA:			Wellsburg	5,777	6,255
Athens	8,599	6,930	Highland Park	11,307	10,288	Alexandria	61,604	33,523	Weston	8,943	8,268
Bristol	16,721	14,004	Hillsboro	8,352	7,799	Big Stone Gap	5,158	4,331	Wheeling	58,147	61,099
Chattanooga	130,333	128,163	Houston	594,321	384,514	Bristol	15,897	9,768	Williamson	8,559	8,366
Clarksville	16,208	11,831	Huntsville	9,802	5,108	Buena Vista	5,219	4,335	WISCONSIN:		
Cleveland	12,445	11,351	Huntville	6,848	†	Charlottesville	25,909	19,400	Antigo	9,807	9,495
Columbia	10,921	10,579	Jacksonville	8,550	7,213	Clifton Forge	5,769	4,601	Appleton	33,802	28,436
Cookeville	6,900	4,304	Kernit	6,884	2,584	Copeland Park*	7,107	†	Ashland	10,504	11,101
Dyersburg	10,805	10,034	Kerrville	7,665	5,572	Corvinton	6,238	6,300	Baraboo	7,217	6,415
East Ridge	9,640	2,930	Kilgore	9,693	6,708	Danville	34,537	32,749	Beaver Dam	11,833	10,356
Elizabethton	10,734	8,516	Killeen	7,110	1,263	Emporia	5,654	2,735	Beloit	20,541	25,365
Fayetteville	5,441	4,084	Kingsville	16,857	7,782	Falls Church	7,534	2,576	Chippewa Falls	11,072	10,368
Franklin	5,510	4,120	Lamarque*	7,358	†	Fredericksburg	12,143	10,066	Cudahy	12,000	10,561
Gallatin	5,102	4,820	Lamesa	10,706	6,038	Front Royal	8,121	3,831	De Pere	8,112	6,373
Greeneville	8,693	6,784	Laredo	51,094	39,274	Galax	5,230	3,195	Eau Claire	35,862	39,745
Harriman	6,387	5,620	Levelland	8,265	3,091	Hampton	5,957	5,898	Fond du Lac	29,826	27,209
Humboldt	7,435	5,160	Littlefield	6,558	3,817	Harrisonburg	10,764	8,768	Fort Atkinson	6,257	6,153
Jackson	30,098	24,332	Lockhart	5,531	5,018	Hopewell	10,184	8,079	Green Bay	52,443	40,235
Johnson City	27,778	25,332	Longview	24,445	13,758	Lexington	5,965	3,914	Janesville	24,829	22,992
Kingsport	19,636	14,404	Lubbock	71,390	31,853	Lynchburg	47,039	44,541	Kaukauna	8,361	7,382
Knoxville	124,183	111,580	Lufkin	15,147	9,567	Marion	6,941	5,177	Kenosha	54,366	48,765
La Follette	5,791	4,010	McAllen	20,005	11,877	Marionville	17,210	10,080	La Crosse	47,396	42,707
Lawrenceburg	5,483	3,807	McKinney	10,525	8,555	Newport News	41,571	37,067	Madison	95,594	67,447
Lebanon	7,915	5,950	Marlin	7,006	6,542	Hilton Park*	14,891	†	Manitowoc	27,444	24,404
Lenoir City	5,106	4,373	Marshall	22,255	18,410	Norfolk	188,601	144,332	Marinette	14,108	14,183
Lewisburg	5,156	3,582	Mercedes	10,065	7,624	North Hampton	5,905	†	Marshfield	12,377	10,359
Lynn Garden			Mexia	6,618	6,410	South Hampton*	30,631	†	Menasha	12,360	10,481
West View			Midland	21,756	9,352	Petersburg	34,948	30,631	Memoronia	8,184	6,582
Fort Robinson-			Mineral Wells	7,763	6,303	Portsmouth	71,294	50,745	Merrill	8,913	8,711
Morrison City*	8,602	†	Mission	10,756	5,982	Pulaski	9,136	8,792	Milwaukee	632,651	587,472
McMinnville	7,599	4,649	Monahans	6,260	3,944	Radford	8,979	6,990	Monroe	7,008	6,182
Maryville	8,362	5,609	Mount Pleasant	6,348	4,528	Richmond	229,906	193,042	Neenah	12,418	10,645
Memphis	394,012	292,942	Nacogdoches	12,303	7,538	Riverview*	14,227	†	Oconomowoc	5,322	4,502
Morristown	13,016	8,050	New Braunfels	12,196	6,976	Roanoke	91,089	69,287	Oconto	5,046	5,362
Murfreesboro	13,027	9,495	Odessa	29,432	9,573	Salem	6,820	5,737	Oshkosh	49,934	39,089
Nashville	173,359	167,402	Orange	21,100	7,472	South Boston	6,079	5,252	Platteville	5,715	4,762
Oak Ridge*	30,236	†	Palestine	12,455	12,144	South Norfolk	10,408	8,038	Portage	7,283	7,016
Paris	8,818	6,395	Pampa	16,522	12,895	Staunton	19,884	13,337	Prairie du Chien	5,302	4,622
Pulaski	5,700	5,314	Paris	21,636	18,078	Suffolk	12,287	11,343	Prairie*	5,078	†
Shelbyville	9,461	6,537	Pasadena	22,444	3,436	Virginia Beach	5,344	2,600	Racine	70,749	67,195
Springfield	6,540	6,668	Pecos	8,054	4,855	Waynesboro	12,337	7,373	Rhinelander	8,728	8,501
Tullahoma	7,521	4,549	Pharr	8,678	4,784	Williamsburg	6,726	3,942	Rice Lake	6,011	5,719
Union City	7,632	7,256	Plainview	14,023	8,263	Winchester	13,766	12,095	Ripon	5,010	4,566
TEXAS:			Port Arthur	57,377	40,140	Wytheville	5,405	4,053	Shawano	5,869	5,565
Abilene	47,102	26,612	Port Lavaca	5,062	2,060	STATE OF WASHING-			Shboygan	42,485	40,038
Alamo Heights	7,950	5,700	Port Neches	5,447	2,487	TON:			Shorewood	16,105	15,184
Alice	16,414	7,792	Raymondville	9,135	4,050	Aberdeen	19,475	18,846	South Milwaukee	12,820	11,134
Alpine	5,256	3,866	River Oaks	7,113	†	Ancients	6,916	5,875	Sparta	5,878	5,820
Amarillo	73,737	51,686	Robstown	7,248	6,780	Auburn	6,494	4,211	Stevens Point	16,550	15,777
Aransas Pass	5,389	4,095	Rosenberg	5,758	3,457	Bellingham	33,934	29,314	Sturgeon Bay	6,913	5,439
Arlington	7,686	4,240	Rusk	6,617	5,099	Beverly Park—			Superior	35,091	35,136
Athens	5,206	4,705	San Angelo	51,889	25,862	Laurel Heights			Two Rivers	9,800	10,302
Austin	131,964	87,930	San Antonio	406,811	253,854	—Lowell—			Watertown	12,393	11,301
Ballinger	5,293	4,472	San Benito	13,204	9,501	Pinehurst*	8,357	†	Waukesha	21,186	19,242
Bay City	9,418	6,594	San Marcos	9,901	6,006	Bremont	27,746	15,134	Waupun	6,725	6,798
Baytown	22,927	†	San Pedro*	7,996	†	Centralia	8,648	7,414	Wausau	30,386	27,268
Beaumont	93,715	59,061	Seaguin	9,696	7,006	Chehalis	5,633	4,857	Wauwatosa	33,300	27,769
Beeville	9,328	6,780	Sherman	20,073	17,156	Clarkston	5,589	3,116	West Allis	42,945	36,364
Bellaire	10,147	1,124	Slaton	5,040	3,587	Ellensburg	8,417	5,944	West Bend	6,845	5,452
Belton	6,244	3,572	Snyder	12,012	3,815	Everett	33,807	30,224	West Milwaukee	5,417	5,010
Big Spring	17,258	12,604	Stamford	5,806	4,810	Hoquiam	11,100	10,835	Whitefish Bay	14,626	9,651</



**Centennials:** see CALENDAR, 1951, page xxxii.

**Ceramic Products:** see CLAY AND CERAMIC PRODUCTS.

**Cereals:** see BARLEY; CORN; OATS; RICE; RYE; WHEAT.

**Ceylon.** A self-governing member of the British Commonwealth of Nations, lying off the southern extremity of India and approaching to within 6° N. of the equator, Ceylon has an area of 25,332 sq.mi. Pop. (1946 census) 6,693,945, (mid-1950 est.) 7,500,000. Language: mainly Sinhalese (69%) and Tamil (21%). Religion: Buddhist (61%), Hindu (22%), Moslem (9%) and Christian, mainly Roman Catholic (7%). Chief towns (pop. 1946 census): Colombo (cap. 362,000); Jaffna (63,000); Dehiwala-Mt. Lavinia (56,000); Kandy (52,000). Ruler, King George VI; governor general, Lord Soulbury; prime minister, Don Stephen Senanayake.

**History.**—At the opening of the year 1950 the government of Ceylon announced its decision to recognize the Chinese Communist government at Peking. This decision, according closely with the policy of the United Kingdom and India, was not unexpected. The prime minister thus strengthened himself against the criticisms of the opposition, the largest party of which consisted of Communists.

The finance minister, J. R. Jayawardene, presented the budget on July 20. Changes in taxation included an additional 15 cents per pound on the export duty on both rubber and tea, bringing the total export duty on tea to 53 cents per pound; the export duty on pepper was increased by Rs. 2 per pound. This was designed to meet the extra subsidies on rice and flour and curb inflationary pressure resulting from high prices on tea, rubber and coconut produce. On the other hand customs duty was reduced on a wide range of consumer goods. In regard to income tax the limit of exemption was raised, thus relieving 35,000 people from taxation, and the basic unit rate of income tax was raised from 8.5% to 9%. The supertax on larger incomes was slightly increased and the companies tax was raised from 25% to 27%.

The economy of the island was dangerously dependent on the fluctuation of world prices over a limited range of commodities—tea, rubber and coconut accounting for 90% of the total exports of the island. The government's program to increase economic stability included proposals for increasing food production and

JAWAHARLAL NEHRU at a press conference in Colombo, Ceylon, between sessions of the British Commonwealth of Nations meetings held there in Jan. 1950; talks were devoted mainly to Commonwealth support of southeast Asia in its struggle against communism



devising other forms of employment. Plans were framed for spending £102,000,000 on development, according 37% of the sum to agriculture, 22% to transport and communications, 27% to social services, 8% to power and 6% to industry.

The balance of payments in 1950 was expected to show an estimated surplus of Rs. 100,000,000—a definite improvement on the Rs. 28,000,000 deficit of 1949; but it was obvious that the avoidance of deficits in future years would be a matter of extreme difficulty and dependent on unpredictable factors.

**The Colombo Plan.**—In 1950 Colombo was the scene of an important conference of the Commonwealth countries' foreign ministers to discuss the economic development of south and south-east Asia in the maintenance of the political stability of that area. This Colombo conference brought into existence the Commonwealth Consultative committee, which met at Sydney, Austr., in May. As a result a plan was drawn up for a six-year period to run from the middle of 1951 to carry out the objects of the committee's proposals. The scheme was worked out at a meeting in Colombo in July, and it became the subject of a further meeting of the Commonwealth Consultative committee which took place in London in September and early October, and at which the government of Ceylon and other governments were represented. The report dealt in detail primarily with the problems and programs of the Commonwealth governments in the area. For the needs of other countries it was hoped that at a later stage similar programs would be prepared so that the whole area could be fully covered. In regard to Ceylon the report examined the government's own program, the success of which depended primarily on adequate external finance and on the availability of technical experts, and pointed out that the current rate of investment was doing no more than maintain the present standard of living and the social services essential thereto. The view of the government confirmed the opinion that a higher level of capital investment was necessary to further progress, and that failure to implement the six-year program would mean the indefinite postponement of diversification of the economy and the expansion of food production. The Plan for Co-operative Economic Development in South and Southeast Asia appeared as a White Paper at the end of November. It contained development programs for India, Pakistan, Ceylon, Malaya and North Borneo. (E. Hd.)

**Education.**—Schools (1948): government and assisted 6,231, pupils 1,181,430; central and bilingual English 523, pupils 229,064. Technical college (1949–50): students 1,969. University (1949–50): students 1,850.

**Finance and Banking.**—Budget (1949–50 est.): revenue Rs. 560,000,000, expenditure Rs. 558,000,000; (1950–51 est.): revenue Rs. 656,000,000, expenditure Rs. 654,100,000. Gross national debt (Sept. 1949) Rs. 549,100,000. Currency circulation (March 1950) Rs. 230,400,000. Bank deposits (March 1950) Rs. 678,700,000. Monetary unit: rupee with an exchange rate of Rs. 4.775 to the U.S. dollar.

**Foreign Trade.**—(1949) Imports Rs. 1,032,000,000; exports Rs. 1,068,000,000. Main sources of imports (1949): United Kingdom 18%; India 15%; Burma 15%; Australia 10%. Main destinations of exports (1949): United Kingdom 33%; United States 11%; Australia 8%; Canada 4%.

**Transport and Communications.**—Roads (1948) 6,647 mi. Licensed motor vehicles (Dec. 1949): cars 31,261; commercial 13,230. Railways (1948): 894 mi.; passengers (1948) 26,500,000; freight (1948–49) 1,290,000 metric tons. Air transport (1949): miles flown 1,181,000; passenger-miles 7,165,000. Radio receiving set licences (Dec. 1949) 27,317.

**Agriculture.**—Main crops (metric tons): tea (1949) 135,400; rice (1949) 331,000; cassava (1947) 203,000; sweet potatoes and yams (1947) 73,000. Fresh coconut exports (1949): 12,897,000. Livestock (Dec. 1948): cattle 1,133,000; buffaloes 658,000; sheep 55,000; pigs 95,000. Oils and fats production (metric tons, oil equivalent, 1949): 135,000.

**Industry.**—Fuel and power: manufactured gas (1949) 8,040,000 cu.m.; electricity (1949) 59,000,000 kw.hr. Raw materials (metric tons): rubber (1949) 90,921; graphite (exports, 1949) 12,434; salt (1949) 28,775.

**Chambers of Commerce.** **United States.**—At the end of 1950 the membership of the Chamber of Commerce of the United States consisted of more than 3,100 chambers of commerce and trade associations, with an underlying membership of more than 1,250,000 firms and corporations. During the year the chamber carried out a pro-



gram designed to strengthen the national economy and to encourage its expansion to meet the needs of a growing population. After the outbreak of war in Korea in June, the beginning of defense mobilization brought adjustments in the program to meet the new situation.

Through its departmental structure, the chamber throughout the year gave attention to all phases of the economy. It sought better labour-management relations; promoted closer understanding between business and agriculture; encouraged more practical city planning; pointed the way toward better government through reorganization; urged reduction in less essential federal expenditures; gave attention to housing needs; proposed co-ordination of national transportation facilities; and worked for expansion of private investment.

Through its executive committee, the chamber pledged fullest support for necessary financial measures to check soviet aggression. Accepting the need for greatly increased armaments, it recommended tax increases for that purpose, reversing an earlier chamber policy calling for tax reductions.

The demands of World War II and those of the Korean campaign served to focus greater public interest in the status of the nation's natural resources. The chamber's Natural Resources committee was active in developing national realization that intelligent utilization and practical preservation of its natural resources are vital to the country's well-being and defense integrity.

The chamber continued its drive against Communist infiltration, and, in collaboration with other organizations, sought to determine what misconceptions may persist about the American way of life. Its American Opportunity program, designed to bring a better understanding of the functions of business enterprise, was broadened accordingly in the dissemination of factual data relating to the American system.

At the annual meeting in May, Otto A. Seyferth, of Muskegon, Mich., president of the West Michigan Steel Foundry company, was elected president of the chamber. At its September meeting, the board named Arch N. Booth executive vice-president to succeed Ralph Bradford, who became international vice-president, a newly created office. (Oo. S.)

**Junior Chambers of Commerce.**—Composed of young men between 21 and 36 years of age, from all religions, businesses and professions, the Junior Chambers of Commerce are principally concerned in giving their volunteer services to the civic betterment of their communities. The U.S. Junior Chamber of Commerce was founded on Jan. 21, 1920, in St. Louis, Mo. It had in 1950 more than 1,900 local organizations, with approximately 200,000 individual members. The organization is affiliated with the Junior Chamber International, which in 1950 was composed of similar groups in 50 nations.

During the year the national convention was held in Chicago, Ill. Richard W. Kemler, attorney of Marshalltown, Ia., was elected the 31st national president. The organization's activities for the year emphasized Americanism and included a nation-wide education program on a community level, dedicated toward keeping the people of the United States mindful of their blessings and of the responsibilities of freedom. Another activity was the support of the Hoover commission recommendations for administrative reform of the executive branch of the United States government.

The national headquarters, located in Tulsa, Okla., was to be housed after March 1951 in a new Jaycee war memorial building, located at Boulder-on-the-Park in Tulsa.

*Future*, a monthly magazine devoted to interests of members, is published by the U.S. Junior Chamber of Commerce; on Sept. 11, 1950, it was awarded the Brad Corbin Memorial award given each year by the Society of Industrial Editors to the publication showing the greatest improvement. (H. C. H.)

**Canada.**—In January 1950 the Canadian Chamber of Commerce made its annual presentation to the federal government, in which it defended business profits and recommended: (1) barring Communists from government employment; (2) prohibiting strikes until after a secret government-supervised strike vote; (3) eliminating trade restrictions. In a special brief in March, the chamber asked the federal government to check spending on the civil service, equalize taxation on private and co-operative business and reduce taxation. Resolutions passed at the chamber's annual convention in September included: vigorous opposition to socialism; endorsement of (1) holding of statutory holidays (except New Year, Good Friday, Christmas) on the nearest Monday, (2) increased selective immigration, (3) reopening of the Winnipeg grain exchange, and (4) go-slow federal social-welfare policy. The junior chamber of commerce promoted study of municipal government, public speaking and community betterment among its members. (C. Cy.)

**International.**—In 1950 the International Chamber of Commerce welcomed two important developments for which it had long worked, namely: (1) the British government's decision to give unilateral relief from double taxation, which the chamber had for many years pressed on governments of all parties, as a temporary relief until the full system of double taxation treaties could be achieved; and (2) the European Payments union, a project which the chamber had strongly supported, as a valuable stage toward world-wide interconvertibility of currencies.

The chamber also contributed to important developments in two other fields. At the request of the United Nations Transport and Communications commission and of the Economic Commission for Europe it drew up recommendations on the basic principles which, in the interest of users, should govern any national or international system of co-ordination of different modes of transport. Similarly, the chamber's reports on the removal of barriers to the international transport of goods were used as basic documents by the U.N. Economic and Social council and by the British government's working party on this subject.

The chamber published recommendations on (1) the Schuman plan, as one item in the general progress toward the economic co-ordination of European industry; (2) the improvement of distribution censuses; (3) the lessening of flag discrimination in sea transport and port delays, both of which materially increased the prices of goods to the ultimate consumer; (4) the organization by businessmen of schemes designed to handle or avoid both burdensome surpluses of primary commodities, such as those which disorganized world economy in the 1930s, and shortages of such commodities, without excessive price increases, such as those which took place in the later months of 1950 because of rearmament and stockpiling; and (5) the "pros and cons" of guarantees by the governments of capital-exporting countries, as a means of encouraging foreign investments in underdeveloped countries.

The following printed reports were published during the year: *Financing Economic Development; Means for Promoting the Grant of Patents Licences in the International Plane; Code of Standards of Advertising Practice; Speeding up Air Transport.*

(C. G. Fr.)

**Channel Islands:** see COMMONWEALTH OF NATIONS; GREAT BRITAIN & NORTHERN IRELAND, UNITED KINGDOM OF.

**Chapman, Oscar Littleton** (1896— ), U.S. secretary of the interior, was born on Oct. 22 in Omega, Va., served in the navy in World War I and received a law degree from Westminster Law school, Denver, Colo., in 1929. He was chairman of the Colorado state Child Welfare committee and later president of the Colorado state board of control. In May 1933 he was appointed assistant secretary of the interior, and served for a dozen years as a member



of Pres. F. D. Roosevelt's so-called "little cabinet." In Dec. 1949 he became secretary of the interior. Chapman's function under the defense mobilization plans announced Sept. 9, 1950, by Pres. Harry S. Truman was to control petroleum, gas, solid fuels and electric power. In October he set up a new Petroleum Administration for Defense, whose first task was to increase the output of aviation gasoline. Earlier, in a report to congress, he said that oil could be extracted from shale and coal cheaply enough to compete with petroleum.

**Charge Account:** see CONSUMER CREDIT.

**Charles Hayden Foundation:** see SOCIETIES AND ASSOCIATIONS.

**Cheese:** see DAIRY PRODUCTS.

**Chemistry.** **Nitrous Oxide in the Atmosphere.**—That traces of nitrous oxide (laughing gas) may be in the atmosphere had been suspected previously but not until 1950 was its presence actually verified. R. L. Slobod and M. E. Krogh of the Atlantic Refining company (Dallas, Tex.) used the mass spectrometer in confirming this discovery.

Samples of air were first freed from carbon dioxide and water vapour, then any nitrous oxide was frozen out by cooling the air at one-half atmosphere of pressure to the temperature of liquid nitrogen ( $-195^{\circ}\text{C}$ ). The reduced pressure in the system kept any oxygen from liquefying. The condensed nitrous oxide was then transferred to the mass spectrometer for its analysis.

These investigators found 0.00005% of nitrous oxide in dry air, about the same as krypton and a little more than xenon. These concentrations represent the values of the more rare components of dry air (per cent by volume): hydrogen 0.01, neon 0.00123 to 0.0018, helium 0.0004 to 0.0005, krypton 0.00005 to 0.0001, nitrous oxide 0.00005, xenon 0.000006 to 0.000008.

**Hydrogen Production.**—Industrial hydrogen has long been a challenging problem because of its use in the manufacture of ammonia, the hydrogenation of oils and the like. Its increasing use in the petroleum industry prompted V. N. Ipatieff, G. S. Monroe and L. E. Fischer of Universal Oil Products company to investigate methods of low-temperature hydrogen production. They found that a mixture of methane and steam could be converted into carbon dioxide and hydrogen if passed over a nickel-kieselguhr catalyst at  $500^{\circ}$ – $650^{\circ}\text{C}$ . If alumina or magnesia were used as carriers for the metal instead of kieselguhr, the catalytic effect was lessened greatly.

**Iodine Heptafluoride.**—H. Moissan observed in 1903 that iodine pentafluoride underwent pyrolysis at  $500^{\circ}\text{C}$ , yielding iodine. He concluded that a higher fluoride of iodine must have been formed in the reaction, but it remained for O. Ruff and R. Keim in 1930 to capitalize on this observation and discover iodine heptafluoride.

During 1950 W. C. Schumb and M. A. Lynch, Jr., of Massachusetts Institute of Technology, Cambridge, reported on their studies dealing with the preparation and properties of this compound. They pointed out that this white solid is unique in being the only simple binary compound (*i.e.*, one made up of two elements) in which sevenfold co-ordination is exhibited. It is interesting also in that it is a possible substitute for fluorine in certain fluorination processes.

The synthesis was accomplished by reaction of fluorine with either iodine or iodine pentafluoride at  $290^{\circ}\text{C}$  in metal equipment, using copper, nickel and monel. The compound was purified by fractional sublimation. It is a solid below  $4^{\circ}\text{C}$  but vaporizes at this temperature to a colourless gas.

Schumb found that this material will convert dichlorodifluoromethane ( $\text{Cl}_2\text{CF}_2$ ) into chlorotrifluoromethane ( $\text{ClCF}_3$ ).

**Titanium.**—With a commercially adaptable process at hand in

recent years for the production of titanium metal (via  $\text{TiCl}_4 + \text{Mg}$  at  $900^{\circ}\text{C}$ .) it was reasonable to expect advances in the chemistry and utilization of this element. Its expense as compared with that of steel, aluminum or copper restricts its uses to places where these metals cannot function satisfactorily. O. C. Ralston and F. J. Cservenyak of the U.S. bureau of mines listed several potential uses which were based on the favourably combined properties of high strength, light weight and resistance to corrosion. The optical metallography of titanium was studied by W. L. Finlay and others of Remington Arms company.

They reported it to undergo an allotropic transformation at  $885^{\circ}\text{C}$  and to deform at room temperature both by slip and by twinning.

In the field of titanium alloys B. W. Gonser of Battelle Memorial institute reported that the relatively high melting point of  $1,725^{\circ}\text{C}$  discourages attempts to alloy titanium with those metals which are fairly volatile at this temperature, such as zinc, cadmium or magnesium. A practical difficulty also is the reactivity of titanium with oxygen or nitrogen at these high temperatures. Alloys with carbon, silicon, iron, nickel, manganese, aluminum and tungsten were studied, all of which showed changes in strength or workability as compared with pure titanium. P. H. Brace of Westinghouse Electric corporation and E. I. Larson of P. R. Mallory & Co. (Indianapolis, Ind.) were also active in developing titanium alloys. The Westinghouse group prepared about 50 alloys and melted them by induction heating. Thorium oxide crucibles were the most satisfactory refractory material found. Alumina was quite unacceptable, since molten titanium reacted exothermically with it. E. A. Gee of E. I. duPont de Nemours & Co. established that titanium ingots containing up to 1.5% carbon can be forged and rolled. This carbon content might be acquired by induction melting of titanium in graphite crucibles. The carbon-titanium mass was forged readily at  $930^{\circ}\text{C}$  and was rolled at  $790^{\circ}\text{C}$ .

W. B. Blumenthal and Howard Smith of the National Lead company developed the synthesis of titanium tetraiodide from which titanium metal is obtainable by pyrolysis at temperatures of  $1,100^{\circ}\text{C}$ . Essentially, their plan was to treat a titanium-aluminum alloy with iodine. The mixture of titanium and aluminum iodides thus produced was mixed with potassium iodide and heated. Potassium iodoaluminate remained as residue and titanium tetraiodide distilled over.

D. F. Taylor of Fansteel Metallurgical corporation pointed out that while titanium is quite resistant to corrosion by acids under certain conditions, it does not compare with the inertness shown by tantalum.

**Chromyl Chloride.**—Use of this reagent,  $\text{CrO}_2\text{Cl}_2$ , dates back to 1881 when A. Etard discovered that it was capable of converting toluene into benzaldehyde. Etard's reaction was extended to substituted toluenes and to some terpene hydrocarbons but the mechanism of the reaction was obscure and the reaction was neglected in recent years. It had never been used with simple aliphatic hydrocarbons.

S. J. Cristol and K. R. Eilar of the University of Colorado, Boulder, investigated the behaviour of chromyl chloride toward cyclohexene, propylene, 1-butene, 1-pentene and 1-hexene. After addition of water to the reaction product, chlorohydrins were formed:  $\text{RCH}=\text{CH}_2 \rightarrow \text{RCHClCH}_2\text{OH}$ . The chlorohydrin from cyclohexene was of trans configuration. To explain these results Cristol suggested that the initial brown, solid adduct is an ionic product,  $(\text{RCHCH}_2\text{OCrOCl})^+ \text{Cl}^-$ , which later becomes stabilized as  $\text{RCHCl}-\text{CH}_2\text{OCrOCl}$ . Hydrolysis to the chlorohydrin is easily visualized with these steps in mind.

**Reactions of Phosgene.**—In spite of its poisonous nature, phosgene was used in industrial operations for many years. It is reactive and readily made from carbon monoxide and chlorine.



Its reaction with amines to yield isocyanates had long been known, but in spite of this no satisfactory synthesis of simple alkyl isocyanates was at hand until 1950 when R. L. Jenkins and collaborators of Monsanto Chemical company reported on this subject. They carried out successful preparations of isocyanates, carbamyl chlorides and cyanuric acid, starting with phosgene and amines. To do this, methylamine and phosgene were conducted into a reactor tube held between 240°–350° C., giving rise to methylcarbamyl chloride in high yield. Other primary and secondary amines behaved analogously:  $\text{COCl}_2 + \text{RNH}_2$  (or  $\text{R}_2\text{NH}$ )  $\rightarrow$   $\text{RNH-CO-Cl}$  (or  $\text{R}_2\text{NCOCl}$ ) +  $\text{HCl}$ . Conversion of the alkylcarbamyl chlorides into alkyl isocyanates,  $\text{RN}=\text{C}=\text{O}$ , was accomplished either by reaction with a tertiary amine such as pyridine or dimethylaniline, or by heating the chloride in solution in benzene or toluene to drive off the hydrogen chloride.

The isocyanates thus prepared are useful in the synthesis of ureas and urethans.

**Salts of Fatty Acids.**—Methane is formed if sodium acetate and sodium hydroxide are fused together at 370° C. This well-known observation was taken as the basis for the assumption that other salts such as the propionate, butyrate, etc., also would decompose thermally with caustic to form alkanes. That this is not a general reaction, however, was demonstrated by T. S. Oakwood and Maxine Miller of Pennsylvania State college, State College, Pa. Methane and hydrogen were formed in quantity along with lesser amounts of propane or pentane when the butyrate or caproate was substituted for the acetate.

Pyrolysis of calcium salts of fatty acids is a related reaction known to yield acetone from the acetate; industrial acetone was formerly prepared by this method. H. L. Hsu, J. O. Osburn and C. S. Grove, Jr., of the State University of Iowa, Iowa City, extended this reaction to calcium salts of  $\text{C}_{18}$  fatty acids, namely, stearic acid and the acids from tung oil. The stearate gave a 76% yield of distillate containing 4.4% of aromatic compounds, whereas that from tung oil gave 42% yield of distillate containing 26% of aromatics. The authors assumed that a ketone was formed first which decomposed into carbon monoxide, and hydrocarbons containing paraffins, olefins and aromatics. It was pointed out that the distillate from the stearate had a chemical composition which was similar to Pennsylvania crude oil (a paraffin base oil), whereas that from tung oil is not unlike Gulf Coast crude oil (a naphthene-asphalt base oil).

**Synthetic Rubber.**—The synthetic rubber which was produced during 1943–46 was made essentially by treating an emulsion of butadiene and styrene in soap solution with a peroxide catalyst at a lukewarm temperature of 50° C. The material was superior to natural rubber in some respects but inferior in others. As regards stability against oxidation at elevated temperatures, the synthetic product was superior, but it was of lower tensile strength and caused much more build-up of heat on flexing.

These difficulties were largely overcome by use of the new "cold processes" in the manufacture of synthetic rubber. This new process operated at 5° C. instead of 50°, but to make it possible, it was necessary to incorporate substantial changes in the polymerization recipes. The cold-rubber recipe which is most widely used makes use of cumene hydroperoxide as the oxidant and *tert*-dodecyl mercaptan as modifier. Glucose and ferrous pyrophosphate, the oxidation-reduction catalyst, also are part of the formulation. By operating at 5° C. the cold rubber acquires tensile strengths above 4,000 lb. per square inch (comparable to natural rubber) in contrast to 3,000 lb. per square inch shown by the older synthetic rubber.

Another recipe capable of polymerizing the butadiene-styrene mixture at 5° C. was described by W. B. Reynolds of Phillips Petroleum company and E. W. Cotten of the University of Cincinnati, O. This made use of 2-naphthyl *p*-methoxybenzenedia-



X-RAY SPECTROGONIOMETER which analyzes the content and arrangement of atoms in an unknown chemical sample by measuring the angles at which the sample scatters an X-ray beam and recording the intensity of the rays. The machine was developed jointly by researchers of the General Electric Research laboratory and the General Electric X-Ray corporation

zothiolate,  $\text{CH}_3\text{O-C}_6\text{H}_4\text{-N}=\text{N-S-C}_{10}\text{H}_7$ , and ferricyamide ion.

To explain the parts played by these components, Reynolds suggested that the hydroperoxide changes to a free radical under the influence of ferrous ion:  $\text{ROOH} + \text{Fe}^{++} \rightarrow \text{RO}\cdot + \text{Fe}^{+++} + \text{OH}^-$ . The glucose in the recipe converts ferric ( $\text{Fe}^{+++}$ ) back to ferrous ion. Radical  $\text{RO}\cdot$  starts the polymerization process by attaching itself to a butadiene or styrene molecule thereby forming a new, larger radical which repeats the process in a chain reaction until a high polymer is attained. The reaction chain is terminated when the polymer radical becomes attached to another radical such as the original  $\text{RO}\cdot$  or a similar one derived from the mercaptan which is in the system.

In the diazothiolic process it is suggested that the initial free radicals are formed by direct decomposition:  $\text{R-N}=\text{N-S-R}' \rightarrow \text{R}\cdot + \text{N}_2 + \text{R}'\cdot$ .

**Detergents.**—The production of 100% active organic detergents in 1948 was about 268,000,000 lb. and the amount was expected to be much more in 1950. Not only were increasing quantities being used but their chemical composition was different from that of former years. Detergents such as ammonium dodecyl sulphate or ammonium glycerol laurate sulphate which had been widely used in shampoo formulations continued in that use, but the corresponding sodium salts which were once popular for laundering had been largely replaced by sodium dodecylbenzenesulphonate. Both the older and the newer detergents permit laundering in hard water without deposition of calcium salts, but the newer ones had the advantage of increased ability to remove dirt in laundering. The result of the change was that many of the newer detergents were equal to soap or even better than soap for this purpose.

To make dodecylbenzenesulphonic acid, benzene is first alky-



lated. One method places a tetramer of propylene in reaction with benzene and aluminum chloride. Another employs hydrogen fluoride instead of the aluminum chloride. There are other methods also. After the alkylbenzene is made and separated, it is sulphonated with sulphuric acid, then neutralized with caustic to obtain the desired sodium salt. Some sodium sulphate appears in all of these products, since it arises by neutralization of the excess of sulphuric acid. As a matter of fact, the presence of a little sodium sulphate has been reported to be beneficial.

Addition of other salts, particularly the phosphates, produces remarkable synergistic effects. Sodium pyrophosphate ( $\text{Na}_4\text{P}_2\text{O}_7$ ), sodium tripolyphosphate ( $\text{Na}_5\text{P}_3\text{O}_{10}$ ) and trisodium phosphate ( $\text{Na}_3\text{PO}_4$ ) are the "builders" which promote this greater detergent efficiency. Trisodium phosphate, however, is somewhat too alkaline for many purposes.

R. C. Merrill and Raymond Getty of Philadelphia Quartz company studied "builder mixtures" in laundering. Cloths soiled with carbon black, mineral oil and vegetable oil were used in the tests. The reflectance of the washed and ironed cloth, compared with an unsoiled specimen, was the experimental approach. The investigators were interested also in the prevention of deposition of such things as iron oxide, raw umber or ilmenite black on a cotton fabric.

Of the materials tested, sodium pyrophosphate was the most efficient builder for sodium dodecylbenzenesulphonate. Trisodium phosphate and sodium silicate, although good, were generally less effective. Sodium carbonate was still less effective.

**Thiophene.**—No large volume use for thiophene had materialized since 1946, when it was announced that it could be prepared at low cost from butane and sulphur at about  $600^\circ\text{C}$ . It found application, however, in the pharmaceutical field in the production of valuable drugs.

In 1950 R. E. Conary, K. L. Kreuz and others of the Texas company reported their discovery of an independent method for the production of thiophene. They found that a mixture of sulphur dioxide with butane or butene could be converted into thiophene at  $600^\circ\text{C}$ . in good yields if catalysts of these types were used: activated silica, molybdena-alumina, chromia-alumina, vanadia-alumina or molybdenum sulphide on alumina. Since this production of thiophene involves detachment of hydrogens from the butane as well as attachment of sulphur, it is logical to note that hydrogen sulphide, hydrogen and water appeared in the products of the reaction.

Pentane, similarly treated, gave rise to both thiophene and 2-methylthiophene. Isopentane yielded thiophene and 3-methylthiophene. Because the reaction involved is exothermic, it was found advantageous to use a fluidized catalyst system rather than a fixed bed of catalyst.

**Catalysts for Hydrocarbons.**—As a result of an invention by V. Haensel of Universal Oil Products company (Chicago), a new process became available for converting the molecules of straight-run gasoline into isomers of superior octane rating. Temperatures of  $430^\circ\text{--}480^\circ\text{C}$ ., pressures of 500–900 lb. per square inch and a platinum catalyst were found to bring about reactions of isomerization of open chain components of the hydrocarbon giving more branching in the carbon skeleton, and reactions of ring-enlargement of the cyclopentanes in the naphthenic portion to cyclohexanes with subsequent dehydrogenation of the latter into benzenes. The operation was called "platforming." Both of the effects described are important in improving the antiknock rating of motor fuel. In a commercial installation in Michigan an original reactor charge with an octane number of 52 was improved to 81 (or to 93 if tetraethyl lead was added).

K. K. Kearby of Esso laboratories New Jersey reported on catalysts which were developed to dehydrogenate butene into butadiene, and ethylbenzene into styrene, in the presence of steam

as diluent. The importance of this topic is evident, since butadiene and styrene are the two major ingredients in synthetic rubber. The following conditions were used in actual productions:

Reduced pressures, which were necessary to lessen carbon formation, were obtainable either by vacuum or by dilution with steam. The latter was preferable. A catalyst containing 1 part each of cupric oxide and potassium oxide, 4 parts of ferric oxide and about 16 parts of magnesium oxide was the one selected. The potassium oxide in the catalyst promoted the desired reaction and tended to inhibit carbonization. It was established that under conditions of use potassium carbonate was sufficiently volatile as to be gradually stripped from the catalyst but addition of potassium carbonate pellets in the tube ahead of the catalyst bed counteracted this undesirable effect, thereby giving a catalyst life of a few months in plant practice. Ultimate recycle yields of butadiene of 70% to 85% were obtainable at butene conversion levels of about 40% to 20%.

More information was released concerning details in the production of butadiene from ethyl alcohol. The American process, which produced three-fifths of the butadiene required for the World War II emergency synthetic rubber program, comprised two steps: dehydrogenation of alcohol to acetaldehyde, and catalysis of alcohol-acetaldehyde to butadiene. B. B. Corson and collaborators of Mellon institute reported that the highest catalytic activity was found at  $350^\circ\text{C}$ . when silica was combined with tantalum, or at  $300^\circ\text{C}$ . when silica was combined with zirconia or hafnia. The per pass yield of butadiene was 30%–35% and the final yield was 60%–64%.

Conditions for a one-step conversion of ethyl alcohol to butadiene were also sought. Oxide mixtures of silicon-magnesium-tantalum (or chromium) gave laboratory yields of 56% at  $400^\circ\text{--}425^\circ\text{C}$ ., somewhat less than the yields in the two-step process.

The demand for butene in the production of aviation gasoline, synthetic rubber and chemicals such as 2-butanol, methyl ethyl ketone or thiophene stimulated search for new sources of this olefin. A study of this problem at Shell Development company by H. A. Cheney, S. H. McAllister and coworkers revealed that it may be made in good yields from ethylene. Thus if ethylene is passed over a cobalt-charcoal catalyst below  $150^\circ\text{C}$ . at pressures of 1 to 100 atmospheres, a polymerization process occurs giving rise to higher boiling olefins of essentially unbranched structure. About half of the ethylene may be converted per pass. Three fourths of this product is butene and the remainder is hexene, octene and higher boiling olefins.

Cyclopentadiene is a hydrocarbon occurring in the low boiling fractions of coke-oven distillates. It has found important utility in the manufacture of plastics; hence it is of interest to find new sources of this substance. R. M. Kennedy and S. J. Hetzel of Sun Oil company found that by operating at  $600^\circ\text{C}$ . under diminished pressure, 1,3-pentadiene (piperylene) could be dehydrogenated to cyclopentadiene in yields of about 50% if the time of contact was only one-tenth of a second. This change was one of pyrolysis. Catalysts were not effective. The course of the reaction is evidently one in which free radicals are essential intermediates.

**Ascorbic Acid.**—A. K. Gherghelezhii (U.S.S.R.) discovered in 1937 that one of the richest natural sources of ascorbic acid is the green hull of the immature English walnut. The unripe walnut develops a maximum of 2% to 2.5% ascorbic acid on the wet basis (16%–20% on dry basis) just before hardening of the shell. During the final three months of ripening the yield drops to 0.3% (wet basis).

Since at least 100,000,000 lb. of hulls are produced annually in California alone, A. A. Klose, H. L. Fevold and coworkers of Western Regional Research laboratory developed these steps for the isolation of ascorbic acid: extraction in dilute sulphurous acid, purification of the extract by use of anion exchange resin



and crystallization of the eluent from the resin. At least one-quarter of the ascorbic acid was thus isolated as crystalline material. Pilot-plant size runs were carried out, but a major difficulty with the process was that it would function only 1 month out of 12.

**Khellin.**—Interest in this substance, obtained from the fruits of *Ammi visnaga* (L), arises from its use as an antispasmodic and a coronary vasodilator in the treatment of angina pectoris and bronchial asthma. Alexander Schönberg and Aly Sina of Fouad I university (Cairo, Egy.) extended the chemistry of khellin by preparing several of its derivatives and analogues.

Khellin is a colourless tricyclic compound whose structure may be visualized in this way. The central ring is that of hydroquinone dimethyl ether. To it is fused a furan ring on the left and a gamma pyrone ring on the right. A methyl substituent appears on the pyrone ring.

Schönberg and Sina found it possible to cleave the pyrone ring with boiling alkali. The "khellinone" thus obtained could be taken back to khellin by condensation with ethyl acetate and sodium. By using ethyl formate, ethyl propionate or ethyl butyrate in place of the ethyl acetate, they were able to synthesize lower and higher homologues of khellin, compounds in which the methyl group was replaced in turn by hydrogen, ethyl or propyl groups. These and other compounds were being tested pharmacologically.

**Blood Plasma.**—J. B. Lesh, K. Schultz and J. D. Porsche of Armour & Co. described the details of a plant designed specifically for fractionation of blood plasma. Processing equipment was so constructed that the plasma (from about 8,000 donors per week) and all reagents used came in contact only with glass, rubber or stainless steel to avoid excessive metallic contamination. Since the plasma was for parenteral use, all pyrogens had to be absent. This was a major difficulty. Their detection was greatly simplified once it was learned that most pyrogenic materials are taken up quantitatively on albumin. Pyrogen-free alcohol was obtained by careful distillation, but to keep distilled water free of pyrogens it was found necessary to store it hot (80° C.).

The plasma was separated from the red cells by use of continuous centrifugals. Then 53% ethyl alcohol was added to the plasma to precipitate fibrinogen. After separation in refrigerated centrifugals, the liquid was transferred to a tank for precipitation of the next fraction, and so on until four such fractions were prepared. Removal of alcohol from the protein precipitates was effected by drying with high-vacuum equipment in the frozen state. The primary products of plasma fractionation, namely, albumin and the gamma globulins, are generally packaged as sterile solutions in as concentrated form as possible.

**Enzymatic Oxidation of Aliphatic Acids.**—The fate of carbohydrates and fats in the body has always interested the biochemist. The carbohydrate problem has been well answered for some time, but the study of fatty acids in enzymatic terms was, until recently, beyond reach. Perhaps the biggest obstacle has been the loss of activity of a tissue (such as the liver) when it is pulverized or extracted. J. M. Muñoz and L. F. Leloir showed in 1943, however, that homogenized guinea pig liver could oxidize butyric acid if it was supplemented with adenylic acid, magnesium salts, orthophosphate ion, cytochrome-c and succinic acid; but these same factors were incapable of oxidizing the higher fatty acids such as palmitic, oleic or stearic. A. L. Lehninger of The University of Chicago extended knowledge in this field greatly during the years 1945-50. He was able to make enzyme preparations from rat liver which would catalyze the oxidation of all the normal fatty acids from butyric (C<sub>4</sub>) to stearic (C<sub>18</sub>). He washed a saline suspension of liver particles, then supplemented it with adenosinetriphosphate, magnesium

salts and inorganic phosphate. In this slightly alkaline medium (pH 7.4) the aliphatic acids consumed oxygen, giving rise to sodium acetoacetate, quantitatively. The equation from octanoic acid illustrates this:



Apparently this equation is a summation effect, for what happens first is a breakdown into acetate ions. Two acetate ions then combine to form the acetoacetate:  $2 CH_3COO^- \rightarrow CH_3COCH_2COO^- + OH^-$ . The correctness of this was demonstrated by S. Weinhouse, *et al.*, of the University of Pennsylvania, Philadelphia, by use of isotopic carbon. If octanoate ion was used containing heavy carbon at atom 1,  $C_7H_{15}C^*OO^-$ , it was found that the acetoacetate ion formed contained heavy carbon at atoms 1 and 3,  $CH_3C^*OCH_2C^*OO^-$ . This could be explained if acetate ion ( $CH_3COO^-$  and  $CH_3C^*OO^-$ ) were formed first.

Lehninger carried his biochemical studies still further and found that enzymatic activity of the liver was concentrated in the rod-shaped mitochondria present in the cytoplasm. The mitochondria could be separated from other parts of the liver cell by differential centrifugation of liver dispersed in concentrated sucrose syrup. The mitochondria of the rat liver cell make up one-third of the total nitrogen of the cell. They contain protein, ribonucleic acid and phospholipids. They have been aptly described as the "power plants" of the cell. (See also BIOCHEMISTRY; CHEMOTHERAPY; PHYSICS; VITAMINS.)

**BIBLIOGRAPHY.**—*Chemical Abstracts*, vol. 44; *Ind. Eng. Chem.*, vol. 42; *Chem. Eng. News*, vol. 27; *J. Am. Chem. Soc.*, vol. 72. (C. D. HU.)

**Chemotherapy.** During 1950 it was demonstrated that cortisone (Compound E from the adrenal gland) and ACTH (adrenocorticotrophic hormone from the pituitary gland) often provide prompt and dramatic relief in rheumatoid arthritis, gout, lupus erythematosus, myasthenia gravis and other diseases, although the improvement usually was maintained only as long as the administration of the drug was continued. They were also found to have some value in the treatment of acute rheumatic fever and the whole gamut of collagen diseases. A number of disease conditions of the eye, for which adequate treatment had not been available heretofore, were found to respond dramatically following administration of these substances. ACTH demonstrated spectacular effectiveness in the treatment of severe and extensive burns by preventing loss of serum and the development of contractures. Burn therapy was revolutionized as a result of these findings. The physiological effects of cortisone and ACTH proved to be of vast importance to investigators studying the fundamental factors responsible for a multitude of disease states. The effect of ACTH on the circulating eosinophil count was found to be a satisfactory test for adrenocortical hormone reserves and thus allowed the physician to predict how well a patient might be expected to withstand the stress of major surgery. Adrenocortical hormone (ACE) was found to give promising results in the treatment of acute alcoholic intoxication, delirium tremens and Korsakoff's psychosis.

Cortisone and ACTH were not generally available during the first half of 1950 because of difficulties in production and lack of confidence regarding their safety for general use. However, by the end of the year an adequate supply of these drugs for use by the medical profession was assured and their relative safety for such use was established.

Terramycin, a new antibiotic of the broad spectrum type, came into general use during 1950. It was found to be of value in the treatment of infections caused by a wide variety of bacteria as well as by certain viruses and rickettsial forms. This antibiotic took its place with aureomycin and chloramphenicol which have a quite similar range of usefulness. The wide spectrum



antibiotics were being produced at the rate of approximately 8,000 kg. per month during 1950. Other antibiotics such as Vio-mycin, which showed ability to combat experimental tuberculosis infections, were subjected to preliminary evaluation during 1950.

A new sulfonamide drug, Gantrisin, was shown to be of relatively low toxicity and particularly suitable for the treatment of urinary infections. The high solubility of this drug tended to obviate the concern regarding most sulfonamide drugs as to possible harmful effects on the kidneys. It was demonstrated to be superior to antibiotic preparations for certain urinary infections.

Antihistaminic drugs, which had demonstrated usefulness in the treatment of certain allergic conditions, were extensively promoted for the common cold. Although the antihistaminics may afford some degree of temporary relief from symptoms in the common cold, it seemed questionable that this possible effect is of any significance. (See COLD, COMMON.)

Banthine, a quaternary amine having anticholinergic properties, was found to have value in the therapy of peptic ulcer. Dryness of the mouth, blurring of vision and difficulty in urination occasionally complicated therapy, but the drug gave definite promise of possibly obviating the need for surgery in many ulcer patients. Banthine was also found to have value in the treatment of hyperhydrosis.

Much interest was manifest during 1950 in preparations having muscle-relaxing properties. Mephenesin was shown to have the ability of reducing spasticity or exaggerated reflexes without significantly affecting voluntary neuromuscular control, and useful in the control of palsy or Parkinson's disease. Mephenesin also proved to be an excellent relaxing agent in the management of tetanus convulsions. Synthetic curarelike substances such as Syncurine, which is related to d-tubocurarine, were also evaluated. They have valuable muscle-relaxing qualities which facilitate surgical anaesthesia.

Drugs such as Priscoline were found to be useful in the treatment of peripheral vascular disease. The vasodilating action of these drugs was determined by measuring the increase in volume of the extremities when the venous outflow was prevented and by observing the increased temperature of the extremities attendant on a greater blood flow. Priscoline demonstrated superiority over papaverine and nicotinic acid as a vasodilator of the blood vessels of the extremities.

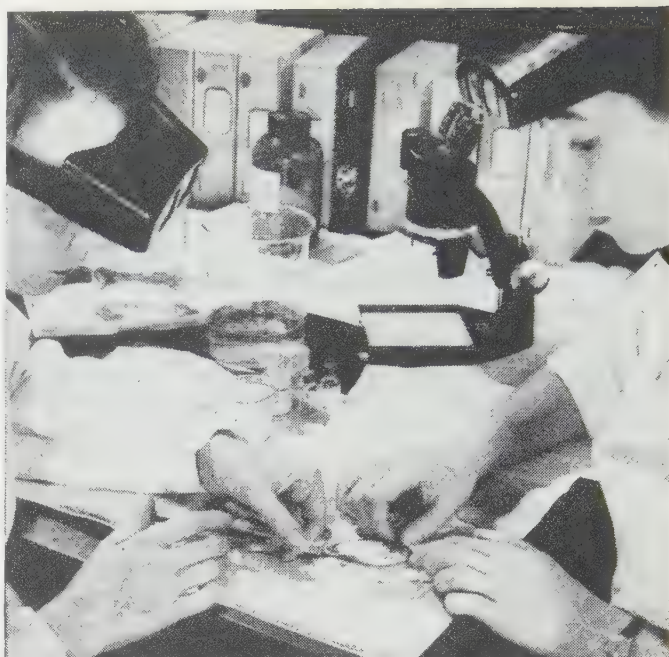
Veriloid, a preparation obtained from *veratrum viride*, was found to have potent hypotensive properties. The ability of this drug to lower blood pressure led to its use in the treatment of hypertension. Although it cannot be regarded as a cure for high blood pressure, Veriloid was found to have value in the treatment of selected cases of this disease.

Khellin (*visamin*), a drug of Egyptian origin, was found to have some value in the treatment of angina pectoris, although it was not shown to have any definite superiority over the nitrites in this condition. Its value in the therapy of bronchial asthma was not conclusively established. Tetraethylammonium chloride was also reported to be of value in angina pectoris.

Pronestyl (procaine amide hydrochloride) was shown to be effective in abolishing irregular rhythms of the heart known as ventricular tachycardias. The drug was found to be of particular value in patients subjected to surgery who developed cardiac irregularities under anaesthesia.

Preliminary studies indicated that choline may play a role in the prevention of coronary disease. The results obtained were not conclusive, however, and many patients were unable to tolerate the high doses of choline considered necessary in therapy.

There was interest in anticoagulant therapy for combating pulmonary embolism and coronary thrombosis. In addition to



INJECTING ACTH into a fish which was raised in darkness and developed a cancerous growth. This was part of a 1950 research project sponsored by the American Cancer society to test the belief that light reduces hormone secretion and to determine the relationship of light and hormones to growth and cancer

heparin and dicumarol, a new anticoagulant, Tromexan, was subjected to evaluation. The results of anticoagulant therapy thus far were quite encouraging.

Several new drugs for the treatment of epilepsy came into general use. Mesantoin and Phenurone were shown to possess a certain amount of value in the control of psychomotor and *grand mal* seizures. However, the new drugs offered for the treatment of epilepsy must be administered with caution, primarily because of the possible toxic effects on the blood-forming organs of the body.

Intravenous infusions of a 15% fat emulsion brought clinical improvement and prevented weight loss in a series of patients unable to tolerate food by mouth. Although protein in the form of a hydrolysate or amino acid mixture and dextrose was successfully administered intravenously, it was formerly believed that fat could not be given by this route.

A dye, di-iodofluorescein, containing radioactive iodine was found to be effective in establishing the location of brain tumours. When injected intravenously it tended to localize in the tumour.

A resin of podophyllum demonstrated some value in destroying cancerous and precancerous skin lesions. Applied topically, the drug was quite effective against a variety of skin cancers.

DFP (di-isopropyl fluorophosphate) was found to be of value as a means of reducing intraocular pressure in glaucoma.

Atropine was found to be a specific antidote for poisoning caused by the new phosphorus-containing insecticides such as parathion.

There was a considerable revival of interest in BCG vaccination as a means of control of tuberculosis during the year. A need for further well-controlled studies to establish conclusively the value as well as the limitations of the vaccine was evident.

**Drug Production.**—The monthly production of drugs in the United States remained at a high level in 1950. For example, June production of streptomycin and dihydrostreptomycin, reported by the U.S. tariff commission, was 1,640,346 g. and 5,104,609 g., respectively; penicillin producers provided 15,769,000,000,000 units in June. Output of penicillin for the first six months of the year was 97,350,000,000,000 units, compared with 63,228,000,000,000 units in the same period of 1949. June production of



ascorbic acid and its salts amounted to 80,049 lb.; niacin and niacinamide 102,415 lb.; thiamine (B<sub>1</sub>) 19,314 lb.; sulfa drugs 384,364 lb.; phenobarbital and sodium salts (sleeping tablets) 27,526 lb.; and aspirin 921,269 lb. The medicinal and pharmaceutical preparations exported in June alone were valued at \$19,847,878.

Drugs of animal origin imported during the first six months of 1950 were valued at \$2,456,491; the figure for the same six-month period in 1949 was \$1,605,162. (See also ALLERGY; BACTERIOLOGY; CHEMISTRY; MEDICINE; PNEUMONIA; SURGERY; UROLOGY; VITAMINS.)

(R. T. S.)

**Chemurgy.** Years of chemurgic research enabled U.S. retail stores to display during 1950 new fabrics from the cornfields. The fabrics were made with Vicara, trade name of a fibre derived from zein, the protein of corn. Of the dry substance of the corn kernel 65% is starch, which enters into a multitude of industrial processes. The 10% protein content had only recently achieved any industrial importance. It had found some use in plastics, and rather extensive use as a coating for papers which required resistance to grease or moisture. This latter use became especially important for protecting war supplies shipped into the Pacific areas.

This soft, resilient new fibre also had other and quite different uses. On the market in 1950 were bathing suits, hosiery, sweaters, upholstery fabrics and artificial suede leather in which Vicara was the principal constituent. The fibre is resistant to moths and mildew as well as to all ordinary solvents. The manufacturers said that it is nonallergenic, free of odour and readily launderable, and blends easily with other fibres. It was manufactured in a plant at Taftville, Conn.

About half the total product of the cornfields is stalks, and only limited success had been attained by 1950 in finding commercially profitable uses for them. The most continuous effort had been made by a manufacturer of Dubuque, Ia., who for several years with varying success had manufactured wallboard with cornstalks as the raw material. Experiments led to the addition of flax shives and hemp hurds as an additional raw material. The shives and hurds were discarded when the fibre was extracted from flax straw and hemp stalks, and had no market. The company found, however, that its product was improved and costs lowered by putting the shives and hurds, as well as cornstalks and some wood pulp, into the process. About 120,000 lb. of the board were produced daily by 130 employees in 1950, and marketed through a mail-order company.

A new crop made one of the more spectacular chemurgic gains of 1950. This was safflower, an oriental plant long viewed as an important possibility for U.S. agriculture. The unsatisfactory oil content held back its acceptance. Several years of patient genetic experiments by the Nebraska Chemurgy project developed strains which yielded 34% oil, or more, instead of the 28% which had been characteristic of the plant in Asia. This, with improved yields, made safflower attractive both to farmers and to processors. The 1950 crop came from about 150,000 ac., by far the largest yet planted, of which 20,000 ac. were in Pacific coast states and most of the rest in western Nebraska and eastern Colorado.

Paint, varnish and linoleum manufacturers like safflower oil for its nonyellowing quality. Farmers in the Great Plains area like it for being drought-resistant and not expensive to grow, and because it affords an attractive alternative to wheat. On irrigated lands the returns ranged from \$75 to \$100 an acre, and on dry lands from \$30 to \$40.

Another oilseed crop, sesame, began to attract interest during 1950 in the southeastern states because of experimental successes. This area, which had experienced frequent restrictions

upon freedom to grow either cotton, tobacco or peanuts, its traditional money sources, had felt the need for a new cash crop. The difficulty with sesame had always been that the seed ripened at uneven intervals and tended to shatter before harvesting. The South Carolina Experiment station had obtained sesame seeds from nearly 20 different countries and from the University of Nebraska, Lincoln, where sesame breeding had been conducted. From plants which indicated the least tendencies for seed to shatter, strains were bred to combine other desirable characteristics.

Greenhouses permitted the process to be hastened by producing three crops a year.

The South Carolina station expressed confidence that within two or three years seed strains could be offered to the public which would meet all requirements. No new machinery would be needed by farmers. Yields from cotton lands ranged from 500 lb. to 1,000 lb. per acre, and the proportion of oil was high, being 45% to 55% of the seed's weight. The oil cake provides an excellent protein feed for livestock.

A new \$32,000,000 newsprint mill, the Coosa River mill in Alabama, utilizing southern pine pulp wood as its raw material, began operations early in 1950 with a capacity of 100,000 tons of newsprint annually. This was the second such mill in the south, the first having been established more than ten years before at Lufkin, Tex., where it had successfully operated.

An interesting minor chemurgic development of the year was the commercial use of curled casein fibres in air filters for automobile carburetors. This product replaced horse hair, formerly obtained from Argentina.

Being uniform and sanitary, it was expected that curled casein would also find its way into such uses as for upholstery.

(W. McM.)

**Cherries:** see FRUIT.

**Chervenkov, Vulko** (1900— ), Bulgarian prime minister, was born on Sept. 6 at Zlatitsa, Bul. He was educated at a Sofia Gymnasium and later worked as an army clerk. He joined the Bulgarian Workers' (Communist) party in 1919 and was a member of the central committee of the Communist Youth league, 1920–25. In Sept. 1923 he took part in an unsuccessful communist uprising. He was editor of the legal crypto-Communist newspaper *Budashte* ("Future") and the underground *Voinishki Glas* ("Soldier's Voice"). In Oct. 1925 he went to Moscow where he studied at the Marx-Lenin school of which he eventually became director. In 1941 Georgi Dimitrov, his brother-in-law, appointed him director of the Hristo Botev radio station broadcasting to Bulgaria. He returned to his country in Sept. 1944, becoming a member of the central committee of the Bulgarian Communist party and first secretary of its Politburo. In Sept. 1947, he was a Bulgarian delegate at the conference in Poland at which the Cominform was created. On Dec. 12, 1947, he was appointed minister of culture and on July 20, 1949, first deputy prime minister.

After the death of Vasil Kolarov on Jan. 23, 1950, Chervenkov succeeded him as prime minister.

**Chess.** The 51st annual championships of the United States Chess federation at Detroit, Mich., in July 1950 attracted a field of 117 contestants with the title and custody of the Sturgis trophy being won by Arthur B. Bisguier of New York city.

The 20-year-old junior champion of 1949 won with a score of 9½–2½. Winning eight games and drawing three, he lost only to Lester Spitzley of Detroit.

Herman Steiner of Los Angeles, Calif., retained his United





LASZLO SZABO (back to camera), of Hungary, and Larry Evans, aged 17, of the U.S., at the Silver Jubilee International Chess congress held at Hastings, Eng., in Jan. 1950. Szabo placed first in the master's tourney, Evans fourth.

States closed title, Larry Evans of New York city carried off speed laurels and James Cross of Glendale, Calif., became the new junior ruler. N. May Karff of Boston, Mass., and Mrs. G. K. Gresser of New York city were cochampions among the women experts.

Eliot Hearst, 18-year-old collegian, won the New York state title in a big field of older experts and helped Columbia university take both the National Intercollegiate league and the Columbia-Harvard-Yale-Princeton league team titles.

Bisguier tied for first honours in the Southern Counties Chess union tourney at Southsea, Eng. Trailing S. T. Tartakower of Paris by half a point going into the final round, the young U.S. expert defeated F. F. Alexander of England and gained a deadlock for the prize as Tartakower was held to a draw by the German champion, E. D. Bogoljubow.

Miguel Najdorf of Buenos Aires, Arg., triumphed in the masters' tournament at Amsterdam, Neth., going undefeated through 19 games for a count of 15-4.

Mikhail Botvinnik of the U.S.S.R., world open champion, was not called upon to defend his laurels, but awaited the results of the challengers' tourney in Budapest, Hung.

David Bronstein and Isaac Boleslavsky, soviet experts, tied in that event and in the subsequent play-off Bronstein triumphed and earned the right to meet Botvinnik in 1951 for the world championship.

The women's world championship at Moscow was dominated by soviet players, who took the first four places. Mrs. Ludmilla Rudenko annexed the honours as Mrs. Olga Rubsova, soviet national titleholder, was runner-up.

International team play was featured by the world tourna-

ment held at Dubrovnik, where Yugoslav experts won with a score of 45½-14½ after 15 rounds. (T. V. H.)

**Chiang Kai-shek** (1887- ), leader of nationalist China for two decades before his retirement in Jan. 1949 in order to give the nationalists and Communists a final chance to negotiate for peace, resumed the office of presidency of the national government in Formosa on March 1, 1950, when Acting Pres. Li Tsung-jen still remained in the United States apparently for reasons of health. Chiang declared that the Communists had placed China under soviet servitude and that he could no longer shirk his responsibility in fighting against soviet aggression in China. On March 12 his cabinet was reorganized without Li's faction and on March 16 he took direct control of the nationalist forces intensifying the defense of Formosa against anticipated Communist attack. Chiang stated on May 30 that the Communists could not hope to invade Formosa without extensive soviet aid. Following Pres. Harry S. Truman's statement on Korea and Formosa and the United Nations Security council's resolution on Korea on June 27, Chiang offered 33,000 men to the United Nations. The offer was not accepted by the U.S. state department. After Gen. Douglas MacArthur's visit to Formosa on July 31, however, Chiang stated on Aug. 2 that an agreement was reached between General MacArthur and him on the problems discussed by them and that the foundation for Sino-American military co-operation and a joint defense of Formosa had been laid. After Chinese Communist forces openly entered into the Korean conflict, Chiang urged, on Nov. 13, the Chinese troops in Korea to surrender to the United Nations and the Chinese people on the mainland not to fight for what he termed the soviet cause in Korea. (See also CHINA.) (H. T. CH.)

**Chicago.** Second largest U.S. city, a port of entry, and the county seat of Cook county, Ill., Chicago lies at the southwest corner of Lake Michigan. Its population, by preliminary estimates of the bureau of the census in April 1950, was 3,606,436, an increase of 6.2% over the 1940 population. For the six-county Chicago metropolitan area these estimates were 5,475,535, a 13.5% increase. The mayor in 1950 was Martin H. Kennelly.

The city in 1950 enjoyed a year of exceedingly high business activity, setting all-time records in several industries, including steel production, television and radio production and the output of electric power. Employment rose to a near all-time high and unemployment dropped to a very low level.

Bank clearings for 1950 increased 13.5% to \$40,674,982,675 from \$35,806,922,424 in 1949. New investment in industrial plants in 1950 amounted to \$325,347,000, compared with \$102,777,000 in 1949, the 1950 figure being the largest for any peacetime year. Retail sales in 1950 were estimated at \$4,500,000,000 for the year 1950, an increase of 5.8% over the 1949 retail sales. Chicago continued to be the world's largest centre of rail and air traffic.

There were no major labour difficulties in Chicago during the year. The total number of workers involved in strikes was 22,677 in 1950 as against 64,373 in 1949.

Passengers carried on the lines of the Chicago Transit authority continued to decline. In the first 11 months of 1950, the total passengers carried numbered 722,412,567, a decline of 11.3% from 815,386,590 passengers carried in a similar period in 1949.

An outstanding civic feature was the Chicago fair of 1950, held on the lake front. In spite of unfavourable weather and disturbed international conditions, attendance was 1,709,000.

All types of construction in the first 11 months of 1950 involved an estimated outlay of \$599,909,049, an increase of 65.8% over the first 11 months of 1949, when similar expenditures amounted



to \$361,038,152.

In the first 11 months of 1950 permits for individual homes in Chicago totalled 8,094; in suburban towns 18,795; and in unincorporated areas 4,628—a total of 31,517. At the same time there were constructed within the city limits 8,449 apartment units and in the suburbs 1,495 apartment units, for a grand total of 41,461 dwelling units in the period.

The total public assistance burden in Cook county in 1950 approximated \$67,800,000, with an average of 151,000 persons on relief rolls throughout the year. The December total for persons obtaining some form of assistance in Cook county was down to 140,000.

The 1951 budgets of the six governments that cover Chicago in whole or in part follow: city of Chicago corporate net operating fund \$87,157,836, bonded debt \$106,251,000; Cook county operating expenses \$44,291,519, bonded debt \$60,779,900; Cook county forest preserve operating expenses \$2,090,816, bonded debt \$7,875,000; Chicago board of education operating expenses \$98,248,781.14, gross bonded debt \$10,239,000; Chicago sanitary district operating expenses \$15,291,000, bonded debt \$140,844,500; Chicago park district operating expenses \$20,960,250.06, bonded debt \$59,711,700. (L. LN.)

**Child Labour.** **United States.**—Nearly 2,500,000 minors 14 through 17 years of age were employed full time or part time in Oct. 1950, according to estimates of the U.S. bureau of the census—a slightly larger number than in any October since 1945. Of these, 916,000 were 14 or 15 years of age, and 1,553,000 were 16 or 17 years of age. Two out of three in the 14- through 17-year-old group were in nonagricultural jobs. Somewhat more than half of these young workers were also attending school, according to estimates based on surveys in prior years. The peak vacation employment was about 750,000 more.

The amendments to the Fair Labor Standards act effective Jan. 25, 1950, extended the protection of its child-labour provisions to many thousands of young workers in interstate industries and agriculture. Special emphasis was placed by the U.S. department of labour, which is responsible for the enforcement of the act, on the administration of the provisions extending the 16-year minimum age to work in agriculture during school hours. In co-operation with representatives of other federal agencies and national organizations, an educational program was developed to obtain the interest and help of the public in putting this standard into effect.

In the cases closed during the year ending June 30, 1950, as a result of investigations made by the wage and hour and public contracts divisions, 18,857 minors under 18 were found in 4,219 establishments, of whom 4,702 or 25% were employed contrary to the child-labour provisions.

The most important advances in state child-labour legislation made during the year 1950 were in Maryland, where the former basic 14-year minimum age for employment was raised to 16, making this state the 23rd to adopt this standard. For minors under 18 years of age, work in a considerable number of hazardous occupations was also prohibited and advances were made in hours of labour and night-work standards.

A significant development in education in the United States had been an increased trend toward school attendance of young people of high school age, especially those of 16 and 17 years. In 1950 the estimated number of boys and girls graduating from high school was equal to 58% of the entire number of people 17 years old in the population.

There had also been an expansion, both in the schools and in the public employment services, of pupil personnel, guidance and placement activities to give young people assistance in obtaining suitable jobs and in working out satisfactory occupa-

tional adjustments.

Under the Defense Production act, the secretary of labour was made responsible for defense manpower. In the secretary's defense manpower order (general order no. 48 issued Sept. 29, 1950), provision was made for formulating programs and policies regarding recruitment, training and utilization of young workers, and regarding labour standards for their employment, working conditions and industrial health and safety.

**Great Britain.**—The raising of the school-leaving age in Great Britain from 14 to 15 showed its full effect in 1949. The number of 14-year-old children attending school in England and Wales in January of that year was 480,127, an increase of 220% over the number reported in Jan. 1947 (150,101). Progress was made in the establishment of County colleges at which young persons between 15 and 18 years of age not attending full-time school were required to attend part time, either for one whole day or two half days each week or for a period of eight weeks, or for two periods of four weeks, in each year. Nearly all the local education authorities had submitted to the ministry of education their plans for such colleges by the end of the year.

The Employment and Training act of 1948 permitted local education authorities to accept the responsibility for administration of youth employment service upon submission of plans to the ministry of labour and national service and approval by them. By Jan. 1950, about two-fifths of these authorities in England and Wales and most of the larger authorities in Scotland had submitted plans for taking over this responsibility.

Arrangements were made for co-operation between the schools and the education officers administering the employment services, and methods of training young workers were developed with representatives of employees and workers. The central administration of this program remained in the hands of the Central Youth Employment executive, responsible to the minister of labour and national service.

**International Labour Organization Standards.**—In 1950, convention 90, prohibiting night work of young persons in industrial undertakings, was ratified by India and Czechoslovakia, and convention 33, relating to minimum age for nonindustrial employment, was ratified by Uruguay. The United States, as a member country with a federal-state government, brought two conventions—one relating to night work of children in industry and one relating to labour inspection—to the attention of state governments for such action as they might find appropriate.

(E. S. J.)

**Children's Books.** Integrity of writing on the part of the standard authors and a fine originality contributed by the newer writers were paramount in the publications of 1950. Colour was used more lavishly in such picture books as Ingri and Edgar D'Aulaire's *Benjamin Franklin* and Leo Politi's *A Boat for Peppe* while Roger Duvoisin was at his most vivid in *Follow the Wind* by Alvin Tresselt. Animals were the subject for Clare Newberry's *T-Bone the Baby-Sitter* (cats) and *Blaze Finds the Trail* (horses) by C. W. Anderson, and imagination ran rampant in *If I Ran the Zoo* by Dr. Seuss (T. S. Geisel). Linoleum cuts illustrated *Dick Whittington and His Cat* by Marcia Brown. The Pennsylvania Dutch celebration of Easter was portrayed in *The Egg Tree* by Katherine Milhous, and *The Two Reds* by W. Lipkind and N. Mordvinoff was unusual and distinctive.

The selection of stories to read aloud to the six-to-eight-year-olds ranged from the loss of a tooth in *Excitement in Appleby Street* by R. and E. Crist to a jungle tale in *Picken's Great Adventure* by Norman Davis. A winter in the Laurentians was portrayed in *Philippe's Hill* by Lee Kingman, and a summer in Florida was the setting for the sensitive story by Ruth Sawyer, *The*





ILLUSTRATION from *The Door in the Wall*, written and illustrated by Marguerite de Angeli and awarded the 1950 John Newbery medal for the most distinguished contribution to American literature for children

*Little Red Horse*. Fanciful were *The Thirsty Lion* by Karine Forbes and *Elmer and the Dragon* by Ruth Gannett.

Easy-to-read stories with a modern setting were represented by *Big Brother* by Laura Bannon, *The Runaway Elephant* (more about Hezekiah Horton) by Ellen Tarry and *Lucky Days for Johnny* by Irene Smith. Indians and being lost in the woods contributed to the plot of *First Adventure*, a tale of the Pilgrims by Elizabeth Coatsworth. An English story which appealed was *Winkie, the Grey Squirrel* by Albra Pratten and for the train-minded boy there was *Caboose* by Edith Hurd. Dolls appeared in *Pawnee* by Thelma Bell and *The Most Wonderful Doll in the World* in which Phyllis McGinley differentiated between the dream and reality. Stories laid in other lands were *A Cap for Mul Chand* (India) by Julie Batchelor, *Magic Money* (Costa Rica) by Ann N. Clark and *The Storks of Lillegaard* (Denmark) by Wilhelmine Frisch. Texas in the 1900s was the setting for *All About Marjory* by Marian Cumming and California and the Spanish dons formed the background for *Tomás and the Red Headed Angel* by Marion Garthwaite. The transitory life of a preacher's family was pictured by Jean Bothwell in *Peter Holt, P. K.* Subtly fanciful was *The 13th is Magic* by Joan Howard, *The Taming of Giants* by Patricia Gordon, and the refreshing *The Story of Appleby Capple* by Anne Parrish. The real American boy was portrayed in *Martin Butterfield* by John Burgan and in *Windfall Fiddle* by Carl Carmer, while his exploits were further presented in *The Radio Imp* of Archie Binns. Stories by favourite authors were *Born to Trot* by Marguerite Henry and *Texas Tomboy* by Lois Lenski. *High Smoke* by Audrey Chalmers concerned life in the theatre,

and the amazing existence in a circus was told in *Hidden Trapezes* by Edward Fenton.

Older boys enjoyed the history and adventure in *Make Way for the Brave* (Oregon trail) by Merritt P. Allen, *Whaler 'Round the Horn* (whaling and Hawaii) by Stephen W. Meader and *The Secret Fiord* (England, Norway and the Hanseatic league) by Geoffrey Trease. Older girls were experiencing present-day problems in *Teru* (occupied Japan) by Lucy H. Crockett and in *Sumei's Golden Year* (China) by Margaret H. Bro; and they chuckled over *Sun in the Morning* (India) by Elizabeth Cadell. The trials of adolescent girls were pictured in the sensitively written *Margaret* by Janette S. Lowrey, in *Hoofbeats on the Trail* by Vivian Breck and in *To Tell Your Love* by Mary Stolz. Boys too had adjustments to make, as witness *Farm Boy* by Douglas Gorsline.

On the lighter side, they howled at the antigravity invention of *Peter Graves* by William P. Du Bois and thrilled to *Farmer in the Sky* (planet Ganymede) by Robert A. Heinlein.

Biographies were represented by Nina B. Baker's *Sir Walter Raleigh*; *Gandhi, Fighter Without a Sword* by Jeanette Eaton; *Abraham Lincoln: Friend of the People* by Clara I. Judson and Mabel L. Hunt's *Better Known as Johnny Appleseed*.

Excellent nature information was to be found in *Frogs and Toads* (grades 3-6) by Herbert Zim and in *Masked Prowler* (raccoon) by John and Jean George (grades 7-10). *The First Book of Indians* by Benjamin Brewster (pseud. for Mary Elting) proved excellent; *Everyday Machines and How They Work* by Herman Schneider and *First Book of Stones* by Maribelle Cormack met special needs. The arts were represented by Amy Hogeboom's *Boats and How to Draw Them, This is an Orchestra* by Elsa Z. Posell and *Pictures of France by Her Children* by Marion Cothren. An excellent book on comparative religions was *The Good Ways* by Delight Ansley, and folklore was enriched by *John Henry and His Hammer* by Harold Felton, *Jack O'Moora and the King of Ireland's Son* by Bryan MacMahon. Far eastern legends and folk tales were Chang Fa-Shun's *The Sky River* (China) and Harold Courlander's *Kantchil's Lime Pit* (Indonesia).

Books to share with the family were Ruth Seeger's *Animal Folk Songs for Children*, Better Homes and Gardens *Storybook* and the nostalgic *Second St. Nicholas Anthology* of Henry S. Commager. The need for fresh Christmas stories was met by Louise Fatio in *The Christmas Forest* (ages 4-8), by Tasha Tudor in *The Doll's Christmas* (ages 5-8) and by the artistically illustrated *Lucy's Christmas* of Anne Molloy (grades 4-6). A new publisher's series of U.S. history was the Random House "Landmark" books, and new editions of Virginia L. Burton's *Calico, the Wonder Horse*, James M. Barrie's *Peter Pan* and Beatrix Potter's *The Tale of Little Pig Robinson* appeared. (See also BOOK PUBLISHING; LITERARY PRIZES.)

FILMS OF 1950.—*Little Red Riding Hood* (Encyclopædia Britannica Films Inc.); *Rapunzel, Sleeping Beauty* (Sterling Films, Inc.).

(E. A. Gs.)

**Great Britain.**—An outstanding event of the year was the publication of *Four to Fourteen*, a selective, annotated catalogue of about 1,200 children's books, compiled by Kathleen M. Lines for the National Book league. The Library association Carnegie medal was awarded to Agnes Allen for *The Story of Your Home*. *The Wind in the Willows* was reprinted with striking illustrations by Arthur Rackham.

Welcome additions to the small number of suitable titles for adolescents were *The Years of Grace*, edited by Noel Streatfeild, covering the problems and interests of girls; *The Lark on the Wing*, a sensitive study of a girl singer, by Elfrida Vipont; and *A Dream of Sadler's Wells*, a story of ballet by Lorna Hill. Biographical works included *Elizabeth Fry*, written with fine perception by Kitty Barne; a straightforward account of *Florence Nightingale* by Lucy Seymer; a discerning portrait of *Hudson of*



*Hudson's Bay* by the explorer J. M. Scott; and *Marco Polo*, written in adult style by Maurice Collis. *Going to the Ballet* by Arnold Haskell and *Going to a Concert* by Arthur Salter were expertly written introductions.

Interesting contributions to factual literature included *The Story of the Highway* by Agnes Allen and *The Musical Detectives* by Irene Gass and R. J. McGregor, both written within a fictional framework; *The Book of Flags* by Gordon Campbell and I. O. Evans, with excellent illustrations; and *John and Mary's Aunt*, personal recollections of a girlhood in Japan, told with charming simplicity by Grace James. Practical advice on popular hobbies was given in the "Junior Teach Yourself Series."

Poetry was represented by *The Wandering Moon* by James Reeves and, in freer style, by Ian Serraillier's *The Tale of the Monster Horse*. Adventures from the *Odyssey* were retold by Aubrey de Sélincourt in *Odysseus the Wanderer*.

Foremost among several historical stories with good characterization and feeling for locality as well as period was *The Secret Fortress*, by Joyce Reason, a vigorous tale of the Northmen during the reign of William I. Adventures at the time of Trafalgar were skilfully narrated by John Keir Cross in *Blackadder*; Kathleen Fidler chose an unusual theme in *I Rode with the Covenanters* and Philip Woodruff took liberties with history in *Hernshaw Castle*. In gentler vein were *The Queen Elizabeth Story* and *The Chronicles of Robin Hood* by Rosemary Sutcliffe and *The Five Wishes*, a Victorian chronicle by Dorothy Stuart.

Outstanding adventure stories of traditional pattern were *The City of Frozen Fire* by Vaughan Wilkins and *Cocos Gold* by Ralph Hammond, with *There Is No Escape* by Ian Serraillier and *Saturday Adventure* by John Pudney in modern idiom. Psychology was predominant in Richard Church's *The Cave*, science in Donald Suddaby's *The Star Raiders* and the sea in Andrian Seligman's *Thunder Reef*. *The Islanders* was a satisfying tale of open-air life by Roland Pertwee. Africa was sympathetically depicted in *African Boy* by Grace Huxtable and *Salifu the Detective* by C. J. Neville; Australia in *Bush Voyage* by Stephen Fennimore; tsarist Russia in *A Boy in Samarkand* by George Sava; a U.S. lumber town in *North Fork* by Doris Gates; and English and Italian scenes in *Giovanna and Jane* by Iris Origo.

Among fantasies were *The Big House* by Naomi Mitchison and *The Lion, the Witch and the Wardrobe* by C. S. Lewis, both of unusual depth and imagination; *Finn Family Moomintroll*, by Tove Jansson, translated from the Swedish; and *The Wonderful Stranger*, by Roger Lancelyn Green. There was delicate charm in *Don't Go Out of Sight*, *Miranda* by Elizabeth Gorell and *The Cats and Rosemary* by Frank Swinnerton; homely fairy stories in *The Seventh Pig* by Patricia Lynch and *The Cobbler's Shop* by Alison Uttley; originality in *Galloping Fred* by Antonia Ridge; humour and invention in *The Adventures of Chunky* by Leila Berg; and solemn absurdity from the United States in *The Twenty-One Balloons* by William Pène du Bois.

*The White Riders* by Monica Edwards, *The House in Hiding* by Elinor Lyon, *Under Black Banner* by Geoffrey Trease and *Roly's Dogs* by Kitty Barne were pleasantly readable tales with good local colour.

There was sparkling fun and pathos in *Lottie and Lisa* by Erich Kästner and imaginative use of colour in *A Bell for Ursli* by Selina Chönoz, both translated from the German. *Sandy the Red Deer*, a nature story by F. Fraser Darling, was notable for its good prose style. (D. D. Ct.)

**Child Welfare.** International Services.—Steps toward enactment of a Declaration of the Rights of the Child were taken within the United Nations during 1950. A draft declaration, after amendment and approval by the Social commission, was submitted to the Economic and Social council,

with the request that the council after consultation with the Commission on Human Rights transmit it to the general assembly.

There was general recognition of the need for such an instrument in addition to the Universal Declaration of Human Rights, approved in Dec. 1948. In stating the broad principles regarding rights of the child toward which all nations should strive, the draft declaration pointed to parallel concepts of individual rights and obligations toward society and emphasized protection against factors likely to foster discrimination. It specified the rights of a child to a name, nationality, security, health, education and protection against such exploitation as might prejudice his development.

The United Nations International Children's Emergency fund (U.N.I.C.E.F.) by action of the general assembly of the U.N. on Dec. 1, 1950, was continued for another three years with the presumption that in 1953 it would be made permanent. The fund completed the first phase of its operations dating from 1946, in which it provided the equivalent of \$150,000,000 mostly in food, clothing, health supplies and services to children in war-devastated countries. The second phase would emphasize the continuing needs of children in countries of limited economic development, strengthening wherever possible the permanent child health and child welfare programs of the countries receiving assistance, and still taking into account the needs which were decreasing in most war-devastated countries.

The support of U.N.I.C.E.F. came from 48 countries, including voluntary contributions as well as governmental appropriations. Efforts of some of the small or newly constituted countries, as in previous years, were remarkable, the 1950 contributions including \$60,000 from Iceland, \$367,000 (in rice) from Thailand, \$100,000 from Indonesia and \$120,000 from west Germany.

Allocations late in 1950, illustrative of the program of U.N.I.C.E.F., included \$2,532,000 to nine Asiatic countries—Burma, Ceylon, India, Indonesia, Japan, Pakistan, Philippines, Thailand and Malaya—and a new allocation of \$500,000 to Korea to replace funds previously provided for maternal and child health projects but used instead for emergency relief supplies. The \$840,000 allocated to Latin America was added to the area reserve, and from existing reserves \$528,000 was apportioned for projects in nine countries—Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Nicaragua and Paraguay. Funds in excess of \$500,000 were made available for health services and relief in the middle east, \$350,000 for Bacillus-Calmette Guérin (BCG) antituberculosis vaccination campaigns and \$150,000 (previously allocated) for an antibelzsyphilis campaign in Iraq. Child-feeding programs in Israel and Palestine, with other relief for Palestine refugees were made possible mostly by previous allocations for the first half of 1951. The work in Europe included allocations of \$185,000 to Greece and \$586,000 to Yugoslavia for food supplies required through the early months of 1951 for aiding 1,000,000 children in Greece and 1,400,000 in Yugoslavia, some of whom otherwise might not have survived the drought of 1950. Other allocations included \$25,000 to Germany to aid handicapped children and \$56,000 to cover part of the cost of training, in Sweden and the United Kingdom, the workers serving handicapped children in various European countries aided by previous as well as the current allocations.

The World Health organization (W.H.O.), as in previous years, gave priority to children in much of the work for which it was responsible or for which it shared responsibility. Its membership in 1950 consisted of 75 countries. It co-operated with U.N.I.C.E.F., the Food and Agricultural organization (F.A.O.) and various national agencies in efforts combating those diseases which claim many victims among children in devastated and un-





FASCINATED BY A DOLL almost half her own size, an orphan of Rome, Italy, is shown leaning forward for closer inspection. The dolls and other toys shown were among the first 1950 shipment of playthings for European orphans collected and sent by the American Legion

derdeveloped countries and immobilize through illness large parts of the world's population. Teams of trained health workers, including public health engineers, helped many countries reduce the incidence of malaria. This disease, tuberculosis and venereal diseases, recognized as the world's greatest public health enemies, received foremost attention. Plague, cholera, trachoma, yaws and smallpox also were reduced in countries where their control was most needed. In much of this work W.H.O. provided technical advice and assistance and U.N.I.C.E.F. the supplies and equipment.

The operations of W.H.O., reorganized in 1950, were conducted by three divisions, public health services, communicable diseases, and professional and technical education. The W.H.O. budget for 1950 was about \$6,300,000 and the outlook for 1951 was for expenditure of about \$6,000,000. In both years the administration of W.H.O. had projected a larger budget but the limited resources required curtailments.

The maternal and child health section of W.H.O. developed a long-range program including: (1) stimulation of research and investigation of conditions affecting the well-being of children; (2) provision of technical information; (3) provision of expert advisers and demonstration teams to underdeveloped countries and other countries requesting them; (4) expansion of existing fellowship and training programs, including the training of nurses, nurses' aides, midwives, nutritionists, health educators and physicians; (5) instruction in mental health for all persons thus trained in maternal and child health; and (6) co-operation with U.N.I.C.E.F. in organization of maternity services and all

kinds of child health clinics, including clinics for handicapped children and child guidance clinics, and the extension of mass immunization campaigns.

Health services in the Americas are co-ordinated through the Pan American Sanitary bureau (P.A.S.B.), which was created in 1902 and became the W.H.O. regional office for the Americas in 1949. It administered 183 W.H.O. fellowships during the year ending May 1950. The P.A.S.B. serves as agent for most of its member countries in the procurement of medical and sanitary supplies and equipment. Its program in 1950 included co-operation with national health authorities in Mexico, Chile and Peru in training and educational programs against poliomyelitis.

The International Refugee organization (I.R.O.) closed or transferred to other bodies in 1950 most of the camps which it had been operating for a residue of the 1,500,000 homeless adults and children served by I.R.O. since 1947. In 1950 there was resettlement of many of the handicapped who previously had been considered ineligible for placement in families or for employment and for whom it was difficult to arrange immigration. Voluntary agencies, including the Cooperative for American Remittances to Europe (CARE), the Red Cross in Scandinavian countries and various religious organizations continued to provide services in behalf of children and adults. Some of these bodies aiding in the resettlement of refugees filled gaps left by reduction in the services of I.R.O.

International conferences in 1950 significant to the welfare of children included the third World Health assembly, Geneva, Switz., May 8 to 27, the fifth International Conference of Social Work, Paris, July 23 to 28, and the sixth International Congress of Pediatrics, Paris, July 23 to 28.

**National Developments.**—Latin American countries pro-



vided more initiative than in previous years in coping with age-old hazards to child health and in dealing with disasters, such as the 1949 earthquake in Ecuador, and in contributing to the world-wide health efforts of the United Nations and its specialized agencies. Construction was begun on Bolivia's first children's hospital. In the middle east development of social services for children in Israel, in fields of child care and child guidance, were in line with the best practice known. India, in the far east, made progress especially in the training of social workers, obtaining for this purpose outstanding instructors from other parts of the world.

The United States had about the same increase in the number of its children in 1950 as in the two previous years, with approximately 3,500,000 births. The development of educational, health and welfare facilities was not in proportion to this expansion of population.

The year was marked by the midcentury White House Conference on Children and Youth, held Dec. 3 to 7 in Washington, D.C., in which more than 5,000 persons, including professional workers, representatives of citizen groups and youth from all parts of the United States assembled "to consider how we can develop in children the mental, emotional and spiritual qualities essential to individual happiness and to responsible citizenship, and what physical, economic and social conditions are deemed necessary to this development."

Even more significant than the White House conference was the preceding fact-finding study in which state and local committees took stock of the child welfare needs and resources of their communities. Many of these state and local groups would be continued for purposes of planning in behalf of children in the following decade.

Health agencies and public health officials focused attention in 1950, as never before, on cerebral palsy and the possibilities of training children and youth thus handicapped. It was estimated that 150,000 children in the United States had cerebral palsy of such degree as to require service in special clinics and educational establishments.

Child health needs revealed by the 1949 report of a study by the American Academy of Pediatrics and co-operating agencies were widely publicized in 1950. Long-range planning by state, federal and voluntary organizations was aimed at improvement of facilities for education of more nurses and for extension of training in pediatrics, both for specialists and those engaged in the general practice of medicine.

The latter part of 1950 saw marked increase in the employment of women, including many mothers, with a consequent increase in the demand for day care. The number of preschool children in the United States being greater in 1950 than in 1941, there were more under six years of age for whom day care might be needed. Thus with partial mobilization for defense under way the proportions of the day care problem bulked larger than at the beginning of World War II.

The Child Welfare League of America and several federal agencies began study of ways and means for reactivating much of the day care service discontinued during 1946 and 1947. But by the end of the year there were no substantial provisions for such expansion. Study showed, however, that under peacetime conditions few communities provided day care under governmental auspices and that even where such services or voluntary day care centres were operated they were too limited in capacity to meet the demand and usually were below standards set by licensing authorities.

Congressional revision of the Displaced Persons act, June 16, 1950, liberalized provisions for admission to the United States of certain European children. The Displaced Persons commission enlarged its staff to facilitate screening of children especially in

Germany, Greece and Italy. The changes in the law allowed substantial numbers to come from these and a few other countries under nonquota visas. Independent assurance given by families in the United States, if satisfactory to the commission, was the principal requirement preparatory to such immigration of orphans under 10 and certain orphans under 16 years of age. The Displaced Persons commission was co-operating with sectarian agencies, the United States Committee for the Care of European Children and the federal children's bureau to provide suitable safeguards.

Aid to dependent children, available under the Social Security act, was increased under an amendment enacted in 1950. Effective Oct. 1, the federal government allowed a supplement to previously authorized payments whereby there was recognition of the needs and expenses of the parent or other relative who maintained a home for the aided child. The additional amount thus authorized, up to \$27 monthly, would apply to about 560,000 families. Aid to dependent children in which the state contributions were supplemented by federal funds was the only nation-wide program providing aid to large numbers of children. The availability of this form of public assistance, since the passage of the Social Security act in 1935, had permitted millions of families to remain intact, many of which without such help would have found it necessary to have their children placed in foster homes or institutions. (See also BIRTH STATISTICS; CHILD LABOUR; INFANT MORTALITY; JUVENILE DELINQUENCY; MARRIAGE AND DIVORCE; RED CROSS; SOCIAL SECURITY.)

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**Chile.** A republic extending along the southern Pacific coast of South America for about 2,600 mi., Chile has an average width of 110 mi. It is bounded on the north by Peru, on the south by the Antarctic ocean, on the east by Bolivia and Argentina and on the west by the Pacific ocean. It has an area of 286,323 sq.mi. and a population of 5,760,571 (Dec. 1949 est.). Santiago, the capital, has 1,161,633 inhabitants (Dec. 1949 est.). Other leading cities are Valparaíso with 198,068 inhabitants, Viña del Mar (98,156), Concepción (87,620), Antofagasta (47,326), Talca (44,859), Temuco (37,105), Iquique (34,864), Chillán (31,687) and Valdivia (30,308). Religion: Christian, mainly Roman Catholic. President in 1950: Gabriel González Videla.

**History.**—During 1950 Chile enacted a series of measures designed to contain inflation, bolster its dollar reserves, improve its economic life and encourage the industrialization of the country. The government tried to reach these objectives by curbing rents, avoiding profiteering, granting bonuses for urgently required imports, raising taxes, and lowering tariffs in order to encourage foreign trade.

Early in the year the government was faced with widespread strikes and disorders in the mining areas which forced it to declare a state of alert. Santiago and Valparaíso were left without newspapers and transportation. The banks and insurance companies were unable to operate normally. The "national concentration" cabinet, representing the major political forces in the country, resigned after 19 months in office and President González Videla threatened to appoint an all-military cabinet. Toward the end of February the strike situation was settled and a new cabinet, representing four political parties and with one independent, was appointed.

In April President González Videla visited the United States as a guest of Pres. Harry S. Truman. In addressing the United States congress González Videla explained why his administration had been forced to outlaw the Communist party. He said that the



Communists did not respect civil liberties and constituted a threat to the peace of the hemisphere.

During González Videla's absence the minister of the interior, Pedro Enrique Alfonso, acted as president. He announced that Chile would maintain its exchange rate of approximately 60 pesos to the dollar (decreed early in the year upon the recommendation of the International Monetary fund) and that foreign investors would receive special consideration in tax matters and guarantees of a fair return on their investments. This was part of the government program to encourage private capital investments in Chile.

Chilean economic recovery received a setback when the two cents per pound tariff on copper imports which the United States had temporarily suspended during World War II was reimposed in June. This would cost the copper industry an estimated \$5,000,000 a year, which, in addition to the drop of approximately seven cents a pound in the price of this metal during 1949, constituted a serious economic blow. Negotiations for a new commercial treaty with the United States were initiated.

The drop of \$12 to \$13 a ton in the price of synthetic nitrates complicated the economic situation still more, but partial compensation was found in the export of petroleum to Uruguay from the Springhill developments in the Straits of Magellan. A steel plant, the second largest in South America, was built in Huachipato near Concepción and the southern port of Talcahuano.

(J. McAd.)

**Education.**—In 1945 the public primary schools had 452,826 pupils and the private primary schools 93,185 pupils. Secondary schools had about 55,000 pupils. University education was available at the state university of Chile, the Catholic university of Santiago and the University of Concepción.

**Finance.**—The monetary unit is the peso, valued at \$0.0122 U.S. currency, free (nontrade) rate, on Oct. 31, 1950. The rate for imports into Chile was \$0.0322 (official), \$0.0232 (banking market), \$0.0166 (provisional commercial) or \$0.02, depending upon their relative importance to the economy. The 1951 budget, as submitted to congress, balanced revenue and expenditure at 21,200,000,000 pesos (1950 as enacted: 15,649,600,000 pesos). Actual revenue in 1949 was 15,823,200,000 pesos, and actual expenditure 15,415,800,000 pesos. The funded foreign debt totalled about \$215,000,000 on Dec. 31, 1949; the direct debt on Dec. 31, 1948, was 6,762,000,000 pesos plus guaranties of 1,397,000,000 pesos. Notes and coins in circulation on Sept. 30, 1950, totalled 5,629,000,000 pesos; gold reserve \$40,200,000; sight and current account deposits 11,426,000,000 pesos; time deposits 4,716,000,000 pesos; government deposits 1,761,000,000 pesos.

**Trade and Communications.**—Exports in 1949 amounted to 1,493,159,000 gold pesos (including bullion and specie); imports were 1,474,979,000 pesos. Leading exports were copper bars (50%), nitrate of soda (21%), cereals, vegetables and fruits (7%) and forest products (3%). Leading imports included industrial machinery and equipment (22%), oils, paints and chemicals (13%), metals and manufacturers (13%) and transport materials, including vehicles (10%). The principal customers were the U.S. (49%), the United Kingdom (8%) and France (8%); the principal suppliers, the U.S. (54%), Peru (10%) and the United Kingdom (8%).

The railway system totalled 5,434 mi. in 1949, of which 3,859 mi. were owned by the government and most of the remainder by the Antofagasta and Bolivia Railway Co., Ltd. Highways (Dec. 31, 1947) included 1,785 mi. of international highway, 3,815 mi. of national highway and 26,300 mi. of provincial roads. According to *Lloyd's Register of Shipping*, the merchant marine had 91 steamers and motorships (100 tons and over) aggregating 175,157 gross tons on June 30, 1949. There were 126,000 telephones in 1949.

**Agriculture.**—Production of the principal crops in the crop year 1949-50 was estimated as follows (in short tons): wheat 915,000; barley 88,000; oats 48,500; potatoes 500,000; maize 71,000; rice (paddy) 92,500. Fruits and vegetables were cultivated extensively. Production of wine totalled 91,977,000 U.S. gal. in 1948. Cattle numbered 2,344,188 in 1949. The last census of other livestock showed 5,749,069 sheep and 810,206 goats. Wool production averaged 17,000 short tons a year. Lumber production averaged about 275,000,000 bd.ft. a year, and landings of fish (including shellfish) about 70,000 short tons. The whale catch in 1948 produced 2,900 short tons of sperm oil and 2,000 tons of whale oil.

**Manufactures.**—Manufacturing establishments were reported to number 5,585 in 1948, with capital of 1,466,587,000 pesos and 296,000 employees. During 1949, the establishment of 482 new industrial enterprises was authorized. There were about 375 textile mills in 1950, including 43 cotton mills, 220 knitting mills and 46 silk and rayon mills. Production figures (1949) included woven cotton fabrics 29,750,000 yd.; wool yarn 400 short tons; cement 545,000 tons; pig iron 20,500 tons; steel in bars 34,750 tons. The index for manufacturing industries stood at 137 in Aug. 1950 (average 1949: 160) and employment in manufacturing was 134 (1937=100). Electric energy is used extensively; production in 1949 was 1,284,000,000 kw.hr. The cost of living index stood at 595 in July 1950 (1937=100).

**Mineral Production.**—Chile is the leading mineral-producing country

in South America. Production in 1949 included copper 409,057 short tons; nitrate of soda 1,947,187 tons; iron ore 3,017,836 tons; coal 2,289,135 tons; gold 179,630 troy ounces; silver 789,654 oz. In the first reported 12 months of commercial production (Oct. 1949-Sept. 1950), wells on Tierra del Fuego produced 68,660 metric tons (about 490,000 bbl.) of crude petroleum. (J. W. Mw.)

**China.** Situated on the southeastern part of the continent of Asia, China has an area of about 3,876,956 sq.mi. and 475,000,000 people (1950 official figure). After the inauguration of the Central People's government on Oct. 1, 1949, China was divided into the People's Republic under the Communists, controlling practically all China's mainland and Hainan and Chusan Islands, and the republic, under the nationalists, on Taiwan (Formosa).

Both the Central People's government in Peking and the national government in Taipei, Formosa, claimed to be the sole legal government for all China.

Shanghai, the largest city of China, had a population of 4,995,163 in 1950. The latest official figures available for the principal large cities were 1948 estimates: Peking 1,721,546; Tientsin 1,772,840; Canton 1,128,165; Nanking 1,113,972; Mukden 1,021,057; Chungking 985,673; Tsingtao 850,308; Harbin 760,000; Hankow 721,598; Sian 628,499; Dairen 543,690; Changchun about 500,000.

Mao Tse-tung (*q.v.*) was chairman of the Central People's government; Chiang Kai-shek (*q.v.*), president of the national government since March 1950.

**History.**—The year 1950 marked the culmination of the Communist revolution in China, the beginning of organizing China's society and economy in accordance with Marxian ideology and Mao's principle of new democracy, and avowed collaboration with the Soviet Union and animosity toward the western democracies. Despite floods and famine and the remaining resistance of the nationalists, the People's government succeeded in consolidating and extending its gain and control on China's mainland and in introducing and carrying out drastic measures—particularly in land reform, which were intended to change completely the social structure of old China. In international relations, while the national government's legal position as the sole representative of China was constantly challenged or ignored, the People's government received *de jure* recognition from several non-Communist countries and extended its influence far and wide. The policy of the People's government of siding with the Soviet Union in opposing the western powers and the question of China's representation in the United Nations brought repeated international crises. Particularly the Peking government's attempt to "liberate" Tibet by military force, open intervention in the battle of the North Koreans against the United Nations forces and complaints and activities against the United States policy in Formosa and Korea sharpened the division and tension between the east and the west and precipitated a major crisis in the United Nations.

A new international balance of power was created by the ratification on April 11, 1950, of the Sino-Soviet treaty of alliance and agreements on the Chinese Changchun railway, Port Arthur and Dairen, and on a credit loan of \$300,000,000 signed on Feb. 14 after the prolonged visit of Mao and his foreign minister Chou En-lai to Moscow. The Sino-Soviet treaty and agreements of 1950 invalidated that of Aug. 14, 1945, and were regarded by the nationalists as evidence of servitude to the U.S.S.R. but by Moscow and Peking as a "powerful safeguard for peace in the far east and the world." Among other things, the Sino-Soviet treaty of friendship, alliance and mutual assistance bound the high contracting parties not to take part in any coalition or actions or measures directed against each other but to consult each other in regard to all important international problems affecting their common interests. Subsequently other economic and trade agreements be-



tween Peking and Moscow were concluded. Important trade and economic agreements signed between the People's government and governments of other Communist countries of 1950 included the Sino-Czech trade agreement, the Sino-Korean communication agreements and the trade agreement between Peking and east Germany. In addition to India and Burma, which extended *de jure* recognition to the People's government in Dec. 1949, other non-Communist countries recognizing or establishing diplomatic relations with the Peking government in 1950 were: Afghanistan, Ceylon, Denmark, Finland, Israel, Indonesia, the Netherlands, Norway, Pakistan, Sweden, Switzerland and the United Kingdom. The British government offered *de jure* recognition to the People's government on Jan. 6 but by the end of 1950 no formal diplomatic relation had yet been established.

The United States policy toward China in 1950 more or less followed these lines: (1) no military aid to Formosa; and (2) withholding recognition of the People's government. On Jan. 4 it was reported that the state department had issued a directive saying that the fall of Formosa was anticipated. On the following day Pres. Harry S. Truman declared that the United States would not pursue a course which might lead it to involvement in China's civil war. On Jan. 14 the United States ordered the withdrawal of all consular personnel from China's mainland.

On June 5 President Truman signed the foreign aid bill which provided \$94,000,000 for aiding the people of "non-Communist China." To prevent the occupation of Formosa by Communist forces during the Korean conflict and to neutralize the position of Formosa, President Truman on June 27 ordered the 7th fleet to station in Formosan waters and requested the national government to cease all air and sea operations against the mainland. He further stated that "the determination of the future status of Formosa must await the restoration of security in the Pacific, a peace settlement with Japan, or consideration by the United Nations." In response to Truman's statement on Formosa both the national government and the People's government declared Formosa to be an integral part of China. The latter regarded the United States' prevention of the capture of Formosa as "an act of open aggression" and began in July to intensify its propaganda campaign directed against "American imperialism in Asia." In order to try to keep Peking out of the war in Korea Secretary of State Dean Acheson and President Truman declared on Aug. 30 and 31 respectively that the United States felt no hostility toward China and had no aggressive intention in the far east and that the 7th fleet would be withdrawn when the Korean conflict was settled. On Oct. 1, Chou En-lai flatly stated that China's army would aid Korea. Toward the end of October United Nations forces pressing toward the Manchurian frontiers encountered Chinese Communist troops, and two days after the U.N. troops opened their "end the war" offensive on Nov. 24, the Chinese Communists mounted strong attacks that halted their advance. Toward the end of 1950 all United Nations forces had been driven in retreat to south of the 38th parallel.

To "liberate" Tibet was one of the fundamental aims adopted by the People's government at its inception. On Jan. 21 it requested Tibet to send representatives to negotiate on a peaceful solution of the problem of Tibet's status. On Aug. 31 Peking informed New Delhi of its planned action and again requested the Tibet delegation in India awaiting visas to Hong Kong to rush to Peking. Early in October the People's Liberation army crossed the Tibetan border and shortly afterward the Indian government expressed regrets and concern. Tibet appealed to the United Nations and the El Salvador delegation formally proposed the inclusion of the question of Tibet on the agenda of the general assembly. However, it decided on Nov. 24 to postpone consideration of the matter. On Dec. 21 the Dalai Lama, spiritual and temporal ruler of Tibet, fled from Lhasa to Yatung in south Tibet.



"WITHOUT FACE," a cartoon by Costello of the *Knickerbocker News* (Albany, N.Y.), published in 1950

Despite the questions of Tibet and Korea, India remained an advocate of the Peking government's admission into the United Nations.

Lack of unity on far eastern problems among the powers presented an impasse on the question of China's representation in the United Nations and hampered United Nations efforts to reach a solution to the problem of Korea. On Jan. 8 the Peking government began to demand the ousting of the nationalist delegation from the United Nations and on Jan. 13 the soviet delegation quit the Security council after the latter had rejected the soviet proposal against the continued membership of nationalist China. Consequently the soviet delegation boycotted practically all United Nations organs. The Security council adopted its resolutions on June 27 and July 7 applying military sanctions against North Korea and the soviet delegation resumed its seat on the council on Aug. 1. In the subsequent debates in the United Nations the questions of China's representation and Korea were linked.

Early in 1950 the United States had declared that it was opposed to the admission of Communist China into the United Nations but that it would not veto such a decision by the Security council were there the necessary majority. Following the Security council's action on Korea the United States maintained that the question of China's representation and the issue of Korea should be kept apart. The United States opposed the proposal that Communist China be admitted as the first step to halt the war in Korea. Giving no excuse for the Chinese Communists to intervene in Korea, the United Nations command turned down the offer of the nationalists to send 33,000 troops to join United Nations forces in Korea. On the opening day of the general assembly on Sept. 19 India and the Soviet Union moved to seat Peking but their resolutions supported by the 16 member states



recognizing the Peking government were voted down by 33 states. Over the objection of the soviet and Chinese nationalist delegations the general assembly decided on Oct. 5 to include the United States proposal of Sept. 21 on the problem of Formosa on its agenda. On Nov. 11 the Peking government turned down the invitation of the Security council to send a representative to explain its action in Korea but agreed to send a delegation to discuss its charge of "American aggression" against Formosa. The prepared statement by Wu Hsiu-chuan, representative of the People's government, before the Security council shattered all hope for an independent policy by Peking and a workable solution to the Korean crisis by the council. A six-power resolution ordering the Chinese forces out of Korea was vetoed by the soviet delegation and the matter was referred to the general assembly.

The crisis brought Prime Minister Clement R. Attlee to Washington, D.C., in early December and in a joint communiqué issued on Dec. 8 Truman and Attlee assured the Peking government once again that their legitimate interests both in Korea and elsewhere would be safeguarded. Despite their disagreement on the question of Formosa and on recognition and admission of the People's government into the United Nations, they stated that both the United States and the United Kingdom were ready to seek an end to the hostilities by means of negotiation. On Dec. 14 the general assembly approved a resolution establishing a committee to seek a cease-fire, made by Asian and Arab countries under the leadership of India's representative. Before Wu left on Dec. 19 for Peking he stated Peking's conditions for a cease-fire to be as follows: (1) admission of the People's government into the United Nations; (2) withdrawal of the 7th fleet from Formosan waters; (3) immediate evacuation of United Nations forces from Korea. On Dec. 23 the Peking government formally replied to the general assembly in a cablegram denouncing its truce team as illegal and reiterating Peking's terms for peace. By the end of 1950 it was evident that the Communist forces were ready to cross the 38th parallel. (See also COMMUNISM; FORMOSA; INDIA; KOREA; KOREAN WAR; TIBET; UNION OF SOVIET SOCIALIST REPUBLICS; UNITED NATIONS.)

**Education.**—On China's mainland emphasis was laid on the inculcation of the new ideology and the training of technical personnel to serve the people. Excluding institutions of higher learning in Formosa, there were

227 colleges and universities, 138 of which were public, on the mainland with about 140,000 students. Official 1950 figures for other schools on the mainland were: about 5,000 secondary schools with more than 1,500,000 students and 300,000 primary schools with more than 20,000,000 pupils.

**Defense.**—1950 estimates of the nationalist forces on Formosa varied between 500,000 and 750,000, of which 200,000 were believed to be well trained and equipped. The national government maintained also a navy of about 100 small vessels with about 45,000 men and an air force of approximately 200 planes with about 25,000 men. Military expenditure occupied the greater part of the nationalist budget. The Communist army totalled about 5,000,000 men equipped with a conglomeration of old and new weapons of Japanese, U.S. and Russian origin. The backbone of the Communist air force, estimated at 200-300 planes, was soviet-built jet planes. Military expenditure occupied more than 38% of the Peking government's budget for 1950. Compulsory military service was enforced in Formosa and on the mainland.

**Finance.**—To check inflation and to control and balance the budget, the Peking government adopted early in 1950 a centralized system of finance, a unified system of tax rate and collection, and a centralized control of economy. All revenues from public grain, customs duties and taxes were put solely at the disposal of the ministry of finance and all expenditure was to be paid by it. Government expenditure was cut to a minimum. The relative price stability tended to support the Peking government's claim that the 1950 budget would be balanced without the estimated deficit. About four-fifths of the total expenditure was to be covered by current revenue, of which 41% was from land tax, 39% from other taxes and 17% from revenue of state enterprises. Only percentage figures for expenditure and revenue were available and the unofficial estimate put the 1950 total budget at U.S. \$900,000,000. The exchange rate of the People's bank dollar was about 35,000 to the U.S. dollar.

A large budget deficit remained with the national government. Unofficial sources estimated its monthly expenditure as more than U.S. \$10,000,000 and revenue could meet only a small portion of this amount. Economic Cooperation Administration aid contributed about \$3,000,000 a month to Formosa's economy. Inflation continued and in Dec. 1949 the note of issue by the Bank of Formosa reached F\$194,000,000 only F\$6,000,000 short of the official currency issue limit of F\$200,000,000. On Dec. 30 the Formosa dollar depreciated to 13 to U.S. \$1 at open-market rate.

**Trade and Communication.**—Trade throughout the mainland was put under the control of the ministry of trade and in March 12 major state companies dealing with domestic and foreign trade were set up to regulate China's economy. To control foreign trade the Peking government also established monopolies for the leading exports and itself handled the major import items. Imports were divided into: (1) permitted to import; (2) prohibited; (3) with special permission. General and normal rates of duties were applied to commodities imported from countries which had concluded trade agreements with the Peking government and higher rates of duties were levied on nonessential and luxury commodities and goods imported from countries which had no treaty or agreement with Peking. To retaliate against the measures adopted by the United States on Dec. 16 to freeze Peking's assets in the U.S. and to prohibit U.S. ships from calling at ports of the China mainland, the Peking government ordered on Dec. 28 the seizure of all U.S. properties and the freezing of all U.S. public and private bank deposits in Communist China. The official figure gave the first half of 1950 total foreign trade value of China's mainland as more than nine trillion People's bank dollars, or U.S. \$262,000,000 at July's official exchange rate of about 34,000 to 1. It was also claimed that the six months' favourable balance of trade amounted to U.S. \$38,000,000.

Including lines in Manchuria, Formosa and Hainan, the total length of China's railways was about 16,000 mi. With the reopening of the Peking-Hankow-Canton railway to traffic on Jan. 1, all trunk lines south of

**CHINESE COMMUNIST ASSAULT** troops invading the beaches of Hainan Island off the southern coast of China in April 1950. The nationalist government announced its abandonment of the island on May 3





the Great Wall were also restored. The Peking government's railroad program for 1950 included the increase of freight traffic to 96,941,987 metric tons, or twice that of the previous year, and the doubling of the passenger traffic. War destroyed or damaged about three-fourths of China's highways totalling about 120,000 mi. The Peking government planned to repair more than 10,000 mi. of highway in 1950. About 80% of China's prewar telephone and telegraphic lines were opened.

**Agriculture, Manufactures, Mineral Production.**—The Peking government claimed that land reform had resulted in the increase of agricultural production and that China was self-sufficient in food and cotton supplies in 1950. Land reform was to proceed by carefully planned stages in areas where conditions were favourable, and had been completed in an area with about 160,000,000 population. In June a new agrarian reform law was adopted protecting the land and properties owned by rich and middle-class peasants from infringement. In industry the Peking government concentrated its efforts on building Manchuria as China's industrial centre and in shifting some industries to the northwest. The tables show the general trend of agricultural and industrial production of China.

Table I.—Estimated Production of Major Industries and Mining in China

Unit	(In thousands of metric tons)			1935-39 average
	1949	1948	1947	
Coal . . . . .	15,500	13,800	19,500	36,000
Iron ore . . . . .	500	158	150	3,360
Pig iron . . . . .	94	11	6	1,535
Steel ingots . . . . .	83	44	57	810
Finished steel . . . . .	89	—	34	—
Tin . . . . .	4.3	4.9	4.1	10.9
Tungsten . . . . .	7	9.6	7	12
Cotton yarn . . . . .	200	366	299	394
Cement . . . . .	—	550	749	710
Electric power (million kw.) . . . . .	—	2,860	3,120	3,130

Table II.—Estimated Agricultural Products in China

Unit	(In thousands of metric tons)			1934-38 average
	1949	1948	1947	
Paddy rice . . . . .	44,500	46,524	46,507	50,064
22 provinces . . . . .	380	460	459	411
Manchuria . . . . .	1,680	1,530	1,205	1,642
Formosa . . . . .	—	—	—	—
Tea . . . . .	3.8	9.6	7.6	41
22 Provinces . . . . .	—	—	—	11.6
Formosa . . . . .	—	—	—	—
Wheat and rye . . . . .	—	25,582	23,647	22,640
22 provinces and Manchuria . . . . .	—	28,454	27,662	30,494
Coarse grains . . . . .	—	—	—	—
22 provinces . . . . .	—	—	—	—
Fats and oils . . . . .	200	200	200	585
Manchuria . . . . .	2,950	2,900	2,750	3,015
Other provinces . . . . .	—	—	—	—

FILMS OF 1950.—*Chinese Dressmaking*, *Chinese Firecrackers*, *Hangchow—China's Garden City*, *Nanking—the Southern Capital*, *Peking—Marco Polo's Wonder*, *Tientsin Gateway to North China*, *Town by the Yangtze* (China Film Enterprises of America, Inc.); *Farming in South China*, *Oriental City (Canton China)* (United World Films, Inc.).

(H. T. CH.)

**Ching, Cyrus Stuart** (1876– ), U.S. government official and labour-relations expert, was born May 21 in Prince Edward Island, Can. He attended Prince of Wales college at Charlottetown, and the Charlotte-town Business college, but moved to Boston, Mass., in 1900, where he went to work for the Boston Elevated railroad. He continued his studies at Northeastern university, Boston, where he received a law degree, and was admitted to the Massachusetts bar in 1912. As assistant to the railway company president in charge of labour relations, he began the policy of voluntary conciliation between management and labour that he later frequently declared to be the most effective way to keep labour peace. In 1919 he became supervisor of industrial relations of the United States Rubber company, and its director of industrial and public relations in 1929. In 1933 he was appointed to the National Regional Labor board under the National Recovery administration (NRA). In 1941 Pres. F. D. Roosevelt appointed him to the National Defense Mediation board, and during World War II he also acted as chairman of the Office of Production Management (OPM) committee to convert the automotive industry to war production. He served as industry member of the National War Labor board. In Sept. 1947, he was appointed chief of the Federal Mediation and Conciliation service. On Oct. 10, 1950, Pres. Harry S. Truman appointed him chairman of the nine-member Wage Stabilization board of the Economic Stabilization agency, on leave from the mediation and conciliation post. He was sworn in Nov. 28, 1950.

**Chloromycetin:** see CHEMOTHERAPY; MEDICINE.

**Chou En-lai** (1898– ), premier and foreign minister of the Communist People's Republic of China, was born in Huaiyin, Kiangsu province. As early as 1919 he was imprisoned for agitating among students. In March 1927 he helped organize a revolutionary government in Shanghai, but fled when Chiang Kai-shek ordered the arrest of the ringleaders. Chou next helped organize the Chinese Red army. In the struggles against Japan, Chou tried to maintain a united front between the Chinese Reds and Chiang's forces, even (in 1936) helping effect Chiang's release after the latter was kidnapped. In 1946-47 he was the Communist representative in talks with U.S. Gen. George C. Marshall, when the latter sought in vain to end the Chinese civil war. When the Communists won control of China in 1949, Chou on Oct. 1 was named premier and foreign minister of the new People's (Communist) Republic. In Jan. 1950 he went to Moscow to join in negotiations which resulted in the announcement of a 30-year mutual defense and friendship treaty. Chou was spokesman against the U.S. neutralization of Formosa, and voiced the threat (Oct. 1) that the Chinese Communist forces would not stand aside if "the imperialists" invaded North Korea. On Dec. 22 he rejected U.N. requests for cease fire talks until (1) U.N. troops were withdrawn from Korea, (2) U.S. forces were withdrawn from Formosa and (3) Chinese Communist government delegates were given seats in the U.N.

**Christian Science.** Christian Science is a religion founded and established by Mary Baker Eddy.

It is represented by the Mother Church, the First Church of Christ, Scientist, in Boston, Mass., and in 1950 had approximately 3,030 branches located throughout the world. There were also 112 college and university Christian Science organizations founded in accordance with the by-laws of the Mother Church.

The year 1950 marked the 75th anniversary of the publication of the Christian Science textbook, *Science and Health with Key to the Scriptures*, which was published in 1875. This textbook is used in conjunction with the Bible at all Christian Science services.

The Wartime Activities committee continued its service, which was increased because of the hostilities in Korea. Foodstuffs and clothing amounting to more than \$200,000 were supplied during the year to overseas countries. This was in addition to that which was contributed by individual branch churches and individual Christian Scientists.

The work of the Christian Science Camp Welfare Activities was intensified because of the war. Christian Science chaplains were serving with the armed forces in addition to volunteer workers.

This branch of the work of the Christian Science movement was accelerated as the demand for chaplains to serve in the war zone increased.

The church rendered prompt and effectual aid to victims of the flood in Winnipeg, Man., Canada.

The Christian Science Publishing society reported that during 1950 the circulation of all its periodicals, the *Christian Science Journal*, the *Christian Science Sentinel*, the *Christian Science Quarterly*, the *Herald of Christian Science*, which are published in seven foreign languages, and the *Christian Science Monitor*, reached the highest levels since their founding.

Edmund Stevens, chief of the Mediterranean news bureau of the *Monitor*, was awarded the 1950 Pulitzer prize for distinguished reporting on international affairs in his series, "This Is Russia—Uncensored," published in the *Monitor*. (See PULITZER PRIZES.)



The transcribed programs prepared in the Mother Church were broadcast over more than 550 radio stations in the United States and its territories, and in Canada, Panamá, Cuba, Bermuda, New Zealand, Australia, Bahama Islands and Luxembourg. (GE. C.)

**Christian Unity.** A striking example of unity in American interchurch effort was the 1950 United Evangelistic Advance shared by 35 denominations with 35,000,000 members. A million and a half laymen and laywomen invited neighbours to become church members. About 3,000,000 members joined. More than 6,000 new congregations were formed, an average of two a day in the Methodist communion alone.

Three events of major importance—two (international) in Toronto, Canada, and one (national) in Cleveland, O., demonstrated growing consciousness of community among the majority of Anglican, Orthodox and Protestant churches.

In July the World Council of Churches brought its central committee from many lands to Toronto. The delegates faced common problems with determination and proved the will of the churches to stay together. World-wide advances in practical co-operation were reported.

(For an account of the other Toronto event, see RELIGIOUS EDUCATION.)

In December, a quarter of a century of progress culminated at Cleveland in the uniting of 12 formerly autonomous interchurch bodies representing more than 32,000,000 of the 45,000,000 non-Roman Catholic Christians in the United States. The new National Council of the Churches of Christ in the U.S.A. elected Bishop Henry K. Sherrill as its head with S. M. Cavert as its general secretary and R. G. Ross as associate. Twenty-nine Anglican, Orthodox and Protestant bodies jointly achieved this new interdenominational structure. The newly launched *Protestant World*, also born in 1950, described the resulting body as "an organism through which common planning and action might be carried out in the realm of common responsibility and by means of which there might be the sharing of cooperatively created resources and services."

The presence there, among the speakers, of leaders of the World Council of Churches, officially representing virtually the same United States churches and 130 others throughout 45 other nations, emphasized the close co-operation which was contemplated between national and the international combination of non-Roman Catholic Christian churches. Nothing like this degree of voluntary co-operation between them had ever existed before.

The strength of such united effort was illustrated in the fact that the joint World council-International Missionary council Commission of the Churches on International Affairs in 1950 successfully advocated to the United Nations the creation of Peace Observation commissions to deter aggression.

There was in 1950, however, less progress than in most recent years in organic church union. Up to 1950 there had been achieved somewhere in the world on the average at least one organic union every year. The year saw two notable disappointments or deferrals of what had been heralded as assured mergers.

A few hundred congregations among the more than 5,000 composing the Congregational Christian General council blocked through court action a merger with the Evangelical and Reformed Church. The United Presbyterian and the Reformed (formerly Dutch) Church in America failed to achieve an anticipated merger. American (formerly Northern) Baptists and Disciples continued conversations looking to possible union but no concrete progress was reported.

The same was true of the two major U.S. Presbyterian bodies—popularly known as "Northern" and "Southern." Hope for further consolidation among Lutheran bodies in America was

likewise deferred. In contrast, the discussions of union involving Unitarians and Universalists were definitely promising.

Only slight progress was reported from northern India and Ceylon, in both of which areas comprehensive mergers were under consideration after the pattern set by the South India United Church. The latter body, with Anglican, Congregational, Methodist and other Protestant elements merged several years before, constituted the largest non-Roman Catholic church in Asia and the only one in the world containing such diverse elements. There appeared to be possibilities of further accessions to this latter union.

Renewed conversations went on in England between the Anglican and the Free Churches in exploration of proposals of intercommunion and the individual adoption of episcopacy as set forth by the archbishop of Canterbury. A report on the progress of conversations appeared toward the end of the year and was itself under vigorous discussion.

At least two events of the year appeared certain to influence Catholic-Protestant relations: A significant change occurred in official Roman attitudes toward conversations with non-Catholics on matters of faith. The Sacred Congregation permitted bishops to arrange discussions of religious reunion with other Christians. This was commended by many Protestant leaders. The other event, which caused a widespread unfavourable reaction among non-Catholics was the promulgation of the dogma of the bodily assumption of the Virgin Mary which set contemporary Rome still further apart theologically from all Protestantism, including Anglicanism, which had been more favourably inclined to cultivate closer relations with Rome than any other of the non-Catholic churches.

Conversations looking toward closer relations among Eastern Orthodox bodies in the U.S. were continued. Progress in Orthodox relations was shown by a significant experiment in theological education for priests of the U.S. branches of most of the larger Eastern communions. This was developing rapidly at St. Vladimir's Orthodox Seminary and Academy in New York city. The goal of many forward-looking leaders of these bodies—Russian, Serbian, Rumanian, Ukrainian, etc.—was a United Orthodox Church in America. The problems to be overcome were not theological but ethnic, cultural and nationalistic.

Seven more or less similar Protestant bodies which in late 1949 formed a permanent Commission on Christian Union at Greenwich, Conn., completed during the year a definite plan of organic merger to be considered in early 1951 at Cincinnati, O. Many of these same communions, plus Anglicans, held conversations in Canada and Australia. Little resulted in 1950.

The defections which had been taking place from the Kyodan, or United Church of Christ in Japan (which represents a merger under some compulsion during World War II of all non-Roman Catholic churches in the country) had apparently ceased, leaving that body still the strongest and most representative in its potential constituency with a remarkable record of growth in 1950 (14% in membership and 100% in contributions).

The interdenominational postwar Evangelische Kirche in Deutschland (E.K.I.D.—Evangelical Church in Germany), despite serious strains, held together even across the frontier which cuts off east from west Germany, and a more inclusive council of all Protestant bodies in Germany for common planning continued to function. The E.K.I.D., in a meeting in Berlin in December, issued a notable declaration of unity and denounced in bold terms the efforts of the Communists to domesticate and divide the churches.

No notable developments were reported from other parts of the world in the matter of mergers, although co-operative unity of the federal type advanced almost everywhere. (See also RELIGION.) (H. S. LR.)



**Chromium and Chromite:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Chronology:** see CALENDAR OF EVENTS, 1950, pages 1-16.

**Churchill, Winston Leonard Spencer** (1874- ), British statesman, was born at Blenheim palace, Oxfordshire, Eng., on Nov. 30. For his biography and political career during World Wars I and II, see *Encyclopædia Britannica*. After the defeat of his government in the general election of 1945 he led the Conservative opposition in the house of commons.

Winston Churchill's preparations for the general election of Feb. 23, 1950, included broadcasts on Jan. 21 and Feb. 17. In the election, the Conservatives and their supporters were again defeated but by a small margin; the Conservative leader was



"SHADOW AND SUBSTANCE," an illustration by the British cartoonist Vicky, from "Up the Poll!"—*The Sap's Guide to the General Election*, published in London in 1950

returned at Woodford and continued to lead the opposition. At the consultative assembly of the Council of Europe at Strasbourg on Aug. 11, his proposal for the creation of a European army was approved by 89 votes to 5 with 27 abstentions. In a broadcast on Aug. 26 he again gave a warning that Great Britain was in great danger through unpreparedness in defense matters but said that he did not believe a major war to be imminent. On Oct. 1 he celebrated the 50th anniversary of his first election to parliament.

**Church Membership.** The latest information concerning church membership in 56 religious bodies in the United States, each reporting more than 50,000 members, was that published by the *Christian Herald*, New York, N.Y., in July 1950. (see Table I). The total given for continental U.S. was 79,814,775 members, mainly for years ending in 1949, compared with 77,587,690 members reported by the same bodies the year previously. Some religious bodies do not compile and publish figures annually. In a few instances the latest data in the table are for the year 1936, the date of the last census of religious bodies taken by the federal bureau of the census. According to the official reports of the statisticians of the religious bodies, total church membership had been increasing for many years.

Church membership figures published in 1949 and 1950 represented the highest proportion of the total population ever reported in the religious bodies.

The Church of Christ, Scientist, is not included because the manual of that body forbids the numbering of the people and the reporting of such statistics for publication. The figure for the Disciples of Christ, as given for 1949, is a correction of the one previously published. The figure for the Religious Society of Friends is for all Friends' denominations. The name of the Northern Baptist Convention was changed to American Baptist Convention in 1950.

Table I.—Church Membership in Continental United States, as Reported in 1950, for the Religious Bodies with More than 50,000 Members

Body	Members 1950	Members 1949
Adventists, Seventh Day . . . . .	229,945	222,619
Assemblies of God . . . . .	275,000	273,147
Baptist Bodies:		
American Baptist Convention . . . . .	1,583,360	1,583,360
Southern Baptist Convention . . . . .	6,761,265	6,491,981
National Baptist Convention, U.S.A., Inc. . . . .	4,385,206	4,385,206
National Baptist Convention of America . . . . .	2,594,521	2,580,921
American Baptist Association . . . . .	313,817	245,861
Free Will Baptists . . . . .	255,127	255,127
National Baptist Evangelical Life and Soul Saving Assembly of U.S.A. . . . .	56,934	70,843
Primitive Baptists . . . . .	69,157†	69,157
United American Free Will Baptist Church . . . . .	75,000	75,000
Buddhist Churches of America . . . . .	70,000	70,000
Church of the Brethren . . . . .	185,088	185,799
Churches of God:		
Church of God . . . . .	106,490	94,069
Church of God (Anderson, Ind.) . . . . .	105,022	96,736
Church of God in Christ . . . . .	340,530	340,530
Church of the Nazarene . . . . .	220,042	213,188
Churches of Christ . . . . .	814,200	682,172
Congregational Christian . . . . .	1,184,661	1,184,661
Disciples of Christ . . . . .	1,738,605	1,714,796
Eastern Orthodox Churches:		
Armenian Orthodox Church . . . . .	110,000	110,000
Greek Orthodox (Hellenic) . . . . .	300,000	300,000
Russian Orthodox . . . . .	300,000	300,000
Evangelical and Reformed . . . . .	714,583	714,583
Evangelical United Brethren* . . . . .	711,537	707,326
Federated Churches . . . . .	88,411‡	88,411
Religious Society of Friends . . . . .	113,013	113,842
Independent Fundamental Churches of America . . . . .	65,000	65,000
International Church of the Four Square Gospel . . . . .	59,897	66,611
Jewish congregations . . . . .	5,000,000	4,641,000
Latter Day Saints:		
Church of Jesus Christ of Latter Day Saints . . . . .	980,347	947,855
Reorganized Church of Jesus Christ of Latter Day Saints . . . . .	121,745	128,849
Lutherans:		
American Lutheran . . . . .	692,567	646,605
Evangelical Lutheran Augustana Synod of N.A. . . . .	439,231	422,646
Evangelical Lutheran Church . . . . .	757,352	757,352
Lutheran Synodical Conference of N.A.: . . . . .		
Evangelical Lutheran Synod of Missouri, Ohio and other states . . . . .	1,569,364	1,519,952
Evangelical Lutheran Joint Synod of Wisconsin and other states . . . . .	297,922	288,355
United Lutheran Church in America . . . . .	1,814,172	1,814,172
Lutheran Free Church . . . . .	54,608	54,608
Mennonite Church . . . . .	56,746	54,729
Methodist Bodies:		
African Methodist Episcopal . . . . .	1,066,301	816,578
African Methodist Episcopal Zion . . . . .	520,175	527,350
Colored Methodist Episcopal . . . . .	381,000	381,000
Methodist . . . . .	8,792,569	8,651,062
Pentecostal Church of God . . . . .	60,000	68,000
Polish National Catholic . . . . .	250,000	250,000
Presbyterian Bodies:		
Cumberland Presbyterian . . . . .	80,236	78,009
Presbyterian Church in the U.S. . . . .	653,594	638,652
Presbyterian Church in the U.S.A. . . . .	2,401,849	2,330,136
United Presbyterian Church of North America . . . . .	213,810	205,677
Protestant Episcopal . . . . .	2,297,989	2,228,270
Reformed Bodies:		
Christian Reformed . . . . .	142,818	138,321
Reformed Church in America . . . . .	179,085	178,356
Roman Catholic . . . . .	26,718,343	26,075,697
Salvation Army . . . . .	215,094	215,094
International General Assembly of Spiritualists . . . . .	157,000	157,000
Unitarian . . . . .	74,447	71,419
Totals . . . . .	79,814,775	77,587,690

Source: "Church Membership" *Christian Herald*, July 1950.

\*A merger of the Evangelical Church and the United Brethren in Christ, Nov. 1946.

†Name changed from Norwegian Lutheran Church.

‡As of 1936.

The religious bodies having more than 50,000 members had 97.4% of all the church members in continental United States, according to a compilation of the reports of 256 religious bodies published in the *Yearbook of American Churches* (1945). The remaining 2.6% of the members were in more than 200 bodies. Of the total reported church membership in 1945, 32.3% was Roman Catholic, 1.3% Old Catholic, Polish Catholic and Eastern Orthodox, 6.4% Jewish and 60% Protestant. In 1945, mainly for the year ending in 1944, there were reported by 256 religious bodies 72,492,669 members, of whom 59,717,181 were 13 years of age or over. The *Christian Herald* estimated total church membership at 81,862,328 persons in 1950. (B. Y. L.)

**Principal Religions of the World.**—Statistics of the world's



Table II.—Estimated Membership of the Principal Religions of the World, 1950

Religion	North America	South America	Europe	Asia§	Africa	Oceania	Total
Total Christians: . .	128,467,527	91,677,138	441,383,109	25,374,305	28,911,430	26,171,973	741,985,482
Roman Catholic . . .	74,561,995	89,412,040	215,363,295†	8,857,842	14,194,448	18,951,281	421,340,901
Eastern Orthodox . .	1,208,157	...	112,447,669	8,106,071	5,868,089	...	127,629,986
Protestant . . . . .	52,697,375	2,265,098	113,572,145	8,410,392	8,848,893	7,220,692	193,014,595
Jewish* . . . . .	5,185,000	597,850	3,505,800‡	1,247,200	723,500	44,000	11,303,350
Mohammedan . . . .	32,600	139,156	3,866,000	251,227,347	60,359,000	75,000	315,699,103
Zoroastrian . . . . .	...	...	...	124,890	...	...	124,890
Shinto . . . . .	...	...	...	25,000,000	...	...	25,000,000
Taoist . . . . .	15,000	17,000	12,000	50,000,000	1,200	8,000	50,053,200
Confucian . . . . .	85,000	95,000	50,000	300,000,000	7,500	52,000	300,289,500
Buddhist . . . . .	165,000	135,000	...	150,000,000	...	...	150,300,000
Hindu . . . . .	10,000	275,000	...	255,030,506	300,000	100,000	255,715,506
Primitive . . . . .	50,000	1,000,000	...	45,000,000	75,000,000	100,000	121,150,000
Others or none . . .	76,540,873	9,803,856	82,491,091	160,559,752	12,639,370	5,363,027	347,397,969
Grand total . . . .	210,551,000	103,740,000	531,308,000	1,263,564,000	177,942,000	31,914,000	2,319,019,000

\*Includes all Jews whether or not members of a synagogue.

†The great increase over the figure for 1949 does not reflect a marked growth but the correction of a mechanical error in computing the European Catholic population. This correction also affected the total Catholic and total Christian figures.

‡This figure includes Asiatic U.S.S.R. and Turkey.

§Includes Indonesia, but not the Philippine Islands.

||Includes the Philippine Islands.

(Table prepared by Charles S. Braden.)

religions are only very rough approximations. Aside from Christianity, few, if any, religions attempt to keep statistical records; and even Protestants and Catholics employ different methods of counting members. All persons of whatever age who have received baptism in the Catholic Church are counted as members, while in most Protestant Churches only those who join the church are numbered. The compiling of statistics is further complicated by the fact that in China one may be at the same time a Confucian, a Taoist and a Buddhist. In Japan, one may be both a Buddhist and a Shintoist.

(C. S. B.)

**Cigars and Cigarettes:** see TOBACCO.

**Cinnamon:** see SPICES.

**C.I.O.:** see LABOUR UNIONS.

**Circuses:** see SHOWS.

**City and Town Planning:** see TOWN AND REGIONAL PLANNING.

**City Manager Plan:** see MUNICIPAL GOVERNMENT.

**Civil Aeronautics Administration.** During 1950 there was an improvement in the U.S. domestic air-line safety record, but the international and combined records did not equal those set in 1949. There was a decided increase in the number of revenue passenger miles, both domestic and international, but a decline in the number of all types of pilot certificates issued and in the number of civil aircraft manufactured.

The combined accident fatality rate in 1949 for every 100,000,000 passenger miles of domestic and international flying by the scheduled air carriers was 1.0, the lowest in history. The estimated 1950 combined fatality rate was 1.4. In domestic operations, the estimated fatality rate was 1.2, compared with 1.3 in 1949. In international operations, the rate increased from 0 in 1949 to an estimated 2.1 in 1950.

Revenue passenger miles flown by domestic and international scheduled carriers increased 15%, from 8,806,576,000 in 1949 to an estimated 10,115,000,000 in 1950.

Ton-miles of freight carried by both domestic and international scheduled carriers increased by an estimated 33% and ton-miles of express by an estimated 5%. Freight carried in international operations increased by an estimated 131%.

The total number of private, commercial and air-line transport pilots increased from 525,174 as of Dec. 13, 1949, to an estimated 550,000 as of Dec. 31, 1950. During 1950 an estimated 45,400 student pilot certificates were issued, a drop of 8% from 1949. Private certificate issuances totalling an estimated 25,000 were less by 17%; commercial certificate issuances totalling an estimated 5,030 were fewer by 29% and air-line transport pilot certificate issuances numbering an estimated 800 were less by

25%.

Under the Federal Air Airport program, as of Dec. 31, 1950, in the fifth fiscal year of the 12-year program, the administrator had entered into grant agreements for 1,605 projects at 974 locations, involving approximately \$132,700,000 in federal funds and an estimated \$142,400,000 in sponsors' funds.

Progress continued in implementing the important common system of air traffic control and navigation for all users of air space — military, commercial and private. As of Dec. 1, 284 of

the approximately 400 very high-frequency omnidirectional radio ranges (VOR) required to cover the United States, and 96 instrument landing systems (ILS) had been fully commissioned.

Radar was coming into wider use in civil aviation. Airport surveillance radar was purchased for use at 54 airports having high traffic density. Precision approach radar was contracted for in order to supplement the surveillance equipment at 22 airports. The two types of radar, used together, constitute a ground controlled approach system, or GCA. Seven such installations were operating at New York LaGuardia, Chicago Midway, Washington National, Boston Logan, Atlanta, Cleveland and Los Angeles International airports.

The agricultural aeroplane prototype developed at Texas A. & M. college, College Station, Tex., under sponsorship of the CAA and the department of agriculture, in co-operation with the National Flying Farmers association and other organizations, was successfully flight tested on Dec. 1, 1950. Firms engaged in industrial flying operations numbered approximately 2,000, performing such activities as dusting, spraying, seeding and patrolling.

In the technical field, investigations of baggage compartment and power plant fire hazards were conducted. The first experimental self-sealing, break-away fuel line coupling, to prevent fuel spillage in the event of a crash, was developed and tested.

More than 20 instrument landing systems had been installed in the European area, and periodic checks were being performed by the CAA crew at the invitation of the governments concerned. The first instrument landing system in Central and South America was included in the facilities at the new airport at Buenos Aires.

The CAA assisted materially in establishing the civilian airlift operations across the Pacific to the Korean theatre. CAA's communications system was integrated with the military provisions for defense of the coastlines and northern boundary and atomic energy manufacturing areas to assure recognition and control of all civilian flights over strategic areas. (See also AIRCRAFT MANUFACTURE; AIRPORTS AND FLYING FIELDS; AVIATION, CIVIL.)

(D. W. N.)

**Civil Defense, U.S.:** see ATOMIC ENERGY.

**Civil Service.** United States.—Government services in the United States felt the influence of growing world tension and the initial impact of national mobilization during 1950. In the federal service, civilian employment began a steady climb as the staffs of defense agencies were built up. Draft calls of the armed forces, coupled with increased industrial tempo, foreshadowed manpower shortages as the year came to a close.



At the beginning of 1950, employment in the executive branch of the federal service stood at 1,950,000. A large temporary work force of census employees swelled this total during the spring, but subsequent cutbacks in the activity were more than offset when hostilities in Korea spurred the expansion of the national defense program. At year-end federal civilian employment was approaching 2,200,000. By comparison, state and municipal employment levels showed no substantial variations from the levels of the previous year.

Pay levels of public employees remain stable during 1950 for the most part, although rising living costs in the last quarter brought demands in some localities for compensating wage increases. Work stoppages by public employees were rare. In Detroit, a threatened strike by municipal transit workers was averted by last-minute action.

One of several amendments to the Social Security act approved by the 1950 session of congress paved the way for state and municipal governments to place their employees under social security coverage if they so desired. While the amendment barred employees who were already under existing retirement systems, several hundred thousand public employees became potentially eligible for coverage. Indications were that several states would take early advantage of the opportunity offered by the revised law.

The calling of public employees into military service caused public jurisdictions to review and bring up to date their policies on leaves of absence for military service. By executive order of the president, permanent civil service appointments in the federal service were suspended after Dec. 1, 1950, and were replaced by indefinite appointments. In California, state civil service regulations were revised to provide for duration appointments as needed. Several public jurisdictions made surveys of employee skills for potential future use in meeting manpower shortages. Jurisdictions where such studies were made included the states of Illinois and Minnesota, Los Angeles county and the city of Detroit. These studies showed that approximately 10% of male employees were subject to draft call, with city fire and police departments being potentially hardest hit.

Charges of Communist leanings among federal employees brought about a formal investigation by a congressional committee. The committee's report, presented after a series of hearings, did not substantiate the charges. In Kansas City, Mo., and Wayne county, Mich., public employees were required to take loyalty oaths; in New York the state supreme court upheld the constitutionality of a law barring members of subversive organizations from employment in the public school system. The New Jersey supreme court ruled that the legislature lacked authority to prescribe a loyalty oath by public office holders and candidates for office. The Hatch act, prohibiting political activity by federal employees, was amended by congress to permit lesser penalties than automatic dismissal for minor violations.

During the year new civil service systems were set up in a number of smaller communities, but no large groups of public employees were involved. In Arizona a proposed constitutional amendment providing civil service for state and municipal employees failed to pass, and in Louisiana the legislature voted down a proposal to re-establish the state's civil service law despite widespread popular demand. (See also MUNICIPAL GOVERNMENT.)

(J. J. DN.)

**Great Britain.**—In Great Britain, the work of rating valuation passed in Feb. 1950 from the local authorities to the inland revenue; and the post office in April took over the functions of Cable and Wireless Ltd. These new responsibilities added about 6,000 workers to the civil service, but the addition was more than offset by reductions elsewhere. The total number of nonindustrial staff employed fell from 694,000 in Oct. 1949 to 675,400 in Oct. 1950.

More posts previously regarded as temporary were established in 1950. Thus 2,000 established posts in the basic executive grade were made available for competition among temporary executive staffs; and the civil service commission also undertook to select 19,000 temporary clerical staffs to be established clerical officers.

October saw the introduction of the scheme of improved salaries for senior civil servants as recommended by the Chorley committee in Sept. 1948. (It would have been introduced in Oct. 1949 but for the devaluation of the pound.)

During the year rules were made under the Superannuation (Miscellaneous Provisions) act, 1948, to facilitate transfers between pensionable employments in the civil service and in local government, teaching or certain of the new public boards, so that a person who had transferred to or from the civil service might reckon his service in his first employment as if it had been rendered in the second.

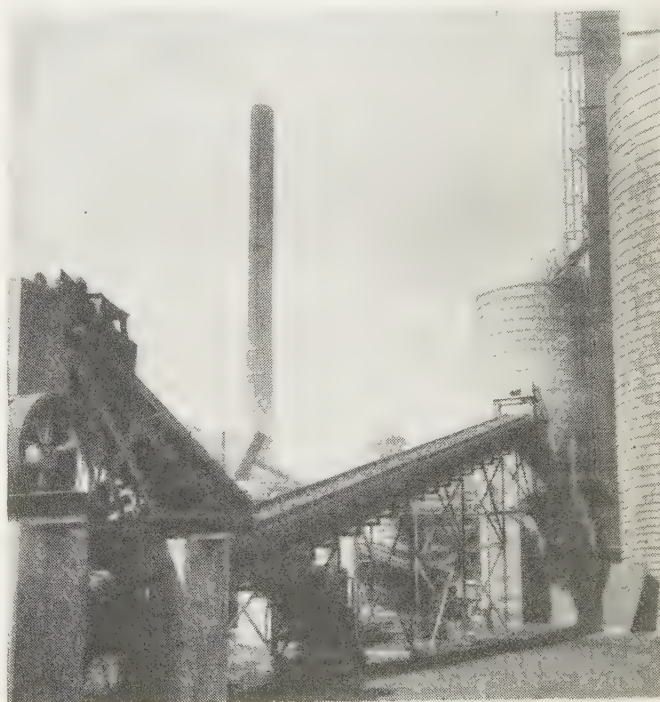
(E. E. Bs.)

**Clay and Ceramic Products.** The largest single influence in the ceramic industry during 1950 was the continued high level of construction, which provided a record market for building materials and home equipment.

New construction provided new highs in demand for structural clay products, sanitary ware, enamelled kitchenware and structural and window glass. Plants in all these fields operated at capacity and many expanded their production facilities. Severe credit restrictions in the United States were taking effect at the end of the year, reducing the number of new buildings started, and there were indications that the general level of construction would drop off sharply in 1951.

Materials shortages were also being noticed by the end of the year as defense requirements increased, particularly in respect to chemicals for glass, enamels, ceramic colours and special steels for enamelling.

In the pottery and dinnerware fields British production was generally at capacity, with a very good level of exports. Decorated ware was still restricted to the export market. Some British



PROCESSING PLANT opened at Marietta, O., in 1950, for converting raw clay into "Aglite," a lightweight aggregate used to make building blocks. Using widely available raw materials, the new aggregate was expected to require lower production costs than comparable products on the market



plants, turning to highly mechanized mass-production methods, reported increases of as much as 200% in production per man-hour over best prewar levels. The most significant trend in United States dinnerware was the continued adoption of new styles and shapes and modern decoration, replacing many of the old traditional ideas.

Production of several types of heavy clay products set new records, with United States brick being made at rates 7% to 8% above the previous high in 1948.

In England and Europe brick and tile production could not always meet the demand, and severe local shortages developed at times.

The United States flat glass industry broke all records in supplying window glass and glass for the automobile industry. Glass fibre insulating materials manufacturers enlarged their plants to meet the demand, and the growing television industry required millions of picture tubes. On the other hand, producers of hand-made and decorative glass in the United States had difficulty in meeting the prices of imported ware, and this part of the glass industry did not share fully in the general prosperity. (See also GLASS.)

**New Developments.**—An industry-wide research program in structural clay products was started in the United States. Projects in the experimental stage included prestressed tile beams of light weight and high strength.

Larger, more easily assembled units were a chief aim of this program.

Lightweight clay aggregate was being put to new uses in both England and the United States. Used in clay-bonded blocks and tile and in concrete in place of sand and gravel, this material makes lighter-weight products possible, with better insulating and acoustical properties.

New types of glass were announced for screening out the harmful radiations from atomic fission. One of these, a slow-neutron absorbing glass, contained considerable proportions of cadmium borosilicates and fluorides. Replacing such shielding materials as cadmium sheet, this glass offered transparent protection when used in layers only three times as thick as pure cadmium metal shields. Such glasses made possible visual peep-holes in the safety walls in atomic energy plants, and could be used in eyeglasses to protect the vision of workers exposed to radiation.

Numerous advances in television tube manufacture included new types of glass for screens which eliminate reflection and increase picture contrast and high-speed methods of sealing the screen to the rest of the picture tube.

Porcelain enamelled utensils in a variety of colours were in production in many plants, and European manufacturers were displaying coloured enamelled sanitary ware. Architectural applications of porcelain enamel multiplied during the year, with such items as window sills being manufactured of enamelled steel. Commercial porcelain enamelling of aluminum was started for the first time, mainly for interior wall panelling.

Several projects for the development of ceramic refractories for use in atomic energy installations were continued, with progress reported in the use of pure-oxide porcelains and cermets (ceramic-metal combinations) in this field.

In the field of ceramic art, large-scale ceramic sculpture of distinctly modern design dominated the major United States exhibitions, replacing the traditional figurines. Even in the pottery field, the trend was toward massive, utilitarian pieces rather than the delicate, decorative vases. Enamel-on-steel murals were also taking their place as an important art form in the ceramic field.

**Cleveland.** Cleveland, O., had a population of 905,636 by the federal census (preliminary figures) of 1950. Its area is 73.1 sq.mi.

Voters of Cleveland and Cuyahoga county, of which Cleveland is a part, defeated at the Nov. 7, 1950, election a county charter proposal which would have changed the form of county government, placing under it powers to deal with such problems as sewage disposal and health. At the same time Cleveland voters rejected a proposal to eliminate daylight saving time and approved the following bond issues: \$4,000,000 for airports; \$2,500,000 for police and fire buildings; \$2,500,000 for street widening and opening; \$2,000,000 for street grading and paving; \$1,000,000 for municipal parking lots; \$2,000,000 for sewers; \$1,000,000 for City hospital; \$750,000 for lake-front development; and \$750,000 for parks. Joseph F. Gorman and Henry W. Speeth were elected Cuyahoga county commissioners; John J. Carney, county auditor; and Leslie R. Monroe, county treasurer. The county sent to the Ohio general assembly 1 Republican and 5 Democratic state senators and 5 Republican and 12 Democratic representatives.

Industry in the Greater Cleveland area expanded in 1950 at a rate never before equalled in the city's history. Among the plants which were under construction or which went into production in 1950 were: Ford Motor Co., a \$70,000,000 foundry and engine-assembly plant; Chevrolet Motor division of General Motors Corp., a \$39,000,000 plant; Cadillac Motor Car Co., tooling up the World War II Fisher bomber plant for army tank construction, with the initial contract calling for \$110,000,000; Standard Oil of Ohio, a \$4,000,000 catalytic cracker; an \$8,500,000 new structure for the Lincoln Electric Co., Tinnerman Products, Inc. \$2,500,000; and Euclid Road Machinery Co., \$1,120,000. Announced for 1951 were the following expansions: Cleveland Electric Illuminating Co., \$100,000,000; Republic Steel Corp., \$75,000,000; Jones and Laughlin Steel Corp., \$28,000,000; Thompson Products, Inc., \$13,000,000; and Standard Oil of Ohio, \$5,500,000.

Cleveland city council passed a compulsory fair employment practice ordinance, made a 25-yr. contract with the Cleveland Indians baseball team for the use of the municipal stadium, passed the \$22,200,000 Reconstruction Finance corporation bond ordinance for a rapid transit system, and sustained Mayor Thomas A. Burke's veto of legislation to raise councilmen's pay.

The city's budget for 1950 was \$33,900,000, and that of the board of education \$24,805,316. These budgets were the highest in Cleveland's history. (P. By.)

**Climate:** see METEOROLOGY.

**Clothing Industry.** The year 1950 was one of variation in the clothing industry in the United States. Early in the year the trends of previous months were continued; retailers bought cautiously, inventories were held low and factories caught up on their backlogs and cut production. Essentially it was a buyers' market. Military action in Korea, followed by large federal government orders, completely changed the economic picture in midyear.

Following the inception of defense orders, prices on raw and finished materials rose substantially. Increased consumer purchases, partly caused by a fear of future shortages, created a demand for raw materials. The end of the year saw "voluntary" price freezes that were not observed because manufacturers, stocked with high-price materials, were unable and unwilling to hold to sales price levels which had been based on lower-cost materials.

Wage increases in the industry amounted to approximately 8%. Overtime disappeared during the first six months, but began to





HOPALONG CASSIDY CLOTHES in varying price ranges at a New York department store, one of the numerous expressions of interest in the 1950 idol of U.S. children. "Hoppy" (William L. Boyd) entered thousands of homes during the year via radio, TV, comic strips, breakfast foods, etc.

reappear toward the end of the year.

Certain definite factors were observed in the long-range pattern of the industry. The increased use of synthetics continued. Primarily because of price, more rayon and nylon took the place of wool in men's apparel. The world-wide wool shortage accelerated this movement. The demand for cotton goods was greater at the end of the year than it had ever been. New finishes and weaves appeared, and linen and linenlike fabrics enjoyed popularity.

Machinery manufacturers offered newly perfected machines to make better garments faster. Increased industrial effort was reflected in large equipment purchases by apparel manufacturers. Facing manpower and material shortages, garment factories made heavy investments in new machinery. Backlogs appeared at some machinery supply houses, but suppliers were generally meeting the demand. New developments in self-sharpening cloth cutters appeared. A variety of straight and special sewing machines featured high-speed operation; a new, fast, needle feed sewer was about to be marketed as the year closed. Cloth-spreading and power trimming refinements were developed. A new blind-stitch tacking machine was offered in August. Hydraulic pocket slitters, knit-wear seamers and two needle felling machines appeared in new models.

There were no drastic style changes in men's dress. Shirts had the short wide-apart collar tabs of 15 years before. Ties continued along a more conservative trend. The use of colour in men's wear increased little, if any; plaids were featured. Suit coats and topcoats stressed square, wide shoulders, with raised sleeve heads and little suppression at the waist, and sportswear followed the general clothing pattern. Work garments in the United States were becoming more specialized for particular trades. Research was continued toward making military garments more protective.

Women's wear continued the advances previously made. The industry offered well-styled, low-priced cotton and synthetic garments.

The situation in other countries was similar to that in the United States. Western European countries continued to increase production, but began levelling off when war threats became more ominous. Nations under the influence of the Soviet Union suffered from a lack of special machinery, and relied more on hand work. It seemed probable that export orders for United States equipment would not be filled, regardless of destination, because of shortages and increased domestic demand.

The outlook for 1951 was that prices, wages and taxes would be high, the demand for clothing would be strong and the supply would be somewhat limited. Gone was the competitive market of the first half of 1950. Nevertheless, the retail soft-wares market is usually active when hardwares are unobtainable, and hence the industry could foresee an active year. (See also FASHION AND DRESS.)

(S. L. S.)

**Cloves:** see SPICES.

**Coal.** While the 1949 coal outputs of most of the important world coal producers were higher than in 1948, the decline in the United States offset these advances and cut the total by 4%. The outputs of the major producers, as reported by the U.S. bureau of mines, are shown in Table I. This list of 19 countries includes all with outputs in excess of 1,000,000 tons, and their combined outputs account for about 96% of the world total; the four with outputs over 100,000,000 tons (United States, Germany, U.S.S.R. and United Kingdom) account for nearly three-quarters.

**United States.**—The U.S. bureau of mines reported the salient features of the coal industry in the United States as shown in Table II and the output by states as in Table III.

Strikes in the mines cut the 1949 output to the lowest figure



Table I.—Coal Production of the World  
(Millions of short tons—all grades)

	1944	1945	1946	1947	1948	1949	1950*
Canada . . . . .	17.03	16.51	17.81	15.87	18.45	19.11	18
United States . . . . .	683.27	630.93	592.51	687.81	656.65	477.66	548
Belgium . . . . .	14.91	17.45	25.19	26.89	29.41	30.70	30
Czechoslovakia . . . . .	54.31	29.84	37.01	42.53	45.56	47.98	50
France . . . . .	29.30	38.60	54.34	52.16	49.75	58.47	57
Saar . . . . .	?	?	8.69	11.56	13.85	15.72	17
Germany . . . . .	403.60	164.22	251.95	271.49	294.41	328.49	?
Hungary . . . . .	10.42	4.73	7.00	9.71	11.68	13.02	?
Italy . . . . .	1.22	1.68	2.98	3.54	2.07	2.13	2
Japan . . . . .	51.64	24.01	22.73	30.06	36.28	40.06	39
Netherlands . . . . .	9.48	5.80	9.77	11.66	12.47	13.13	13
Poland . . . . .	96.33	30.17	53.07	70.43	82.98	82.11	90
Spain . . . . .	12.88	13.32	13.33	3.08	13.25	13.19	14
United Kingdom . . . . .	215.88	204.71	214.81	221.14	233.44	239.38	240
U.S.S.R. . . . .	130?	160?	178?	193?	222?	249?	?
China . . . . .	71?	19?	14?	17?	11?	19.45	?
India . . . . .	29.26	32.67	33.27	31.81	33.40	35.01	31
South Africa . . . . .	25.34	25.96	26.02	26.25	26.47	27.57	27
Australia . . . . .	20.99	20.93	21.96	23.48	24.71	22.7?	26
Total . . . . .	1,946	1,475	1,628	1,818	1,881	1,799	?

\*Incomplete data, average annual rate maintained during the months for which data were available.

Table II.—Data of the Coal Industry in the United States  
(In thousands of short tons)

	1944	1945	1946	1947	1948	1949
Production, total . . . . .	683,278	632,551	594,429	687,814	656,658	477,702
Anthracite . . . . .	63,701	54,934	60,507	57,190	57,140	42,702
Soft coals . . . . .	619,576	577,617	533,922	630,624	599,518	435,000
Bituminous . . . . .	617,022	574,949	536,254	627,750	596,432	432,000
Lignite . . . . .	2,554	2,668	2,668	2,874	3,086	3,000
Anthracite						
Open-cut . . . . .	10,953	10,056	12,859	12,603	13,353	10,377
Underground . . . . .	52,748	44,878	47,648	44,587	43,787	32,325
Used locally . . . . .	6,061	6,391	6,398	6,138	6,657	5,012
Shipped . . . . .	57,641	48,542	54,109	51,052	50,483	37,690
Exports . . . . .	4,180	3,691	6,507	8,510	6,676	4,943
Imports . . . . .	12	0.1	10	10	1	—
Stocks . . . . .	445	130	251	702	964	975
Consumption . . . . .	59,400	51,600	53,900	48,200	50,200	37,700
Bituminous and lignite						
Open-cut . . . . .	100,898	109,987	112,964	139,395	139,506	99,000
Underground . . . . .	518,678	467,630	420,958	491,229	460,012	336,000
Used locally . . . . .	5,258	5,102	4,415	?	?	?
Shipped . . . . .	614,318	572,515	529,507	?	?	?
Exports . . . . .	26,032	27,956	41,209	68,667	45,925	27,842
Imports . . . . .	634	467	435	290	291	315
Stocks . . . . .	63,401	50,751	52,783	57,787	76,662	48,373
Consumption . . . . .	591,830	559,567	500,352	557,243	519,909	445,732
Railroads . . . . .	132,049	125,120	110,166	109,296	94,838	68,123
Coke ovens . . . . .	105,296	95,349	82,999	104,800	107,306	91,366
Power utilities . . . . .	78,887	71,603	68,739	86,009	95,620	80,717
Steel mills . . . . .	10,734	10,084	8,603	10,048	10,046	7,451
Cement mills . . . . .	3,789	4,215	6,969	7,938	8,554	7,945
Other industrial . . . . .	136,169	131,391	122,290	139,989	113,798	99,831
Retail dealers . . . . .	124,906	121,805	100,586	99,163	89,747	90,299

Table III.—United States Production of Coal, by States  
(Millions of short tons)

	1943	1944	1945	1946	1947	1948	1949
Alabama . . . . .	17.2	18.8	18.2	16.2	19.0	18.8	12.4
Colorado . . . . .	8.3	8.2	7.6	5.9	6.4	5.6	4.5
Illinois . . . . .	72.6	76.8	73.0	63.5	67.9	65.3	47.8
Indiana . . . . .	25.1	28.0	25.2	21.7	25.4	23.8	17.4
Kentucky . . . . .	63.2	71.4	69.6	66.6	84.2	82.1	58.9
Ohio . . . . .	32.3	33.9	32.7	32.3	37.5	38.7	29.9
Pennsylvania . . . . .	141.0	146.1	133.0	125.5	147.1	134.5	91.5
Tennessee . . . . .	7.2	7.3	6.3	5.6	6.3	6.5	4.0
Utah . . . . .	6.7	7.1	6.7	6.0	7.4	6.8	5.9
Virginia . . . . .	20.3	19.5	17.2	15.5	20.2	18.0	13.7
West Virginia . . . . .	158.8	164.7	152.0	144.0	176.2	168.9	123.8
Wyoming . . . . .	9.2	9.5	9.8	7.6	8.1	6.4	5.6
Others . . . . .	28.3	28.3	26.2	23.5	24.9	26.9	23.6
Total Bituminous . . . . .	590.2	619.6	577.6	533.9	630.6	599.5	435.0
Anthracite . . . . .	60.6	63.7	54.9	60.5	57.2	57.1	42.7
Grand Total . . . . .	650.8	683.3	632.6	594.4	687.8	656.6	477.7

since 1939, the bituminous total being 31% under the 1947 record high, while anthracite declined 25%. In 1950, production improved, but only moderately. The totals through the week of Dec. 16 were 485,913,000 tons for bituminous and 42,835,000 tons for anthracite. These figures indicate for the year a grand total of about 550,000,000 tons—the lowest since 1940, except for 1949.

**Canada.**—Coal production increased from 18,449,689 tons in 1948 to 19,120,046 tons in 1949, and 17,070,633 tons through Nov. 1950, as compared with 11,536,501 tons in the same period of 1949. Imports dropped from 31,054,148 tons in 1948 to 20,044,619 tons in 1949, but advanced to 16,395,456 tons through Aug. 1950.

(G. A. Ro.)

**Great Britain.**—During its first year of operation in 1947 the National Coal board accounts showed a deficiency of £23,255,965 but during the succeeding years a real improvement took place. The surplus (profit) was £1,651,965 in 1948 and £9,466,813 in 1949. During 1949 £31,000,000 were spent on capital

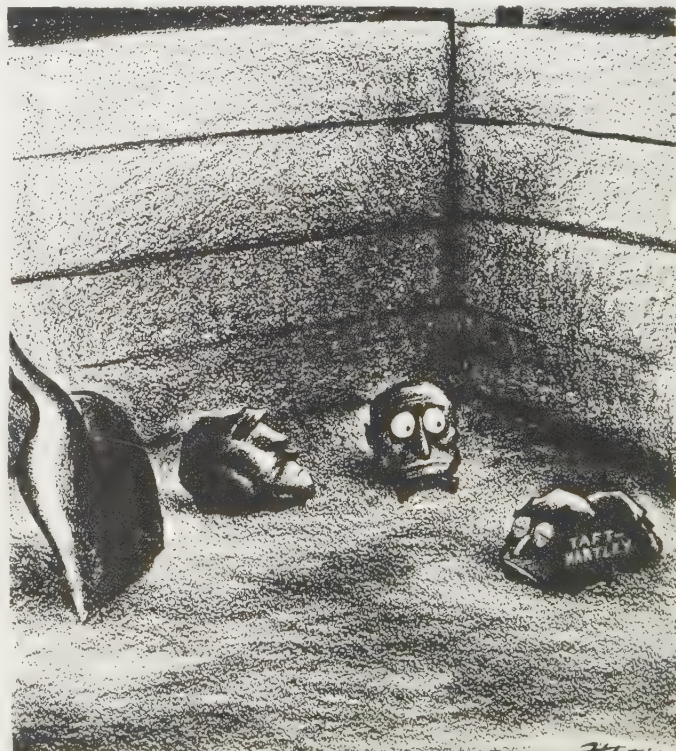
account and during 1950 the new capital invested was between £30,000,000 and £35,000,000. The production of deep-mined coal in 1949 was 202,500,000 tons and of opencast coal 12,500,000 tons, a total of 215,000,000 tons. For 1950 the totals were: deep-mined coal 204,100,000 tons and opencast 12,200,000 tons, a total of 216,300,000 tons (revised figures).

During the year 30 collieries were closed and the workers transferred to more profitable mines. The coal in some of the abandoned mines was exhausted and in others the remaining reserves could be more readily worked from neighbouring collieries. The general plan of the National Coal board during the succeeding 15 years was to reconstruct some 250 of the 950 mines in production in 1950. A score of new collieries were to be sunk, some 250 of the existing mines would continue without major reconstruction and some 350 to 400 would probably be abandoned.

When the coal mines were nationalized £165,200,000 was allocated for division among 21 coal mining districts as compensation. This was divided among the various districts but the subdivision of the allotted amounts between the companies in each district had not been completed by the end of 1950.

In November the board announced its long awaited "plan for coal." This envisaged the expenditure between 1950 and 1965 of some £635,000,000 of which £115,000,000 would be spent on ancillary plants such as coke ovens. The balance of £520,000,000 was to be spent on new mines and on modernizing existing ones with the hope of producing 240,000,000 tons of coal a year by 80,000 fewer workers than were employed in 1950. Much of this money would be provided by the board's depreciation funds but it was expected that about a quarter would have to be borrowed. The expenditure on new mines and modernization was being phased as follows: 1950, £30,000,000; 1951-55, £190,000,000 (annual average £38,000,000); 1956-60, £160,000,000 (annual average £32,000,000); 1961-65, £140,000,000 (annual average £28,000,000).

Progress in mechanization was maintained. By the end of 1950 75% of coal was being undercut by machines and 75% loaded onto conveyors.



"CRISIS IN THE COAL BIN," a cartoon by Fitzpatrick published in the St. Louis Post-Dispatch in 1950



During 1950 wages remained relatively stable for skilled underground workers. In October, however, the day-wage men and boys received a substantial increase involving an annual increase in the wages bill of some £4,000,000. The average of the earnings of all mine workers, with allowances, was £9 a week.

**Commonwealth.**—Queensland and Victoria, Austr., were developing their resources; so were the Rhodesias. Some engineers thought the future of the Union of South Africa depended on its coal rather than its gold. (J. A. S. R.)

**Coast and Geodetic Survey, U.S.** During 1950 this bureau of the department of commerce continued the survey of the coastal waters, the production of nautical and aeronautical charts for the protection of water-borne and air-borne commerce, and the establishment of the basic geodetic network in the U.S. and Alaska for general mapping and large-scale engineering projects for flood control and reclamation.

Eighteen ships were engaged in hydrographic surveys along the Atlantic, Gulf and Pacific coasts and in Alaska.

In Alaska, surveys, including the collection of original oceanographic data, were extended into unsurveyed areas in the western Aleutian Islands, in Bristol bay and in the Arctic. Two departures from routine ship hydrography characterized the year's work: the initiation of comprehensive tidal current surveys by a major survey ship in the eastern Aleutian Islands passes, and the commencement of original hydrographic surveys of northern Bering sea by two major ships. As the Bering sea area is ice-bound until late in June, these ships operated in the western Aleutians during the preceding months.

Routine tidal observations were continued at stations located along the Atlantic, Gulf, Pacific and South American coasts. Harmonic analysis of these observations furnished information for the prediction of the times and heights of the rise and fall of the sea, and for the establishment of mean sea level.

The national network of geodetic control established for mapping, surveying and engineering construction projects was further extended during the year. Major geodetic activities covered work in the Missouri river basin to provide basic data for surveys and plans for flood control and reclamation, and in various parts of the U.S. and in Alaska to provide triangulation data in advance of the topographic mapping by the geological survey. In western Alaska, geodetic control was accomplished along the northern and southern shores of Bristol bay; across the Alaska peninsula; in the Kuskokwim and Yukon river valleys; and on the peninsula and islands of the northern Bering sea. Measurements of gravity by pendulum and gravity meter and astronomical observations for latitude, longitude and azimuth were made. Three lines of azimuths were measured across an earthquake fault in the western part of the U.S. to provide data for observation of crustal shifts. Observations were continued at two variation-of-latitude observatories.

Closely allied with these major functions of the coast and geodetic survey are measurements of magnetic declination, intensity and dip. Seven magnetic observatories were maintained at widely separated locations from Puerto Rico to Alaska and the Hawaiian Islands for continuous observations of changes in the principal magnetic elements. Observations were made at 87 magnetic field stations during the year. Information was collected and exchanged with scientific institutions engaged in seismology. Strong-motion instruments were maintained for vibration studies in earthquake areas in the western states.

The bureau extended its aerial photographic coverage of coastal areas in the United States and Alaska with the nine-lens camera. It continued the production of 911 nautical charts for the mariner and 914 aeronautical charts for the aviator. These

charts are produced in several series and are maintained, with frequent revisions, to meet the requirements of marine and air navigation. (See also CARTOGRAPHY; GEOGRAPHY; OCEANOGRAPHY.) (L. O. C.)

**Coast Guard, U.S.** Increasing effectiveness of search and rescue team work was indicated by the quick locating and rescue of 12 men stranded on a floating ice floe in Saginaw bay, Michigan, on Feb. 2, 1950. Within an hour after rescue plans had been set in motion the coast guard stations at Tawas City and Bay City, Mich., had dispatched a Dukw and ice skiff; the naval reserve and police had sent vehicles to the shore near by; and two planes of the coast guard auxiliary finally located the men and took them off the ice.

Shortly before midnight on Feb. 13, 1950, 16 crewmen and 1 military passenger bailed out from a disabled B-36 over the west coast of British Columbia. Through the combined efforts of Canadian fishermen and Canadian and U.S. rescue agencies, including the coast guard, 12 were rescued alive.

A Washington state Taylorcraft was reported overdue with its pilot on March 19, 1950, and air search was inaugurated by coast guard, air-rescue service, civil air patrol and civilian agencies. On March 21 a coast guard JRF sighted the crashed plane 20 mi. north of the airway and 15 mi. from the nearest highway. At this time of year the location was almost inaccessible. Air-rescue service dropped a two-man para-rescue team which located the survivor alive, but in bad condition from attempting to wade through deep snow for 24 hr. in ordinary business clothes. A coast guard helicopter landed in soft snow and successfully evacuated the victim, taking off with difficulty. It then evacuated the para-rescue team and a coast guard mechanic dropped on the original trip.

On April 23, 1950, a coast guard PB-1G departed Brooklyn, N.Y., air station for Bermuda, B.W.I., to assist in the search for a missing 26-ft. boat with nine marines and three civilians on board. Identifying the target by flares the British frigate "Big-bury Bay" was conned to the scene and took the survivors on board.

Four barges loading ammunition at South Amboy, N.J., exploded on May 19, 1950. Seven cutters were dispatched with eight public health officers. Auxiliary flotillas reported promptly to assist army, navy and marine contingents. Fire-fighting equipment from nearby lifeboat stations helped bring fires under control in a few hours.

On June 5, 1950, a twin engined C-46 chartered air liner with 65 passengers from San Juan, Puerto Rico, came down in the Atlantic 270 mi. northeast of Miami, Fla. A coast guard PBM from Elizabeth City, N.C., was the first on the scene, dropping life rafts and rescue equipment. With these aids 45 persons were saved.

The hospital ship U.S.S. "Benevolence" with about 526 persons on board sank 4 mi. west of San Francisco Golden Gate on Aug. 25, 1950, after colliding with a freighter. A dozen cutters were first on the scene, rescuing, with army and navy craft, 504 persons.

A navy F8F crashed southwest of Coalinga, Calif., on Sept. 19, 1950. A coast guard JRF and a helicopter were dispatched from Hamilton Air Field base, Calif. The helicopter landed at the scene, a doctor and a medical corpsman having been parachuted 18 min. before, and transported the injured pilot and doctor to Coalinga where they were transferred by a C-47 to Naval Air station, Alameda, and then to Naval hospital, Oak Knoll, Calif.

Rescue work was not confined to the sea but was carried on along flooded rivers of the interior. In April coast guard details were dispatched to Grand Forks, N.D., to save life and property along the flooded Red River of the north. In November



helicopters evacuated 58 isolated persons in California floods and surface craft took care of 56.

Altogether the coast guard rescued 7,619 persons during the year ending June 30, 1950, which was 50% greater than any previous year in its history.

The icebreaker "Mackinaw," with the aid of a helicopter, broke out ore vessels beset in the Great Lakes' ice in April. The first aerial ice reconnaissance flights were made on Feb. 24, 1950, to protect transatlantic shipping from drifting icebergs off the Grand Banks of Newfoundland. A continuous cutter patrol until June 10 was followed by an oceanographic survey and iceberg census in Baffin bay and Davis strait. The icebreaker "Northwind" brought medical assistance to natives in remote arctic areas while on the Bering Sea patrol for the protection of life and property.

Cutters in mid-Atlantic maintained five and two-thirds ocean weather stations and three in the North Pacific. They cruised a total of 668,643 mi., made 19,660 transocean aircraft contacts, sent in 56,456 weather reports and rendered assistance in 63 cases.

The coast guard maintained 37,700 aids to navigation of all types from spar buoys to lighthouses; thirty loran stations located from Greenland around the coasts of the United States to the Philippines gave mariners and airmen quick and accurate determination of their positions in all weather.

Enforcing the oil pollution act, anchorage regulations, revenue, customs, immigration, quarantine and conservation laws, cutter

and aircraft personnel operated on the high seas and on navigable waters as captains of the port.

Conducting 26,750 annual inspections, dry dock examinations, re-inspections and various others, marine inspectors also numbered 452,327 undocumented vessels and investigated 2,239 marine casualties.

Issuing 75,148 documents to officers and men of the merchant marine, there were details in six European ports conducting 6,050 investigations of negligence, incompetence and misconduct of U.S. merchant marine personnel. Shipping commissioners executed 13,699 sets of articles, shipping and discharging seamen.

The coast guard maintained more than 300 cutters, 4,000 small boats and 800 shore units with about 25,000 military personnel. There were 5,400 civilians. Coast guard aircraft flew a total of 31,183 hr. in 11,333 sorties.

The nearly 4,500 members of the reserve at midyear were augmented by 362 officers and 2,722 enlisted men, most of them to be trained in port security work. The nonmilitary auxiliary's 12,000 members, with their affiliated ownership of 6,251 boats, 317 planes and 156 radio stations, conducted 15,000 courtesy motorboat examinations and provided training for 2,400 nonmembers, in the furtherance of maritime safety and efficiency.

After completing the four-year course at the Coast Guard academy at New London, Conn., 68 cadets were commissioned as ensigns and 500 enlisted men were in training each month at Groton Training station, Groton, Conn., to qualify them for higher ratings.

Coast guard security regulations were imposed on Great Lakes vessels transiting the Sault Ste. Marie canal soon after June 25, 1950, and sentries were posted at the locks.

Congress amended the Selective Service act of 1948 in September, permitting the coast guard to use the draft, call up reserves and extend enlistments for a period of 12 mo. (M. O'N.)

**Cobalt:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Cochin-China:** see FRENCH UNION; INDOCHINA.

**Cocoa** (CACA0). World production of cacao beans for 1950-51 was forecast at 1,687,470,000 lb., only a little lower than the record 1,704,140,000 lb. in 1949-50 and considerably more than the 1935-39 average of 1,579,000,000 lb. The African crop, about two-thirds of the total, was estimated at 1,147,110,000 lb., compared with 1,087,390,000 lb. in the previous year. The Gold Coast production was estimated at 625,000,000 lb., compared with 572,000,000 lb. in the previous year, and Nigeria 235,000,000 lb., compared with 228,000,000 lb. in 1949-50. South American production declined to 385,120,000 lb. as compared with 458,880,000 lb. in 1949, largely because of a decline in Brazilian production to 275,000,000 lb. from 355,000,000 lb. the previous year.

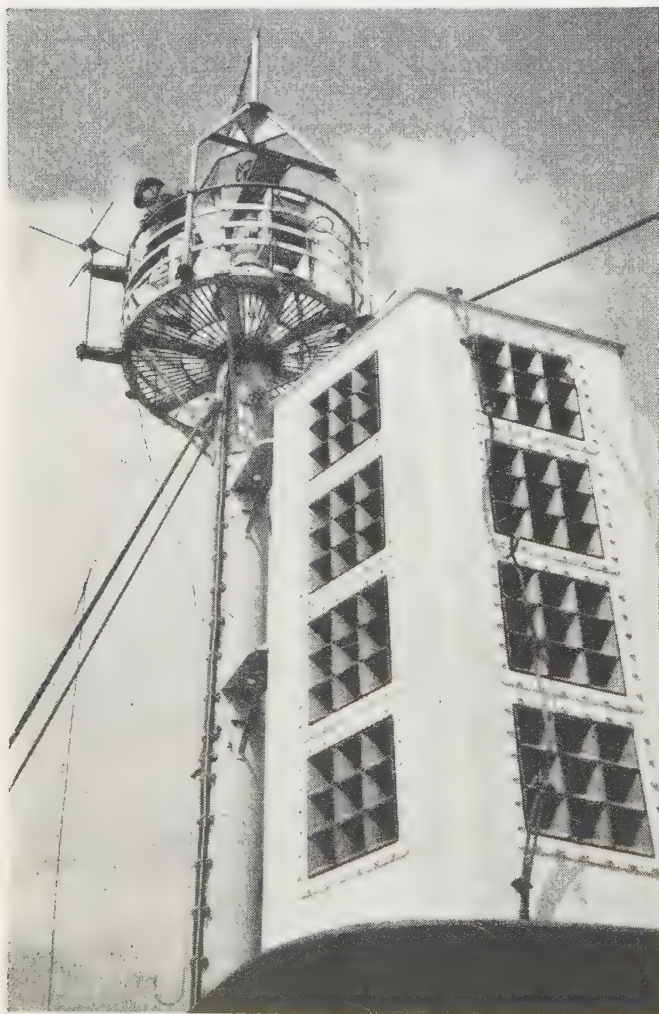
The quantity of cacao beans imported into the U.S. during the first 9 months of 1950 was 548,320,705 lb. compared with 642,035,335 lb. in the same months of 1949. The value of imports increased.

During the year prices in the U.S. fluctuated rather widely between 18 and 40 cents per pound, ending the year slightly above 30 cents. Prices to producers were relatively favourable.

(J. K. R.)

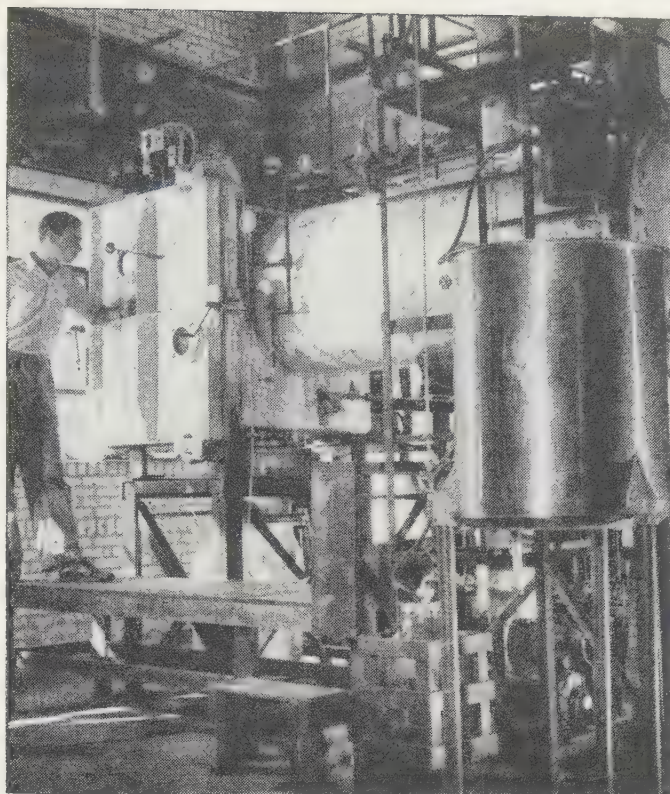
**Coffee.** Consumption of coffee in the U.S. in 1950, all from imported supplies, dropped to an estimated 17.0 lb. per capita, compared with 18.6 lb. in the previous year and 14 lb. as a prewar average (1935-39). Imports of raw coffee beans into the U.S. in 1949 were in excess of 22,000,000 bags, but in the first six months of 1950 imports were at a rate only two-thirds as high.

World coffee production for the 1950-51 crop year, according



ELECTRONIC FOG SIGNAL and radio antenna atop the robot lightship placed in operation by the U.S. coast guard off one of the approaches to New York harbour in 1950. One man at a remote control panel at Sandy Hook, N.J., operated its light, radio beacon and fog signal





PILOT PLANT EQUIPMENT for the high vacuum processing of soluble crystal coffee. A full-scale plant for the new food concentrate was set up in 1950 by the National Research corporation of Cambridge, Mass.

to early season forecasts for the main producing countries, was expected to equal 36,766,000 bags, a 2% decline compared with 37,486,000 bags in 1949-50 and an average of 41,600,000 bags for the prewar period. Because of drought and other reasons Brazil was expected to produce only 17,800,000 bags, compared with 19,250,000 bags in the preceding year; their 1951 crop however, was preliminarily forecast as the largest postwar crop, nearly 3,000,000 bags larger than that of 1950. The Colombian crop was estimated at 5,740,000 bags, only slightly less than the preceding year, but about one-third more than prewar. The African crop was 4,671,000 bags, compared with 4,176,000 bags in the previous year. Prospects in Indonesia were favourable for a crop 4% larger than that of the previous year, but only about one-third as large as prewar.

World total exportable supplies dwindled to an estimated 28,445,000 bags, compared with 29,085,000 bags one year earlier and more than 35,000,000 bags prewar. Prices, both retail and wholesale, continued at high levels. A preliminary coffee report, prepared by the staff of a U.S. senate subcommittee investigating price spreads, attracted national and international attention, and the New York coffee and sugar exchange subsequently modified some of its restricted future contracts. (See also BRAZIL.) (J. K. R.)

**Coinage.** The three U.S. coinage mints located at Philadelphia, Pa., San Francisco, Calif., and Denver, Colo., manufactured a total of 591,539,703 domestic and foreign coins during the government fiscal year 1950.

U.S. coin production was valued at \$22,107,499 and consisted of the denominations given in the table.

The composition of the half dollars, quarter dollars and dimes was 90% silver and 10% copper; five-cent coins, 25% nickel and 75% copper; and one-cent coins, 95% copper and 5% zinc and tin in conformity with U.S. coinage laws.

Foreign coinage during the fiscal year 1950 totalled 94,267,944

Denomination	Number of pieces produced
Half dollars . . . . .	16,118,222
Quarter dollars . . . . .	15,938,994
Dimes . . . . .	28,582,573
Five-cent pieces . . . . .	70,976,554
One-cent pieces . . . . .	365,655,416
Total domestic . . . . .	497,271,759

pieces of various denominations and alloys for the governments of China, El Salvador, Ethiopia, Haiti, Honduras, Mexico and Venezuela.

In addition to the coinage mints, four other mint service institutions comprising the bureau of the mint were in operation in 1950—the assay offices at New York city and Seattle, Wash.; the gold-bullion depository at Fort Knox, Ky.; and the silver-bullion depository at West Point, N.Y. The entire mint service is administered by the director of the mint, with offices in Washington, D.C.

The principal functions of the bureau of the mint, other than the manufacture of domestic and foreign coins, include the safeguarding of the government's holdings of monetary metals, valued at billions of dollars; acquisition of gold and silver bullion; the refining of gold and silver; administration of the issuance of treasury licences for the acquisition, ownership, possession, use and exportation of gold for industrial, professional and artistic purposes; the manufacture of medals for the armed services and the manufacture of medals of historic interest for sale to the public.

At the close of the government fiscal year 1950 the mint institutions held in their custody approximately 24,000 tons of gold bullion valued at more than \$24,000,000,000; and approximately 46,000 tons of silver bullion. (N. T. R.)

**Coke.** Though coke outputs in Germany, Belgium and Japan were still low, other countries had increased so much that the world total in 1949 was 17.5% above the prewar level, but still 13% below the 1943 war peak. Table I shows the outputs of the major producing countries, as reported by the U.S. bureau of mines. This list accounts for 95% of the world total.

Table I.—World Production of Coke\*

(Thousands of short tons)

	1944	1945	1946	1947	1948	1949
Australia . . . . .	1,562	1,188	1,194	1,479	?	?
Belgium . . . . .	2,257	2,071	2,646	3,380	4,116	3,828
Canada . . . . .	3,438	3,333	2,857	2,973	3,435	3,352
Czechoslovakia . . . . .	4,991	2,095	2,480	4,238	5,758	7,263
France . . . . .	3,206	3,009	5,677	6,616	6,723	7,462
Saar . . . . .	?	?	305	1,309	3,020	3,667
Germany . . . . .	58,863	5,825	11,468	17,807	20,763	25,952
Great Britain . . . . .	15,771	15,664	15,665	15,473	17,178	17,350
Poland . . . . .	5,009	1,921	3,382	4,148	5,714	6,411
India . . . . .	1,827	1,830	1,876	?	1,836	?
Italy . . . . .	602	43	460	1,059	1,434	1,494
Japan . . . . .	4,144	2,650	1,020	1,283	2,130	2,844
Netherlands . . . . .	1,737	?	1,368	1,684	2,469	2,728
U.S.S.R. . . . .	10,929?	14,300?	16,000?	18,800?	22,000?	26,500?
United States . . . . .	74,037	67,308	58,498	73,446	74,861	63,637
Total . . . . .	186,800	124,200	127,500	158,900	177,000	180,750

\*Not including gashouse coke.

**United States.**—Because of strikes in the coal and steel industries, the demand for and supply of coke in 1949 dropped 15%. Table II presents the more important statistics of the industry, as reported by the U.S. bureau of mines.

Table II.—Coke Production in U.S.

(In thousands of short tons)

	1944	1945	1946	1947	1948	1949
Production . . . . .	74,038	67,308	58,498	73,446	74,862	63,637
By-product . . . . .	67,065	62,094	53,929	66,759	68,284	60,222
Beehive . . . . .	6,973	5,214	4,568	6,687	6,578	3,415
Breeze made . . . . .	5,116	4,721	4,308	5,602	5,874	4,989
Coal charged . . . . .	105,296	95,672	83,527	105,062	107,562	91,409
Consumption, total . . . . .	72,971	66,074	57,322	72,611	73,756	63,191
By iron furnaces . . . . .	57,072	50,653	43,098	57,636	59,286	51,515

The 1949 production rate was improved in 1950, the total for the first three quarters being 52,510,701 tons.



**Canada.**—Coke production (including gas retort coke) dropped from 3,945,776 short tons in 1948 to 3,867,066 tons in 1949 and 1,919,462 tons in the first half of 1950 (G. A. Ro.)

**Cold, Common.** The matter of greatest interest in respect to the common cold during 1950 was the final disposition of the problem of its treatment and prevention with antihistaminic agents. Although an estimated \$100,000,000 was spent on these drugs during the year, successive reports of a number of investigators who tested the effects of antihistaminic agents in controlled studies found them to be valueless for either the prevention or treatment of colds. Allergic rhinitis, which mimics the common cold, may be alleviated with antihistaminic drugs.

Similarly, it had not been established that there was value in treating colds with penicillin, aureomycin, chloramphenicol or terramycin. In fact, it was believed that harm might be done by their use. The suppression of growth of some bacteria appears to permit other pathogenic bacteria and fungi to grow and cause disease. Furthermore, the oral administration of antibiotics is apt to sensitize persons to them so that untoward reaction may occur if antibiotic agents actually are needed and given later.

Among investigators of the common cold, W. J. Kerr still did not believe the disease to be a contagious one caused by a virus or spread by human contact. Physiologic mechanisms disturbed by cooling or other irritating factors presumably were blamed for the symptoms. However, according to C. H. Andrewes, who was conducting extensive research on the subject, a virus causes the common cold, and A. L. Bloomfield held that no serious student of the common cold problem doubted that the essential cause is a filtrable virus.

Several investigators had previously reported success in the cultivation or propagation of the virus of colds in artificial media, but Andrewes was not able to confirm the results, nor had he succeeded in transmitting the disease to a variety of small animals. T. G. Ward's laboratory reported that a virus isolated from a patient with a cold was propagated in five transfers in the chick embryo. In several controlled studies, colds developed in 61% of 23 volunteers in whom such cultures were instilled into the nose. No colds developed in 24 other volunteers to whom material not containing the virus was given.

**BIBLIOGRAPHY.**—C. H. Andrewes, "Adventures Among Viruses: III. The Puzzle of the Common Cold," *New England J. Med.*, 242:235-240 (Feb. 16, 1950); A. L. Bloomfield, "Some Problems of the Common Cold," *J.A.M.A.*, 144:287-292 (Sept. 30, 1950); W. J. Kerr, "The Common Cold and Its Implications," *Ann. Int. Med.*, 33:333-345 (Aug. 1950); T. G. Ward and D. F. Proctor, "Isolation of a Common Cold Virus in Chick Embryos and the Clinical Manifestations It Produces in Human Volunteers," *Am. J. Hyg.*, 52:91-106 (July 1950).

**FILMS OF 1950.**—*Let's Have Fewer Colds* (Coronet Instructional Films). (H. A. Rn.)

**Colleges and Universities:** see UNIVERSITIES AND COLLEGES.

**Collins, J(oseph) Lawton** (1896— ), U.S. general, was born on May 1 in New Orleans, La. He was graduated from the U.S. Military academy at West Point, N.Y., in 1917. He served in the army of occupation in Germany after World War I, taught at West Point for four years, then attended various U.S. army schools. From Dec. 17, 1941, to May 8, 1942, he was chief of staff of the Hawaiian department. In Dec. 1942 he led the 25th infantry division into Guadalcanal. In Feb. 1944 he took over command of the U.S. 7th corps in England, and it was under his command that the corps led the break-through at St. Lô, France, after the European invasion. He led this corps through France and Germany to a junction with the Russians on the Elbe. He was made a permanent major general on Jan. 24, 1948, with the temporary rank of full general.

From Aug. to Dec. 1945, General Collins was deputy commanding general and chief of staff of the army ground forces in Washington, D.C. He was for two years war department director of information, in 1947 becoming deputy chief of staff, the following year vice-chief of staff and in Aug. 1949 chief of staff of the U.S. army. In July 1950 and again in August he went to Tokyo, Japan, for top-echelon discussions on the progress of the war in Korea. On the second trip he toured the Korean front.

**Colombia.** A republic situated in northwestern South America adjoining the isthmus of Panamá, Colombia is the only South American country with both Caribbean and Pacific coast lines. Area: 439,714 sq.mi.; pop. (1949 official est.): 11,015,000. Approximately 68% of the population is classified as mixed blood, 20% as white, 7% as Indian and 5% as Negro. Most of the inhabitants live in the highlands and mountain valleys of the interior. The capital is Bogotá (pop. in 1947: 482,480). Other principal cities are Barranquilla (225,430), Bucaramanga (71,240), Cali (147,160), Cartagena (106,820), Cúcuta (77,480), Ibagué (84,840), Manizales (117,760), Medellín (237,220), Neiva (39,490), Pasto (63,430), Popayán (35,960), Santa Marta (43,950) and Tunja (27,080). Language: Spanish, religion, predominantly Roman Catholic. Presidents in 1950: Mariano Ospina Pérez and, from Aug. 7 Laureano Gómez.

**History.**—The year 1950 marked a complete break from the traditional practices of minority representation in the national government and adherence to constitutional principles. A state of siege continued in force throughout the year; the congress remained prorogued; the supreme court remained ineffectual in judicial review; and control over presidential succession was changed from a congressional to an executive function. The Liberal party, which had virtually boycotted the presidential election in Nov. 1949, refused to recognize the legality of the Conservative administration of Laureano Gómez and resorted to protest strikes in the capital and guerrilla warfare in the provinces.

In May the announcement by Pres. Mariano Ospina Pérez that the congress (scheduled to convene in July) would not meet during the year virtually eliminated Liberal party participation in the government. Liberal influence was further impaired by rigorous press censorship and by a renewed clerical campaign against secular education.

Spotty reports in the controlled press indicated that most of the guerrilla resistance was in the departments of Santander, Antioquia, Bolívar and Tolima. Casualties numbered in the hundreds, and there was widespread emigration of noncombatants from one department to another to escape persecution.

Gómez succeeded Ospina Pérez as president on Aug. 7 and selected his cabinet exclusively from the Conservative party. The question of presidential succession arose when the new chief executive suffered a serious but temporary illness. Congress had previously designated former Pres. Eduardo Santos, a Liberal, but in September Gómez decreed that Santos' eligibility had expired with the inauguration of the new administration; that, in case of death or disability, the president would be succeeded by the members of his cabinet, in the order of their seniority. The Liberals protested this ruling as a flagrant violation of the constitution, and a strike was declared by the university students on Sept. 27.

In August a national convention of Liberals pronounced the Gómez administration illegal and adopted a policy of noncollaboration. A manifesto written by Darío Echandía asserted that the party would abstain from the state and municipal elections of 1951, because it was being denied freedom of speech, press, assembly and movement; that constitutional guarantees had been suspended in 1949 solely to prevent a Liberal victory at the polls.

On the economic front, the government appointed a committee



to study the report of the International Bank for Reconstruction and Development commission's survey of Colombia's economy. The bank's report suggested a five-year, \$2,500,000,000 over-all development program to promote and integrate the industrial and agricultural resources of the country. Pending completion of negotiations for the World bank loan, the government and private industry went ahead with their program of borrowing to develop hydroelectric power, irrigation, highways, railroads, pipe lines and the petroleum, steel and rayon industries.

In foreign affairs, Colombia approved the United Nations' decision to intervene in Korea, and offered the use of a 1,430-ton frigate plus unspecified general economic assistance. The dispute with Peru over Colombia's right to grant asylum to the outlawed political leader Víctor Raúl Haya de la Torre (sheltered by the Colombian embassy at Lima since Jan. 3, 1949) was given a ruling, Nov. 20, by the International Court of Justice. The decision, however, left undecided the question of whether Colombia was required to surrender the fugitive to the Peruvian government, and tension between the two countries continued.

A disastrous earthquake, occurring July 9-11 in the department of Santander, killed an estimated 150 persons, left about 40,000 homeless and caused several million dollars worth of damage. Some small towns were totally destroyed.

**Education.**—In 1947, 11,320 primary schools reported enrolments totaling 738,716 pupils with 17,528 teachers; 1,005 secondary and vocational schools listed 92,112 students and 7,480 teachers; 57 colleges and universities reported 8,032 students and 1,335 professors. In addition, 1,206 primary, 630 secondary and 2 higher educational institutions did not report enrolments. In 1949, 19,854,944.07 pesos (5.5% of the national budget) was allocated to public education.

**Finance.**—The monetary unit is the peso, valued officially at 51.02 cents U.S. and on Oct. 31, 1950, at 29.59 cents on the free market. The national budget for 1950 called for receipts and expenditures balancing at 422,431,000 pesos. For the first six months of the year, revenues reached 201,365,000 pesos; appropriations, 192,505,000 pesos; accumulated deficit, 27,000,000 pesos; total currency in circulation, 1,001,873 pesos. On June 30, 1950, the internal debt was 361,571,017 pesos; the foreign debt, 147,285,089.66 pesos. As of Aug. 31, 1950, the total assets of the Bank of the Republic amounted to 755,075,450.82 pesos; major liabilities, 439,539,816.50 pesos in circulating bank notes and 157,971,800.21 pesos in deposits; gold and foreign-exchange holdings, 225,656,293.30 pesos.

**Trade and Resources.**—In 1949 exports were valued at \$337,000,000 excluding monetary gold and silver (\$291,600,000 in 1948 including same); imports, \$282,000,000 (\$335,000,000 in 1948), excluding monetary gold and silver. The United States took 81% of the exports and supplied 69% of the imports. Coffee (5,410,000 bags of 132 lb.) accounted for 74% of the export value in 1949; petroleum (about 22,800,000 bbl. of 42 gal.) 18%; bananas (about 6,000,000 stems) 3%; gold (403,590 troy ounces) 3%; and platinum (18,961 troy ounces) 0.5%. Approximately 86% of the imports were manufactured and semifinished goods.

**Transportation and Communication.**—During the first ten months of 1949, ten railroad lines totalling 2,159 mi. carried 11,289,883 passengers and 2,128,866 tons of cargo (10,935,186 passengers and 2,529,800 tons in the same period of 1948). At the end of 1948 there were 11,166 mi. of improved highways, 25,657 automobiles and 22,830 trucks and buses. There were 4,620 mi. of navigable rivers and 72.5 mi. of aerial cables. In 1949 the two major and eight minor domestic air lines flew 14,828,256 mi., carrying 797,184 passengers and 157,958 tons of cargo (13,446,192 mi., 703,929 passengers and 120,844 tons in 1948). In 1947 there were 29,095 mi. of telegraph and 118,676 mi. of telephone lines, 62,414 telephones and about 200,000 radios.

**Agriculture.**—The basic industry in Colombia is agriculture, and coffee (approximately 6,140,000 bags of 132 lb. in 1949) is the main commercial crop. Other crops (with 1949 production figures) are: corn 709,500 tons; potatoes 528,000 tons; sugar 152,295 tons; rice 143,000 tons; wheat 132,000 tons; barley 33,000 tons; cotton 7,134 tons; and bananas approx. 6,000,000 stems.

**Manufacturing.**—In 1949 manufactured goods were valued at 2,008,000,000 pesos, representing a 25% increase over the value of production in 1948. Processed foodstuffs accounted for 720,000,000 pesos; textiles 331,000,000 pesos; beverages 288,000,000 pesos; clothing 121,000,000 pesos; leather goods 88,000,000 pesos; minerals 74,000,000 pesos; chemicals 74,000,000 pesos; and tobacco 66,000,000 pesos.

**Mineral Production.**—The chief extractive industries (with 1949 production figures) are: petroleum 29,722,406 standard bbl.; gold 359,475 troy ounces; silver 106,678 ounces; platinum 19,739 ounces; salt 125,920 tons; and cement 474,726 tons. Petroleum production during the first half of 1950 was 15,874,000 bbl. (14,803,000 in the first half of 1949).

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**Colorado.** A Rocky mountain state of the United States in the west-central part, Colorado has a mean elevation above sea level of 6,800 ft., the highest of any state. Admitted to the union in 1876 as the 38th state, it is known as the "Centennial state." Its area of 104,247 sq.mi. includes 280 sq.mi. of water surface. The U.S. owns 34.5% of the total land area and 59.3% is in private ownership, the remainder belonging to state, county and municipal governments.

Population (1940) 1,123,296; 52.6% urban, 47.4% rural; 93.6% native, 6.4% foreign-born; white 98.5%, Negro 1.1%, other .4%; 102.6 males per 100 females. The 1940 census reported 2,734 Japanese, the largest in number of all races other than white and Negro. The 1950 census as of April 1 showed a population of 1,325,089, a gain of 18% from 1940. Capital, Denver, pop., preliminary 1950 census, 412,856. Other cities (with preliminary 1950 populations): Pueblo 63,561; Colorado Springs, 45,268; Greeley, 20,286.

**History.**—An extraordinary session of the Colorado state legislature was called by Gov. Walter W. Johnson in Aug. 1950, at which time an income tax reduction bill for a flat 20% reduction in all 1950 individual and corporation state income taxes was passed. Three other major bills enacted into law were:

A bill to provide for civilian defense in cases of war emergencies.

A bill to permit all members of the Jewish faith to vote by absentee ballot in the Sept. 12 Colorado primary election. The primary date coincided with the Jewish New Year holiday of Rosh Hoshana.

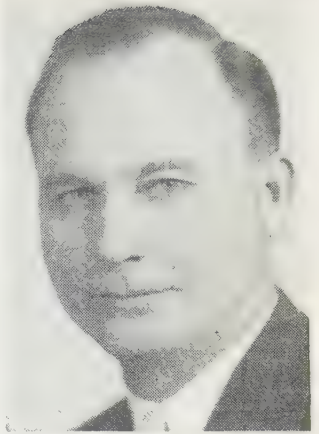
An appropriation of \$275,000 to rebuild at Colorado Springs the State Deaf and Blind school's main building, which had been destroyed by fire.

Democrats occupied all but one of the major state offices during 1949 and 1950. Gov. Walter W. Johnson, former lieutenant governor, began his term as governor when William Lee Knous was appointed a federal district judge in April 1950. Other principal officers were: George J. Baker, secretary of state; Myron G. McGinley, state auditor; John W. Metzger, attorney general; Homer F. Bedford, state treasurer; Mrs. Nettie S. Freed, the only Republican, commissioner of education.

Three constitutional amendments were voted on at the Nov. 7, 1950, off-year election: The first was to provide a more flexible method of amending the charters of home-rule cities. This was passed by a big majority. Another was the requirement for the legislature to meet each January (not just in January of odd-numbered years), and to change procedures in the legislature and state government. This was also passed. The third was a proposal to remove department heads from civil service. This amendment was defeated.

Republicans swept to full command of the Colorado state legislature. The turnover meant a major shift in party bloc leadership when the 38th general assembly would convene in Jan. 1951.

Eugene D. Millikin (Rep.) was re-elected to the U.S. senate. Other state officers elected were Daniel I. J. Thornton (Rep.), governor; Gordon Allott (Rep.), lieutenant governor; George J. Baker (Dem.), re-elected secretary of state; Homer F. Bedford (Dem.), auditor; Earl E. Ewing (Rep.), treasurer; Duke W. Dunbar (Rep.), attorney general.



DAN THORNTON, Republican, elected governor of Colorado, Nov. 7, 1950



**Education.**—The state appropriation for education in the public schools for 1949-50 was \$8,861,007. The average current expense per pupil in average daily attendance for the school year 1948-49 was \$204.19; the total average daily attendance was 193,362. The total average daily attendance increased to 194,497 during 1949-50. The school population, including persons 6 through 21 years of age, increased from 305,068 in 1949 to 314,399 in 1950. A total of 10,067 teachers and administrators were employed in the Colorado public schools.

During the year 1949, Colorado's 130 public libraries spent \$922,671.74 to improve and expand their services.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Disbursements from the state public welfare fund for assistance and administration in 1949 amounted to \$52,012,647.55. Of this amount, \$40,252,100.37 was expended for pensions, including burials; \$4,867,830.48 for aid to dependent children; \$289,300.69 for aid to the blind, for awards, treatment and burials; \$3,970,478.88 for general assistance; \$369,997.02 for tuberculosis hospitalization including outpatient care and burials; \$224,356.09 for child welfare; and \$2,038,584.02 for state office administration expenses and allotments to counties for the state's share of salaries and travel. In addition to the above, there was a transfer to the general fund of \$1,678,899.00. Federal participation during 1949 in old-age pensions, aid to dependent children, aid to the blind, child welfare and administration amounted to \$18,929,690.07.

The average monthly number of recipients by program was as follows: for old-age pension, 47,718 received an average of \$70.25; 13,940 child recipients of aid to dependent children received an average of \$29.18 per child; and 387 aid to the blind cases received an average of \$55.75.

**Communications.**—Total highways (state and federal aid and county) totalled 78,789 mi. Improved roads totalled 23,337 mi.; unimproved 55,432 mi. The state highway system measured 12,415 mi. Total funds disbursed for highways in 1949 amounted to \$25,963,109.75. Registered motor vehicles in 1949 numbered 532,440. In 1950 there were 54 bus companies serving the state, and 19 railroads had a total railroad mileage within the state of 4,301 mi. There were five scheduled air lines serving the state. There were 170 airports and landing fields operating, of which approximately 55 were personal-use ranch-type fields.

Telephones in use on Dec. 31, 1949, numbered 404,500. There were 33 standard AM radio stations and 3 FM stations.

**Banking and Finance.**—As of Dec. 1949 there were 77 national banks and 67 state banks. Deposits in all banks at the close of 1949 were \$1,042,000,000. Clearings in Denver (1949) \$5,175,420,859.90; in Pueblo \$107,823,196; in Colorado Springs \$121,219,312.

The cash balance in the treasury on June 30, 1950 was \$46,297,985.21. Total revenue in the fiscal year ended June 30, 1950, was \$156,747,612.40. All expenditures, including functional services, debt services and transfers amounted to \$155,229,320.87. Debts—bonded, \$436,900 and anticipation warrants \$7,290,000; outstanding warrants, cash and general revenue \$6,293,671.84. Investments of \$32,309,958.76 plus a cash balance on June 30, 1950, of \$46,297,985.21 made a total of \$78,607,943.97 in liquid assets. The state surplus at the close of its fiscal year on June 30, 1950, was \$19,135,000.

**Agriculture.**—In 1949 the value of agricultural products marketed was \$245,286,000. Livestock and livestock products brought \$280,847,000, for a combined total of \$526,133,000. Production of the leading crops during 1950 is given in Table I.

**Manufacturing and Industry.**—The department of commerce estimate for the value added by manufacture in Colorado in 1947 (latest manufacturing census) was \$290,300,000, an increase of 221% over 1939. In 1950 there were 1,602 industries in the state, employing 54,300 persons, with an annual pay roll of \$145,000,000. The principal industries were food and kindred products, machinery (except electrical), printing and publishing, petroleum and coal products and stone, clay and glass products. Colorado is primarily a state of small industries, only 7 plants out of each 100 employing more than 50 persons.

Table I.—Leading Agricultural Products of Colorado

Crop	1950	1949	Average 1939-48
Corn, bu. . . . .	14,496,000	17,314,000	14,122,000
Wheat, all, bu. . . . .	39,924,000	49,551,000	32,247,000
Oats, bu. . . . .	4,940,000	7,470,000	5,798,000
Barley, bu. . . . .	9,555,000	23,256,000	15,182,000
Sugar beets, tons. . . . .	2,190,000	1,878,000	1,849,000
Potatoes, bu. . . . .	18,600,000	18,810,000	16,618,000
Dry beans, 100-lb. bags. . . . .	1,816,000	2,537,000	1,944,000
Broomcorn, tons. . . . .	6,500	11,600	11,460
Hay crops, tons. . . . .	1,984,000	2,360,000	2,177,000
Apples, commercial, bu. . . . .	903,000	1,628,000	1,469,000
Peaches, bu. . . . .	1,219,000	2,109,000	1,901,000
Pears, bu. . . . .	142,000	204,000	184,000

Table II.—Leading Mineral Products of Colorado

Mineral	Production 1949	Value 1949
Molybdenum . . . . .	2,025,440 lb.	\$ 1,822,896
Zinc . . . . .	47,703 short tons	11,830,344
Gold . . . . .	102,618 fine oz.	3,591,630
Lead . . . . .	26,853 short tons	8,485,548
Silver . . . . .	2,894,886 fine oz.	2,620,018
Copper . . . . .	2,408 short tons	946,782

Tourist travel in Colorado is the third largest industry in the state. In 1949 the income derived from 2,626,000 travellers was \$211,780,000.

**Mineral Production.**—Colorado ranks first among the states in the production of vanadium, third in zinc, fourth in lead and high in molybdenum. The total number of persons employed in the state's mineral industries in 1949 was 7,679. The total coal produced was 4,579,589 tons, valued at \$22,699,426. The number of men employed in the coal mines was 5,289.

A contract to renew work upon Leadville's drainage tunnel was awarded in 1950. Completion of the tunnel would restore the opportunity to enter mines long flooded by subterranean water.

(P. A.E.)

**Columbia, District of:** see WASHINGTON, D.C.

**Cominform:** see COMMUNISM.

**Commerce:** see BUSINESS REVIEW; INTERNATIONAL TRADE.

**Commerce, U.S. Department of:** see GOVERNMENT DEPARTMENTS AND BUREAUS.

**Commission on Organization of the Executive Branch of the Government:** see PUBLIC UTILITIES; UNITED STATES.

**Commodity Credit Corporation:** see AGRICULTURE.

**Commodity Prices:** see BUSINESS REVIEW; PRICES.

**Commodity Trading:** see AGRICULTURE.

**Commons, House of:** see PARLIAMENT, HOUSES OF.

**Commonwealth Fund, The:** see SOCIETIES AND ASSOCIATIONS.

**Commonwealth of Nations.** The following table gives essential data on the British Commonwealth as at Dec. 31, 1950.

British Commonwealth of Nations

Country	Area sq. mi. (approx.)	Population* (1000's omitted)	Capital	Status	Rulers, Governors and Premiers
<b>Europe</b>					
Great Britain and N. Ireland, United Kingdom of . . . . .	93,909	49,759†	London	Kingdom	George VI, King Prime Minister of Great Britain: C. R. Attlee Governor of Northern Ireland: Earl Granville Prime Minister of Northern Ireland: Sir Basil Brooke
Channel Islands . . . . .	75	108	{ St. Helier St. Peter Port	Part of the United Kingdom	Jersey: Lt. Gov.: Sir A. E. Grasset Guernsey: Lt. Gov.: Sir Philip Neame
Gibraltar . . . . .	2	25	Gibraltar	Colony	Gov.: Lt. Gen. Sir Kenneth Anderson
Isle of Man . . . . .	221	52	Douglas	Part of the United Kingdom	Lt. Gov.: Sir Geoffrey Bromet
Malta . . . . .	122	307‡	Valletta	Self-governing colony	Gov.: Sir Gerald Creasy Prime Minister: G. Borg Olivier
<b>Asia</b>					
Aden and Perim . . . . .	80	82		Colony	Gov.: Sir Reginald Champion
Aden Protectorate . . . . .	112,000	650		Protectorate	Political agent: A. C. Galloway
Bahrain Islands . . . . .	213	110	Manama	Protectorate	
<b>British Borneo:</b>					
North Borneo (with Labuan) . . . . .	29,417	335	Sandakan	Colony	Gov.: Sir Ralph Hone
Brunei . . . . .	2,226	43	Brunei	Protectorate	High Commissioner { A. F. Abell
Sarawak . . . . .	47,071	560	Kuching	Colony	Governor
Ceylon . . . . .	25,332	7,500†	Colombo	Dominion	Gov. Gen.: Lord Soulbury Prime Minister: Don Stephen Senanayake
Cyprus . . . . .	3,572	467	Nicosia	Colony	Gov.: Sir Andrew Wright
Hong Kong . . . . .	391	2,250†	Victoria	Colony	Gov.: Sir Alexander Grantham
India . . . . .	1,220,099	347,340†	New Delhi	Commonwealth country	President: Rajendra Prasad Prime Minister: Pandit Jawaharlal Nehru Commissioner-General for S.E. Asia: Malcolm Macdonald
<b>Malaya:</b>					
Federation of Malaya . . . . .	50,680	5,091	Kuala Lumpur	Protectorate	High Commissioner: Sir Henry Gurney
Singapore . . . . .	282	989	Singapore	Colony	Gov.: Sir Franklin C. Gimson
Pakistan . . . . .	337,524	74,437	Karachi	Dominion	Gov. Gen.: Khwaja Nazimuddin Prime Minister: Liaquat Ali Khan



## British Commonwealth of Nations (Continued)

Country	Area sq.mi. (approx.)	Population* (000's omitted)	Capital	Status	Rulers, Governors and Premiers
<b>Africa</b>					
Anglo-Egyptian Sudan . . . . .	967,500	8,038	Khartoum	Condominium	Gov. Gen.: Sir Robert Howe
<b>British South African Protectorates:</b>					
Basutoland . . . . .	11,716	556	Maseru	Colony Protectorate Protectorate Colony	High Commissioner: Sir Evelyn Baring
Bechuanaland . . . . .	275,000	300	Mafeking		
Swaziland . . . . .	6,705	194	Mbabane		
Gambia . . . . .	4,074	254	Bathurst	Colony	Gov.: P. Wyn Harris
Gold Coast, including British Togoland: 13,041 sq.mi. . . . .	91,843	4,127	Accra	Colony and protectorate; Brit. Togoland: trust territory	Gov.: Sir Charles Arden-Clarke
Kenya . . . . .	224,960	5,454	Nairobi	Colony and protectorate	Gov.: Sir Philip Mitchell
Mauritius (and Dependencies) . . . . .	807	462	Port Louis	Colony	Gov.: Sir Hilary Blood
Nigeria, including British Cameroons: 34,081 sq.mi. . . . .	372,674	25,093	Lagos	Colony and protectorate; Brit. Cameroons: trust territory	Gov.: Sir John Macpherson
Nyasaland . . . . .	47,949	2,182	Zomba	Protectorate	Gov.: Sir Geoffrey Colby
Rhodesia, Northern . . . . .	290,320	1,645	Lusaka	Protectorate	Gov.: Sir Gilbert McCall Rennie
Rhodesia, Southern . . . . .	150,333	2,022	Salisbury	Self-governing colony	Gov.: Sir John Noble Kennedy
St. Helena, Ascension and Tristan da Cunha . . . . .	126	5	Jamestown	Colony	Prime Minister: Sir Godfrey Huggins
Seychelles . . . . .	156	35	Victoria	Colony	Gov.: Sir George Joy
Sierra Leone . . . . .	27,925	2,095	Freetown	Colony and protectorate	Gov.: J. D. Bates
Somaliland Protectorate . . . . .	67,936	700	Berbera	Protectorate	Gov.: Sir George Beresford-Stooke
South-West Africa . . . . .	317,725	374	Windhoek	Mandate (under South Africa)	Gov.: Gerald Reece
Tanganyika . . . . .	362,688	7,514	Dar-es-Salaam	Trust territory	Administrator: Col. P. I. Hoogenhout
Uganda . . . . .	93,981	5,008	Entebbe	Protectorate	Gov.: Sir Edward Twining
Union of South Africa . . . . .	472,494	12,108	Pretoria (seat of govern- ment)	Dominion	Gov.: Sir John Hathorn Hall
			Capetown (seat of legislature)		Gov. Gen.: Maj. G. B. van Zyl
Zanzibar (and Pemba) . . . . .	1,020	268	Zanzibar	Colony and protectorate	Prime Minister: Daniel F. Malan
<b>America</b>					
Bahamas . . . . .	4,375	78	Nassau	Colony	Resident: Sir Vincent Glenday
Barbados . . . . .	166	203†	Bridge town	Colony	Gov.: Maj. Gen. R. A. R. Neville
Bermuda . . . . .	21	36‡	Hamilton	Colony	Gov.: A. W. L. Savage
British Guiana . . . . .	83,000	408	Georgetown	Colony	Gov.: Lt. Gen. Sir Alexander Hood
British Honduras . . . . .	8,598	65	Belize	Colony	Gov.: Sir Charles Woolley
Canada . . . . .	3,843,144	13,845†	Ottawa	Commonwealth country	Gov.: Sir Ronald H. Garvey
Falkland Islands . . . . .	4,618	2	Port Stanley	Colony	Gov. Gen.: Viscount Alexander of Tunis
Jamaica (and Dependencies) . . . . .	4,677	1,387	Kingston	Colony	Prime Minister: Louis St Laurent
Leeward Islands . . . . .	422	110	St. John	Colony	Gov.: Sir Miles Clifford
Trinidad and Tobago . . . . .	1,980	604	Port of Spain	Colony	Gov.: Hugh Mackintosh Foot
Windward Islands . . . . .	821	268	St. George's	Colony	Gov.: K. W. Blackburne
					Gov.: Sir Hubert Rance
					Gov.: Sir Robert Arundell
<b>Australasia</b>					
Commonwealth of Australia . . . . .	2,974,581	8,179†	Canberra	Dominion	Gov. Gen.: W. J. McKell
Fiji . . . . .	7,040	276	Suva	Colony	Prime Minister: Robert Gordon Menzies
New Guinea . . . . .	93,000	1,008	Port Moresby	Trust territory (under Australia)	Gov.: Sir Brian Freeston
New Hebrides . . . . .	4,633	49	Vila	Franco-British condominium	Administrator: Col. J. K. Murray
Nauru . . . . .	8	3	Wellington	Trust territory (under Australia)	British High Commissioner: Sir Brian Freeston;
New Zealand (and Dependencies) . . . . .	103,935	1,901		Dominion	French High Commissioner: Pierre Cournarie
Norfolk Island . . . . .	13	1		Australian dependency	Administrator: Robert Stanley Richards
Pacific Islands (Solomon, Gilbert and Ellice, Tonga, Pitcairn Isls.) . . . . .	13,027	177	Suva	Colonies and protectorate	Gov. Gen.: Sir Bernard Freyberg
Papua . . . . .	90,540	304	Port Moresby	Part of Australia	Prime Minister: Sidney George Holland
Western Samoa . . . . .	1,133	73	Apia	Trust territory (under New Zealand)	Administrator: Alexander Wilson
					High Commissioner: Sir Brian Freeston
					Administrator: Col. J. K. Murray
					Administrator: G. R. Powles

\*1949 est. if not otherwise stated.

†1950 est.

‡1948 census.

§1948 est.

**Communism.** Throughout 1950 communism in its world-wide ramifications followed and accentuated the trends which had developed since 1945. The victory of communism in China and the dynamic imperialism which the "new" China quickly made its aim for the whole of Asia increased Communist confidence in its final total triumph. Communists insistently proclaimed their dogmatic faith that "socialism" is infinitely superior to and immeasurably more just than "capitalism." By "capitalism" they understood every form of government and of political and social organization which did not accept the unquestioned authority of Joseph Stalin—whether it was the communism of Tito's Yugoslavia, or the democratic socialism of the British and Norwegian labour parties, or the New Deal in the United States, or the traditional free enterprise system. According to the Communists, the Soviet Union was the model "socialist" state, and whatever it did was thereby "socialist," morally good and politically wise. Therefore the Soviet Union and its satellites had the right to interpret pacts and agreements. Should any country oppose their "socialist" and "just" demands, the Communists for the sake of socialism and justice would be forced to realize their demands by any means possible. For their "socialist" and "just" demands aimed at a true "peace" as understood by Communist theory in which all the "capitalist" forces hostile to "peace" would be destroyed or at least rendered innocuous. Should a conflict ensue, according to the Communist theory it would not be the Communist aggressor which would be guilty but the attacked party which had "wickedly" resisted the demands

of justice and the course of history.

This trend of mind made fruitful conversations between communism and the non-Communist world difficult and increased a tension which in 1950 assumed a world-wide and acute character. It made itself felt with equal intensity in the western world and in Asia. Dissensions and crises in the Communist countries were veiled by the "iron curtain" but doubtless in spite of terror-enforced conformism there existed serious tensions even within the Soviet Union. The death penalty which had been abolished in the Soviet Union on May 26, 1947, was reintroduced by a decree of Jan. 12, 1950, for "traitors to the fatherland, spies and saboteurs." This was a very wide and all-inclusive classification, for in Communist countries any casual information on economic facts which nowhere else would be regarded as secret represented a most serious crime. In spite of the widely advertised "enthusiasm of the whole soviet population for its democratic regime" no other country harboured apparently as many "traitors" and "saboteurs" as the Communist countries did.

These "saboteurs" seemed numerous even among the highest Communist officials. Men who had been glorified for years as models of "socialism" and public virtue were revealed time and again as criminal characters who committed their "crimes" at the very time when they were acknowledged communist leaders.

Resistance in the Soviet Union seemed centred chiefly in the national minorities, of which the most important were the Ukrainians who inhabit the southwestern part of the Soviet Union, and the Mohammedans in central Asia. Part of the resistance



may also be explained by the almost unbearable burden which the economic demands of the five-year plans imposed upon the workers and farmers.

One of the symptoms of a general tension was the need for Premier Stalin to "reinterpret" Marxist theory. In the Moscow newspaper *Pravda* of June 20, 1950, he demolished the school of philology founded by Nikolai Yakovlevich Marr (1864-1934). Yet this school had taught for 25 years the only officially recognized and "truly Communist" theory of language. Marr, once praised by Stalin as "the only genuine Marxist philologist" was now condemned as completely false and his school's (typically Communist) persecution of any criticism or dissent was branded as reactionary. Marr had taught that languages were superstructures of class divisions and that the language of the "most progressive proletarian culture," Russian, would become the international world language. Now Stalin rejected both these positions.

Stalin's article, published on Aug. 1 in the party monthly *Bolshevik* in a reply to "Comrade A. Kholopov," tried to explain to those Marxists who believed that after the successful revolution the state would "wither away," why this did not happen and why on the contrary the "socialist" state had grown more and more oppressive. He assailed the Marxists as doctrinaire "exegetes" and "Talmudists." Marxism after its victory in one state must lead, according to Stalin and contrary to former Marxist theory, to a strengthening of the state, its machinery and its armed forces. Only after the world-wide victory of the Communist revolution could the state terror system relax and ultimately vanish. In his polemic against Marxist "Talmudists," Stalin arrived at the rather unexpected conclusion that "Marxism is the enemy of all dogmatism," thereby theoretically opening the way to a reinterpretation of Marxism according to Stalin's needs in the world crisis produced by Communist aspirations.

The number of Communists who were convinced of this right and duty to lead and transform the world according to their doctrine represented only a small minority of mankind. The number of members of the Communist parties throughout the world was estimated in 1950 at 26,000,000. Of this number 7,000,000 lived in the Soviet Union; the Chinese party, the second largest in the world, claimed 4,000,000 members, twice the figure mentioned for 1947. The strongest parties in Europe were in Italy (2,532,000), Czechoslovakia (2,300,000), Poland (1,360,000) and Rumania (1,000,000). Several European parties acknowledged great losses in numbers, among them the French whose membership declined from 1,300,000 in 1947 to 800,000 in 1950. Some Communist parties were organized in the Communist Information bureau or Cominform. The Cominform included, however, only the Russian satellites in Europe, besides the French and Italian parties, and served in 1950 primarily in connection with Stalin's struggle against Tito's Yugoslavia and Stalin's design to control the whole of Germany.

The Communist International or Comintern which was dissolved in 1943 had not been revived, probably because its absence gave to the Kremlin a greater liberty for undisputed Russian leadership over the whole Communist movement.

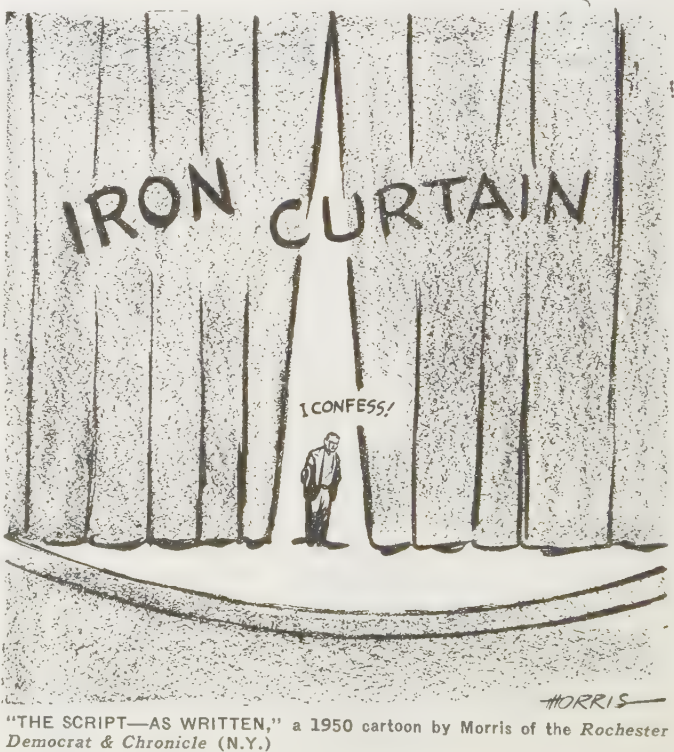
However, Communist national party congresses served as meeting grounds for the international Communist leadership. Thus in May 1949 Communist leaders from 55 countries assembled in Prague, Czechoslovakia, while in July 1950 Communist leaders from Europe and Asia met in Berlin as guests of the third annual convention of the German Socialist Unity party, the official name of the Communists in the soviet-occupied portion of Germany. In their outward manifestations these meetings emphasized "the anti-imperialistic peace front" against Anglo-American "war mongers." Yugoslavia, though ruled by Communists, was one of the chief targets of Stalinist attacks. As a result Marshal Tito's government was forced into an ever more definite

opposition to the Soviet Union and its satellites.

Outside the officially Communist-controlled countries, the movement continued in 1950 to lose heavily in influence throughout the western world. Even in the soviet-occupied parts of Austria and Germany the Communist leaders complained of serious setbacks. In western Germany the disintegration of the Communist party progressed far and rapidly.

Every election held in western Europe during 1950 bore witness to the decline of the Communist party in numbers and influence. In the United States the Communist party reached its lowest mark in 1950.

While thus communism was successfully contained in Europe and the western world, its weakness there was balanced by its spread in Asia, where its aggressive expansionism led to the war in Korea and offered an open challenge to the authority of the United Nations. The Chinese Communists vied with the Kremlin in attacks against the United States. On the eve of the anniversary of the establishment of the Chinese People's Republic, Chou En-lai, its premier and foreign minister, denounced the United States as "the most dangerous enemy" of the "Chinese people." Following in the wake of the other nations accepting Moscow's leadership, the Chinese ministry of cultural affairs began to remould China's cultural traditions in the Marxist-Stalinist sense and to swamp the country with translations from soviet Russian literature. An all-encompassing program for the basic indoctrination of Chinese youth was drawn up. Chinese influence strengthened also the Communist movements in Thailand, Malaya and the Philippines where there were large Chinese settlements. In the Philippine Islands the Hukbalahap, an armed Communist uprising, threatened the order in central Luzon. In French Indochina the Communist forces gathered military strength. On the other hand the influence of communism had diminished, at least temporarily, in Japan and India. This was partly the result of government measures and partly because of internal dissensions and rivalries within the Communist parties. Communist efforts to capture Asiatic labour were organized at the Asian Trade Union conference, called in Peking, China, in April under the lead of the Communist-dominated World Federation of Trade Unions. Delegates from Burma, Ceylon, China,







SENATORS Henry C. Lodge, Jr. (left), Bourke B. Hickenlooper and Millard E. Tydings reading a document presented during 1950 hearings on the charge that Owen J. Lattimore was a soviet agent. Lattimore was cleared of the charge in July, after a four-month subcommittee investigation

India, Indonesia, Iran, Korea, Malaya, Mongolia, Philippines, Thailand, Viêt-Nam and Australia attended.

The non-Communist world countered the Communist threat in three principal ways: military preparedness and unification; plans to alleviate the economic misery especially in the "backward" countries; and legislative measures for a stricter control of domestic Communist activities. The South African parliament passed an anti-Communist bill on June 20. An Australian law ordering dissolution of the Communist party became effective Oct. 19, but enforcement was barred by a high court order Nov. 2 pending a ruling on its constitutionality. In Latin America, Bolivia and Venezuela joined Brazil, Chile and Peru in outlawing the Communist party. The centre of Communist agitation in Central America was located in Guatemala. The Confederation of Latin American Workers, under the chairmanship of the Mexican labour leader Vicente Lombardo Toledano, resumed its Communist-controlled activities directed against "Yankee imperialism" but was weakened in its effects by the activities of the Inter-American Confederation of Labor which co-operated with the American Federation of Labor. In the United States the International Security act of Sept. 1950 provided for the registering of Communists and their internment in times of emergency.

(See also AUSTRALIA, COMMONWEALTH OF; AUSTRIA; CHINA; DEMOCRACY; EDUCATION; GUATEMALA; LAW; SOCIALISM; SOUTH AFRICA, THE UNION OF.)

BIBLIOGRAPHY.—Richard Crossman (ed.), *The God That Failed* (1950); R. N. Carew Hunt, *The Theory and Practice of Communism* (1950); Hu Shih, "China in Stalin's Grand Strategy," *Foreign Affairs* (Oct. 1950); *Current Digest of the Soviet Press* (weekly, Washington D.C.); Hamilton Fish Armstrong, *Tito Against Goliath* (1951); Otto B. Van Der Sprenkel, Robert Guillain and Michael Lindsay, *New China* (London, 1950).

**Community Chest.** The community chest is the name given to a local federation made up of health, welfare and recreation agencies supported by voluntary contributions. Its purpose is to raise annually, by a single united campaign, funds for the support of its member agencies, and, through community welfare councils financed by chest funds, to promote joint planning for health and welfare in the community.

Community Chests and Councils of America, Inc., the national association of local community chests and welfare councils, was organized in Feb. 1918.

Of the 1,799 community chests and welfare councils in operation in Aug. 1950 (1,389 chests and 410 councils), 1,324 chests and 406 councils were in the continental U.S.; 5 chests and 4 councils in Hawaii; 51 chests and 22 councils in Canada; 2 chests in South Africa; 1 chest in the Virgin Islands; 1 chest in Puerto Rico; 1 council in the British West Indies; 3 chests in Japan; 1 chest in the Philippines and 1 chest in Alaska. Almost every city in the U.S. (except New York city, which has a limited joint-financing organization and a welfare council) in 1950 had a community chest or similar plan of federated financing for its voluntary social services. In 1,318 cities in 1949, more than 18,000,000 contributions totalling \$192,933,988 were given to community chests to be used during 1950 for voluntary health and welfare services in their communities. In 1950, following the dissolution of the United Service organizations (U.S.O.), the Associated Services for the Armed Forces, Inc., was established and received its major support through chests.

National promotion of chest campaigns is carried on under the name "The Community Chests of America," using the national symbol of the red feather.

Officers of C.C.C., Inc., for 1950 were: honorary president, Gerard Swope, New York city; president, Stanley C. Allyn, Dayton, O.; treasurer, H. L. R. Emmet, Erie, Pa.; secretary, Mrs. Oswald B. Lord, New York city. Ralph H. Blanchard was executive director.

FILMS OF 1950.—*E Pluribus Unum* (Magazine Service, Community Chests and Councils of America, Inc.). (B. A.)

**Community Trusts.** Aggregate assets of \$100,135,527 were reported by community trusts and foundations in the United States, Canada and Hawaii at Jan. 1, 1950. During 1949 these composite foundations appropriated \$3,855,283 for charitable projects and received new resources totalling \$5,638,335.

The largest of these foundations was the New York Community trust, whose 100 funds were valued at \$19,258,489. The Chicago Community trust held \$14,533,977; the Cleveland foundation, \$11,294,011; the Permanent Charity fund, Boston, \$8,703,925; and the California Community foundation, Los Angeles, \$7,488,261.

Of the disbursements made in 1949, the New York Community trust paid out \$1,065,065; Chicago, \$416,680; Cleveland, \$412,297; and Boston, \$407,846.

Funds newly received during that year included \$1,204,500 accruing to the Indianapolis foundation; \$1,130,195 reaching the California Community foundation; and \$639,316 added to the New York Community trust. Newly established units in Cedar Rapids, Ia., Hamilton, O., Lansing, Mich., and Vancouver, B.C., became operative during 1949.

Of 76 community trusts surveyed in the forefront of 1950, 66 were holding principal resources and 58 were making current distributions out of 829 funds on hand. The cumulative disbursements of community foundations since 1930 were \$34,468,635.

A community trust consists, ordinarily, of a number of trust funds of varied sizes and for diverse charitable uses. Fiscal management of the administered units is usually lodged in trustee banks selected by the contributors of the funds. Appropriations are made by the authority and under the supervision of a central distributing committee, which undertakes to give expression to the specific desires of a founder and which is likewise empowered by him to take appropriate remedial action if originally expressed preferences subsequently became impossible or impractical of execution.

(R. Hs.)

**Compound E:** see ARTHRITIS; BIOCHEMISTRY; CHEMOTHERAPY; ENDOCRINOLOGY.



**Confectionery:** see CANDY.

**Congo, Belgian:** see BELGIAN COLONIAL EMPIRE.

**Congregational Christian Churches.** The Congregational Christian Churches are religious groups of Christian disciples organized on a democratic basis. The local churches are united in district associations, state conferences and the National General council for fellowship, planning and mutual help.

The Congregational principle of church organization has been implicit in Christianity from the beginning but became active in the 16th century in England. The Congregationalists went to America (Plymouth, Mass.) in 1620 and in the following 150 years spread over New England and southward until at the time of the Revolution these churches numbered approximately 800 out of a total of 1,700 colonial churches.

As of Jan. 1, 1950, the total number of Congregational Christian Churches in the United States was 5,679 with 1,204,789 members, 5,744 ministers and 567,800 church school members. These churches contributed \$5,423,929 to benevolences and \$28,491,418 to local church support during 1949.

For some years the Congregational Christian Churches had been planning a merger with the Evangelical and Reformed Church. During 1949, however, an antimerger faction in the Congregational churches secured a court injunction against further moves toward merger, and at the close of 1950 the matter rested with the appellate court for review. (See also CHRISTIAN UNITY; CHURCH MEMBERSHIP.)

**Congress, United States.** The 82nd U.S. congress convened for its first session on Jan. 3, 1951. It comprised the following members (as of Jan. 3, 1951):

#### United States Senate

Presiding Officer: Alben W. Barkley of Kentucky

Majority Leader: Ernest W. McFarland of Arizona

Minority Leader: Kenneth S. Wherry of Nebraska

Democrats: 48; Republicans: 47; Democratic-Liberal: 1.

State	Name	Party	Term Expires	Residence
Ala.	Hill, Lister . . . . .	Dem.	1957	Montgomery
	Sparkman, John . . . . .	Dem.	1955	Huntsville
Ariz.	McFarland, Ernest W. . . . .	Dem.	1953	Florence
	Hayden, Carl . . . . .	Dem.	1957	Phoenix
Ark.	Fulbright, J. W. . . . .	Dem.	1957	Fayetteville
	McClellan, John L. . . . .	Dem.	1955	Camden
Calif.	Knowland, William F. . . . .	Rep.	1953	Oakland
	Nixon, Richard M. . . . .	Rep.	1957	Whittier
Colo.	Johnson, Edwin C. . . . .	Dem.	1955	Denver
	Millikin, Eugene D. . . . .	Rep.	1957	Denver
Conn.	McMahon, Brien . . . . .	Dem.	1957	Norwalk
	Benton, William . . . . .	Dem.	1953	Southport
Del.	Frear, J. Allen, Jr. . . . .	Dem.	1955	Dover
	Williams, John J. . . . .	Rep.	1953	Millsboro
Fla.	Smathers, George A. . . . .	Dem.	1957	Miami
	Holland, Spessard L. . . . .	Dem.	1953	Bartow
Ga.	George, Walter F. . . . .	Dem.	1957	Vienna
	Russell, Richard B. . . . .	Dem.	1955	Winder
Ida.	Welker, Herman . . . . .	Rep.	1957	Payette
	Dworshak, Henry C. . . . .	Rep.	1955	Burley
Ill.	Douglas, Paul H. . . . .	Dem.	1955	Chicago
	Dirksen, Everett McKinley . . . . .	Rep.	1957	Pekin
Ind.	Capehart, Homer E. . . . .	Rep.	1957	Washington
	Jenner, William E. . . . .	Rep.	1953	Bedford
Iowa	Gillette, Guy M. . . . .	Dem.	1955	Cherokee
	Hickenlooper, Bourke B. . . . .	Rep.	1957	Cedar Rapids
Kan.	Schaeppel, Andrew F. . . . .	Rep.	1955	Wichita
	Carlson, Frank . . . . .	Rep.	1957	Topeka
Ky.	Clements, Earle C. . . . .	Dem.	1957	Morganfield
	Chapman, Virgil . . . . .	Dem.	1955	Paris
La.	Long, Russ-ll B. . . . .	Dem.	1957	Baton Rouge
	Ellender, Allen J. . . . .	Dem.	1955	Houma
Me.	Brewster, Owen . . . . .	Rep.	1953	Dexter
	Smith, Margaret Chase . . . . .	Rep.	1955	Skowhegan
Md.	Butler, John Marshall . . . . .	Rep.	1957	Baltimore
	O'Connor, Herbert R. . . . .	Dem.	1953	Baltimore
Mass.	Saltonstall, Leverett . . . . .	Rep.	1955	Dover
	Lodge, Henry Cabot, Jr. . . . .	Rep.	1953	Beverly

State	Name	Party	Term Expires	Residence
Mich.	Vandenberg, Arthur H. . . . .	Rep.	1953	Grand Rapids
	Ferguson, Homer . . . . .	Rep.	1955	Detroit
Minn.	Humphrey, Hubert H. . . . .	Dem.	1955	Minneapolis
	Thye, Edward J. . . . .	Rep.	1953	Northfield
Miss.	Eastland, James O. . . . .	Dem.	1955	Doddsville
	Stennis, John C. . . . .	Dem.	1953	De Kalb
Mo.	Hennings, Thomas C., Jr. . . . .	Dem.	1957	St. Louis
	Kem, James P. . . . .	Rep.	1953	Kansas City
Mont.	Murray, James E. . . . .	Dem.	1955	Butte
	Eaton, Zales N. . . . .	Rep.	1953	Manhattan
Neb.	Wherry, Kenneth S. . . . .	Rep.	1955	Pawnee City
	Butler, Hugh . . . . .	Rep.	1953	Omaha
Nev.	McCarran, Patrick . . . . .	Dem.	1957	Reno
	Malone, George W. . . . .	Rep.	1953	Reno
N.H.	Tobey, Charles W. . . . .	Rep.	1957	Temple
	Bridges, Styles . . . . .	Rep.	1955	Concord
N.J.	Hendrickson, Robert C. . . . .	Rep.	1955	Woodbury
	Smith, H. Alexander . . . . .	Rep.	1953	Princeton
N.M.	Anderson, Clinton P. . . . .	Dem.	1955	Albuquerque
	Chavez, Dennis . . . . .	Dem.	1953	Albuquerque
N.Y.	Lehman, Herbert H. . . . .	Dem.-Lib.	1957	New York city
	Ivcs, Irving M. . . . .	Rep.	1953	Norwich
N.C.	Smith, Willis . . . . .	Dem.	1955	Raleigh
	Hoey, Clyde R. . . . .	Dem.	1957	Shelby
N.D.	Langer, William . . . . .	Rep.	1953	Bismarck
	Young, Milton R. . . . .	Rep.	1957	La Moure
Ohio	Taft, Robert A. . . . .	Rep.	1957	Cincinnati
	Bricker, John W. . . . .	Rep.	1953	Columbus
Okla.	Monroney, Mike . . . . .	Dem.	1957	Oklahoma City
	Kerr, Robert S. . . . .	Dem.	1955	Oklahoma City
Ore.	Cordon, Guy . . . . .	Rep.	1955	Roseburg
	Morse, Wayne . . . . .	Rep.	1957	Eugene
Pa.	Duff, James H. . . . .	Rep.	1957	Carnegie
	Martin, Edward . . . . .	Rep.	1953	Washington
R.I.	Green, Theodore Francis . . . . .	Dem.	1955	Providence
	Pastore, John O. . . . .	Dem.	1953	Providence
S.C.	Johnston, Olin D. . . . .	Dem.	1957	Spartanburg
	Maybank, Burnet R. . . . .	Dem.	1955	Charleston
S.D.	Mundt, Karl E. . . . .	Rep.	1955	Madison
	Case, Francis . . . . .	Rep.	1957	Custer
Tenn.	McKellar, Kenneth . . . . .	Dem.	1953	Memphis
	Kefauver, Estes . . . . .	Dem.	1955	Chattanooga
Tex.	Johnson, Lyndon B. . . . .	Dem.	1955	Johnson City
	Connally, Tom . . . . .	Dem.	1953	Marlin
Utah	Bennett, Wallace F. . . . .	Rep.	1957	Salt Lake City
	Watkins, Arthur V. . . . .	Rep.	1953	Orem
Vt.	Aiken, George D. . . . .	Rep.	1957	Putney
	Flanders, Ralph E. . . . .	Rep.	1953	Springfield
Va.	Byrd, Harry F. . . . .	Dem.	1953	Berryville
	Robertson, A. Willis . . . . .	Dem.	1955	Lexington
Wash.	Magnuson, Warren G. . . . .	Dem.	1957	Seattle
	Cain, Harry P. . . . .	Rep.	1953	Tacoma
W.Va.	Neely, Matthew M. . . . .	Dem.	1955	Fairmont
	Kilgore, Harley M. . . . .	Dem.	1953	Breckley
Wis.	Wiley, Alexander . . . . .	Rep.	1957	Chippewa Falls
	McCarthy, Joseph R. . . . .	Rep.	1953	Appleton
Wyo.	O'Mahoney, Joseph C. . . . .	Dem.	1953	Cheyenne
	Hunt, Lester C. . . . .	Dem.	1955	Lander

#### United States House of Representatives (\*served in 81st congress)

Speaker: Sam Rayburn of Texas

Majority Leader: John W. McCormack of Massachusetts

Minority Leader: Joseph W. Martin, Jr., of Massachusetts

Democrats: 234; Republicans: 199; Democratic-Liberal: 1; Independent: 1.

State	Dist.	Name	Party	Residence
Ala.	1	*Boykin, Frank W. . . . .	Dem.	Mobile
	2	*Grant, George M. . . . .	Dem.	Troy
	3	*Andrews, George W. . . . .	Dem.	Union Springs
	4	*Roberts, Kenneth A. . . . .	Dem.	Aniston
	5	*Rains, Albert . . . . .	Dem.	Gadsden
	6	*DeGraffenried, Edward . . . . .	Dem.	Tuscaloosa
	7	*Elliott, Carl . . . . .	Dem.	Jasper
	8	*Jones, Robert E., Jr. . . . .	Dem.	Scottsboro
	9	*Battle, Laurie C. . . . .	Dem.	Birmingham
Ariz.	1	*Murdock, John R. . . . .	Dem.	Tempe
	2	*Patten, Harold A. . . . .	Dem.	Tucson
Ark.	1	*Gathings, E. C. . . . .	Dem.	West Memphis
	2	*Mills, Wilbur D. . . . .	Dem.	Kensett
	3	*Trimble, James W. . . . .	Dem.	Berryville
	4	*Tackett, Boyd . . . . .	Dem.	Nashville
	5	*Hays, Brooks . . . . .	Dem.	Little Rock
	6	*Norrell, W. F. . . . .	Dem.	Monticello
	7	*Harris, Oren . . . . .	Dem.	El Dorado



State	Dist.	Name	Party	Residence	State	Dist.	Name	Party	Residence
Calif.	1	*Scudder, Hubert B. . . . .	Rep.	Sebastopol	Iowa	1	*Martin, Thomas E. . . . .	Rep.	Iowa City
	2	*Engle, Clair . . . . .	Dem.	Red Bluff		2	*Talle, Henry O. . . . .	Rep.	Decorah
	3	*Johnson, Leroy . . . . .	Rep.	Stockton		3	*Gross, H. R. . . . .	Rep.	Waterloo
	4	*Havener, Frank R. . . . .	Dem.	San Francisco		4	*LeCompte, Karl M. . . . .	Rep.	Corydon
	5	*Shelley, John F. L. . . . .	Dem.	San Francisco		5	*Cunningham, Paul . . . . .	Rep.	Dos Moines
	6	*Miller, George P. . . . .	Dem.	Alameda		6	*Dolliver, James I. . . . .	Rep.	Fort Dodge
	7	*Allen, John J., Jr. . . . .	Rep.	Oakland		7	*Jensen, Ben F. . . . .	Rep.	Exira
	8	*Anderson, Jack Z. . . . .	Rep.	San Juan Bautista		8	*Hoever, Charles B. . . . .	Rep.	Altam
	9	Hunter, Allan Oakley . . . . .	Rep.	Fresno	Kan.	1	*Cole, Albert M. . . . .	Rep.	Holton
	10	*Werdel, Thomas H. . . . .	Rep.	Bakersfield		2	*Scrivner, Errett P. . . . .	Rep.	Kansas City
	11	*Bramblett, Ernest K. . . . .	Rep.	Pacific Grove		3	George, Myron V. . . . .	Rep.	Altamont
	12	Hillings, Patrick J. . . . .	Rep.	Arcadia		4	*Rees, Edward H. . . . .	Rep.	Emporia
	13	*Poulson, Norris . . . . .	Rep.	Los Angeles		5	*Hope, Clifford R. . . . .	Rep.	Garden City
	14	Yorty, Samuel W. . . . .	Dem.	Los Angeles		6	*Smith, Wint . . . . .	Rep.	Mankato
	15	*McDonough, Gordon L. . . . .	Rep.	Los Angeles	Ky.	1	*Gregory, Noble J. . . . .	Dem.	Mayfield
	16	*Jackson, Donald L. . . . .	Rep.	Santa Monica		2	*Whitaker, John A. . . . .	Dem.	Russellville
	17	*King, Cecil R. . . . .	Dem.	Los Angeles		3	*Morton, Thruston Baliard . . . . .	Rep.	Glenview
	18	*Doyle, Clyde . . . . .	Dem.	Long Beach		4	*Chelf, Frank L. . . . .	Dem.	Lebanon
	19	*Holifield, Chet . . . . .	Dem.	Montebello		5	*Spence, Brent . . . . .	Dem.	Fort Thomas
	20	*Hinshaw, Carl . . . . .	Rep.	Pasadena		6	*Underwood, Thomas R. . . . .	Dem.	Lexington
	21	*Sheppard, Harry R. . . . .	Dem.	Yucaipa		7	*Perkins, Carl D. . . . .	Dem.	Hindman
	22	*Phillips, John . . . . .	Rep.	Banning		8	*Bates, Joe B. . . . .	Dem.	Greenup
Calo.	23	*McKinnon, Clinton D. . . . .	Dem.	San Diego	La.	9	*Golden, James S. . . . .	Rep.	Pineville
	1	Rogers, Byron G. . . . .	Dem.	Denver		1	*Hébert, F. Edward . . . . .	Dem.	New Orleans
	2	*Hill, William S. . . . .	Rep.	Fort Collins		2	*Boggs, Hale . . . . .	Dem.	New Orleans
	3	Chenoweth, J. Edgar . . . . .	Rep.	Trinidad		3	*Willis, Edwin E. . . . .	Dem.	St. Martinsville
Conn.	4	*Aspinall, Wayne N. . . . .	Dem.	Palisade		4	*Brooks, Overton . . . . .	Dem.	Shreveport
	1	*Ribicoff, Abraham A. . . . .	Dem.	Hartford		5	*Passman, Otto E. . . . .	Dem.	Monroe
	2	Seely-Brown, Horace, Jr. . . . .	Rep.	Pomfret Center		6	*Morrison, James H. . . . .	Dem.	Hammond
	3	*McGuire, John A. . . . .	Dem.	Wallingford		7	*Larcade, Henry D., Jr. . . . .	Dem.	Opelousas
	4	Morano, Albert P. . . . .	Rep.	Greenwich	Me.	8	*Allen, A. Leonard . . . . .	Dem.	Winnfield
Del.	5	*Patterson, James T. . . . .	Rep.	Naugatuck		1	*Hale, Robert . . . . .	Rep.	Portland
		*Sadlak, Antoni N. . . . .	Rep.	Rockville		2	*Nelson, Charles P. . . . .	Rep.	Augusta
		*Boggs, J. Caleb . . . . .	Rep.	Wilmington	Md.	3	*Fellows, Frank . . . . .	Rep.	Bangor
Fla.	1	McMullen, Chester B. . . . .	Dem.	Clearwater		1	*Miller, Edward T. . . . .	Rep.	Easton
	2	*Bennett, Charles E. . . . .	Dem.	Jacksonville		2	Devereux, James P. S. . . . .	Rep.	Stevenson
	3	*Sikes, Robert L. F. . . . .	Dem.	Crestview		3	*Garmatz, Edward A. . . . .	Dem.	Baltimore
	4	Lantaff, Bill . . . . .	Dem.	Miami		4	*Fallon, George H. . . . .	Dem.	Baltimore
	5	*Herlong, A. S., Jr. . . . .	Dem.	Leesburg		5	*Sasser, Lansdale G. . . . .	Dem.	Upper Marlboro
Ga.	6	*Rogers, Dwight L. . . . .	Dem.	Fort Lauderdale	Mass.	6	*Beall, J. Glenn . . . . .	Rep.	Frostburg
	1	*Preston, Prince H., Jr. . . . .	Dem.	Statesboro		1	*Heslton, John W. . . . .	Rep.	Deerfield
	2	*Cox, E. E. . . . .	Dem.	Camilla		2	*Furcolo, Foster . . . . .	Dem.	Longmeadow
	3	Forrester, E. L. . . . .	Dem.	Leesburg		3	*Philbin, Philip J. . . . .	Dem.	Clinton
	4	*Camp, A. Sidney . . . . .	Dem.	Newnan		4	*Donohue, Harold D. . . . .	Dem.	Worcester
	5	*Davis, James C. . . . .	Dem.	Stone Mountain		5	*Rogers, Edith Nourse . . . . .	Rep.	Lowell
	6	*Vinson, Carl . . . . .	Dem.	Milledgeville		6	Bates, William H. . . . .	Rep.	Salem
	7	*Lanham, Henderson . . . . .	Dem.	Rome		7	*Lane, Thomas J. . . . .	Dem.	Lawrence
	8	*Wheeler, W. M. (Don) . . . . .	Dem.	Alma		8	*Goodwin, Angier L. . . . .	Rep.	Melrose
	9	*Wood, John S. . . . .	Dem.	Canton		9	*Nicholson, Donald W. . . . .	Rep.	Wareham
Ida.	10	*Brown, Paul . . . . .	Dem.	Elberton	Mich.	10	*Herter, Christian A. . . . .	Rep.	Boston
	1	Wood, John T. . . . .	Rep.	Coeur d'Alene		11	*Kennedy, John F. . . . .	Dem.	Boston
Ill.	2	Budge, Hamer A. . . . .	Rep.	Boise		12	*McCormack, John W. . . . .	Dem.	Dorchester
	1	*Dawson, William L. . . . .	Dem.	Chicago		13	*Wigglesworth, Richard B. . . . .	Rep.	Milton
	2	Vail, Richard B. . . . .	Rep.	Chicago		14	*Martin, Joseph W., Jr. . . . .	Rep.	North Attleboro
	3	Busbey, Fred E. . . . .	Rep.	Chicago		1	*Machrowicz, Thaddeus M. . . . .	Dem.	Hamtramck
	4	McVey, William E. . . . .	Rep.	Harvey		2	Meador, George . . . . .	Rep.	Ann Arbor
	5	Kluczynski, John C. . . . .	Dem.	Chicago		3	*Shafer, Paul W. . . . .	Rep.	Battle Creek
	6	*O'Brien, Thomas J. . . . .	Dem.	Chicago		4	*Hoffman, Clare E. . . . .	Rep.	Allegan
	7	*Sabath, Adolph J. . . . .	Dem.	Chicago		5	*Ford, Gerald R., Jr. . . . .	Rep.	East Grand Rapids
	8	*Gordon, Thomas S. . . . .	Dem.	Chicago		6	*Blackney, William W. . . . .	Rep.	Flint
	9	*Yates, Sidney R. . . . .	Dem.	Chicago		7	*Wolcott, Jesse P. . . . .	Rep.	Port Huron
	10	*Hoffman, Richard W. . . . .	Rep.	Berwyn		8	*Crawford, Fred L. . . . .	Rep.	Saginaw
	11	Sheehan, Timothy P. . . . .	Rep.	Chicago		9	Thompson, Ruth . . . . .	Rep.	Whitehall
	12	*Jonas, Edgar A. . . . .	Rep.	Chicago		10	*Woodruff, Roy O. . . . .	Rep.	Bay City
	13	Church, Marguerite Stitt . . . . .	Rep.	Evanston		11	*Potter, Charles E. . . . .	Rep.	Cheboygan
	14	*Reed, Chauncey W. . . . .	Rep.	West Chicago		12	*Bennett, John B. . . . .	Rep.	Ontonagon
	15	*Mason, Noah M. . . . .	Rep.	Oglesby		13	*O'Brien, George D. . . . .	Dem.	Detroit
	16	*Allen, Leo E. . . . .	Rep.	Galena		14	*Rabaut, Louis C. . . . .	Dem.	Grosse Pointe Park
	17	*Arends, Leslie C. . . . .	Rep.	Melvin		15	*Dingell, John D. . . . .	Dem.	Detroit
	18	*Velde, Harold H. . . . .	Rep.	Pekin		16	Lesinski, John Jr. . . . .	Dem.	Dearborn
Ind.	19	*Chiperfield, Robert B. . . . .	Rep.	Canton	Minn.	17	*Dondero, George A. . . . .	Rep.	Royal Oak
	20	*Simpson, Sid . . . . .	Rep.	Carrollton		1	*Andresen, August H. . . . .	Rep.	Red Wing
	21	*Mack, Peter F., Jr. . . . .	Dem.	Carlinville		2	*O'Hara, Joseph P. . . . .	Rep.	Glencoe
	22	Springer, William L. . . . .	Rep.	Champaign		3	*Weir, Roy W. . . . .	Dem.	Minneapolis
	23	*Jenison, Edward H. . . . .	Rep.	Paris		4	*McCarthy, Eugene J. . . . .	Dem.	St. Paul
	24	*Vursell, Charles W. . . . .	Rep.	Salem		5	*Judd, Walter H. . . . .	Rep.	Minneapolis
	25	*Price, Melvin . . . . .	Dem.	East St. Louis		6	*Marshall, Fred . . . . .	Dem.	Grove City (R.F.D.)
	26	*Bishop, C. W. . . . .	Rep.	Cartersville		7	*Andersen, H. Carl . . . . .	Rep.	Tyler
	1	*Madden, Ray J. . . . .	Dem.	Gary	Miss.	8	*Blatnik, John A. . . . .	Dem.	Chisholm
	2	*Halleck, Charles A. . . . .	Rep.	Rensselaer		9	*Hagen, Harold C. . . . .	Rep.	Crookston
	3	Crumpacker, Shepard J., Jr. . . . .	Rep.	South Bend		1	*Rankin, John E. . . . .	Dem.	Tupelo
	4	Adair, E. Ross . . . . .	Rep.	Fort Wayne		2	*Whitten, Jamie L. . . . .	Dem.	Charleston
	5	Beamer, John V. . . . .	Rep.	Wabash		3	Smith, Frank E. . . . .	Dem.	Greenwood
	6	*Harden, Cecil M. . . . .	Rep.	Covington		4	*Abernethy, Thomas G. . . . .	Dem.	Oklona
	7	Bray, William G. . . . .	Rep.	Martinsville		5	*Winstead, Arthur . . . . .	Dem.	Philadelphia
	8	*Denton, Winfield K. . . . .	Dem.	Evansville		6	*Colmer, William M. . . . .	Dem.	Pascagoula
	9	*Wilson, Earl . . . . .	Rep.	Bedford	Mo.	7	*Williams, John Bell . . . . .	Dem.	Raymond
	10	*Harvey, Ralph . . . . .	Rep.	New Castle		1	*Magee, Clare . . . . .	Dem.	Unionville
	11	Brownson, Charles B. . . . .	Rep.	Indianapolis		2	*Moulder, Morgan M. . . . .	Dem.	Candenton



State	Dist.	Name	Party	Residence	State	Dist.	Name	Party	Residence
Mo.	3	*Welch, Phil J.	Dem.	St. Joseph	N.C.	8	*Deane, Charles B.	Dem.	Rockingham
	4	*Irving, Leonard	Dem.	Independence		9	*Doughton, Robert L.	Dem.	Sparta
	5	*Boiling, Richard	Dem.	Kansas City		10	*Jones, Hamilton C.	Dem.	Charlotte
	6	*Armstrong, O. K.	Rep.	Springfield	N.D.	11	Jones, Woodrow W.	Dem.	Rutherfordton
	7	*Short, Dewey	Rep.	Galena		12	*Redden, Monroe M.	Dem.	Hendersonville
	8	*Carnahan, A. S. J.	Dem.	Ellsinore			Aandahl, Fred G.	Rep.	Litchville
	9	*Cannon, Clarence	Dem.	Elsberry	Ohio		*Burdick, Usher L.	Rep.	Williston
	10	*Jones, Paul C.	Dem.	Kennett		1	*Elston, Charles H.	Rep.	Cincinnati
	11	*Sullivan, John B.	Dem.	St. Louis		2	Hess, William E.	Rep.	Cincinnati
	12	Curtis, Thomas B.	Rep.	Webster Groves		3	*Breen, Edward	Dem.	Dayton
	13	*Karsten, Frank M.	Dem.	St. Louis		4	*McCulloch, William M.	Rep.	Piqua
Mont.	1	*Mansfield, Mike	Dem.	Missoula		5	*Clevenger, Cliff	Rep.	Bryan
Neb.	2	*D'Ewart, Wesley A.	Rep.	Wilsall		6	*Polk, James G.	Dem.	Highland
	1	*Curtis, Carl T.	Rep.	Minden		7	*Brown, Clarence J.	Rep.	Blanchester
	2	Buffett, Howard H.	Rep.	Omaha		8	Betts, Jackson E.	Rep.	Findlay
	3	*Stefan, Karl	Rep.	Norfolk		9	Reams, Frazier	Ind.	Toledo
Nev.	4	*Miller, A. L.	Rep.	Kimball		10	*Jenkins, Thomas A.	Rep.	Ironton
		*Boring, Walter S.	Dem.	Reno		11	*Brehm, Walter E.	Rep.	Millersport
N.H.	1	*Morrow, Chester E.	Rep.	Center Ossipee		12	*Vorys, John M.	Rep.	Columbus
N.J.	2	*Cotton, Norris	Rep.	Lebanon		13	*Weichel, Alvin F.	Rep.	Sandusky
	1	*Wolverton, Charles A.	Rep.	Merchantville		14	Ayres, William H.	Rep.	Akron
	2	*Hand, T. Millet	Rep.	Cape May City		15	*Secrest, Robert T.	Dem.	Senecaville
	3	*Auchincloss, James C.	Rep.	Rumson		16	Bow, Frank T.	Rep.	Canton (R.F.D.)
	4	*Howell, Charles R.	Dem.	Pennington		17	*McGregor, J. Harry	Rep.	West Lafayette
	5	*Eaton, Charles A.	Rep.	Watchung		18	*Hays, Wayne L.	Dem.	Flushing
	6	*Case, Clifford P.	Rep.	Rahway		19	*Kirwan, Michael J.	Dem.	Youngstown
	7	*Widnall, William B.	Rep.	Saddle River		20	*Feighan, Michael A.	Dem.	Cleveland
	8	*Canfield, Gordon	Rep.	Paterson		21	*Crosner, Robert	Dem.	Cleveland
	9	*Towe, Harry L.	Rep.	Rutherford		22	*Bolton, Frances P.	Rep.	Lyndhurst
N.M.	10	*Rodino, Peter W., Jr.	Dem.	Newark	Okla.		Bender, George H.	Rep.	Chagrin Falls
	11	*Addonizio, Hugh J.	Dem.	Newark		1	Schwabe, George B.	Rep.	Tulsa
	12	*Kean, Robert W.	Rep.	Livingston		2	*Stigler, William G.	Dem.	Stigler
	13	Sieminski, Alfred D.	Dem.	Jersey City		3	*Albert, Carl	Dem.	McAlester
	14	*Hart, Edward J.	Dem.	Jersey City		4	*Steed, Tom	Dem.	Shawnee
		*Fernandez, Antonio M.	Dem.	Santa Fe		5	Jarman, John	Dem.	Oklahoma City
		Dempsey, John J.	Dem.	Santa Fe		6	*Morris, Toby	Dem.	Lawton
	1	Greenwood, Ernest	Dem.	Bay Shore		7	*Wickersham, Victor	Dem.	Mangum
	2	*Hall, Leonard W.	Rep.	Oyster Bay		8	Belcher, Page	Rep.	Enid
	3	*Latham, Henry J.	Rep.	Queens Village	Ore.	1	*Norblad, Walter	Rep.	Astoria
N.Y.	4	*Clemente, L. Gary	Dem.	Ozone Park		2	*Stockman, Lowell	Rep.	Pendleton
	5	*Quinn, T. Vincent	Dem.	Jackson Heights		3	*Angell, Homer D.	Rep.	Portland
	6	*Delaney, James J.	Dem.	Long Island City		4	*Ellsworth, Harris	Rep.	Roseburg
	7	*Heller, Louis B.	Dem.	Brooklyn	Penn.	1	*Barrett, William A.	Dem.	Philadelphia
	8	Anfuso, Victor L.	Dem.	Brooklyn		2	*Granahan, William T.	Dem.	Philadelphia
	9	*Keogh, Eugene J.	Dem.	Brooklyn		3	*Scott, Hardie	Rep.	Philadelphia
	10	*Kelly, Edna F.	Dem.	Brooklyn		4	*Chudoff, Earl	Dem.	Philadelphia
	11	*Heffernan, James J.	Dem.	Brooklyn		5	*Green, William J., Jr.	Dem.	Philadelphia
	12	*Rooney, John J.	Dem.	Brooklyn		6	*Scott, Hugh D., Jr.	Rep.	Philadelphia
	13	*O'Toole, Donald L.	Dem.	Brooklyn		7	*James, Benjamin F.	Rep.	Rosemont
	14	*Multer, Abraham J.	Dem.	Brooklyn		8	Vaughn, Albert C.	Rep.	Fullerton
	15	*Celler, Emanuel	Dem.	Brooklyn		9	*Dague, Paul B.	Rep.	Downingtown
	16	*Murphy, James J.	Dem.	Staten Island		10	*O'Neill, Harry P.	Dem.	Dunmore
	17	*Coudert, Frederic R., Jr.	Rep.	New York city		11	*Flood, Daniel J.	Dem.	Wilkes-Barre
	18	Donovan, James G.	Dem.	New York city		12	*Fenton, Ivor D.	Rep.	Mahanoy City
	19	*Klein, Arthur G.	Dem.	New York city		13	*Rhodes, George M.	Dem.	Reading
	20	*Roosevelt, Franklin D., Jr.	Dem.	New York city		14	*Gillette, Wilson D.	Rep.	Towanda
	21	*Javits, Jacob K.	Rep.	New York city		15	Bush, Alvin R.	Rep.	Muncy (R.F.D.)
	22	*Powell, Adam C., Jr.	Dem.	New York city		16	*McConnell, Samuel K., Jr.	Rep.	Wynnewood
	23	Fine, Sidney	Dem.	New York city		17	*Simpson, Richard M.	Rep.	Huntingdon
	24	*Dollinger, Isidore	Dem.	New York city		18	Mumma, Walter M.	Rep.	Harrisburg
	25	*Buckley, Charles A.	Dem.	New York city		19	*Gavin, Leon H.	Rep.	Oil City
	26	*McGrath, Christopher C.	Dem.	New York city		20	*Walter, Francis E.	Dem.	Easton
	27	*Gwinn, Ralph W.	Rep.	Bronxville		21	*Lind, James F.	Dem.	York
	28	*Gamble, Ralph A.	Rep.	Larchmont		22	*Van Zandt, James E.	Rep.	Altoona
	29	*St. George, Katharine	Rep.	Tuxedo Park		23	Sittler, Edward L., Jr.	Rep.	Uniontown
	30	Wharton, J. Ernest	Rep.	Richmondville		24	*Morgan, Thomas E.	Dem.	Fredericktown
	31	*Kearney, Bernard W.	Rep.	Gloversville		25	*Graham, Louis E.	Rep.	Beaver
	32	*Byrne, William T.	Dem.	Loudonville		26	*Saylor, John P.	Rep.	Johnstown
	33	*Taylor, Dean P.	Rep.	Troy		27	*Kelley, Augustine B.	Dem.	Greensburg
	34	*Kilburn, Clarence E.	Rep.	Malone		28	*Kearns, Carroll D.	Rep.	Farrell
	35	Williams, William R.	Rep.	Cassville		29	Denny, Harmar D., Jr.	Rep.	Pittsburgh
	36	*Riehlman, R. Walter	Rep.	Tully		30	*Corbett, Robert J.	Rep.	Pittsburgh
	37	*Hall, Edwin Arthur	Rep.	Binghamton		31	*Fulton, James G.	Rep.	Dormont (Pittsburgh)
	38	*Taber, John	Rep.	Auburn		32	*Eberharter, Herman P.	Dem.	Pittsburgh
	39	*Cole, W. Sterling	Rep.	Bath	R.I.	33	*Buchanan, Frank	Dem.	McKeesport
	40	*Keating, Kenneth B.	Rep.	Rochester		1	*Forand, Aime J.	Dem.	Cumberland
	41	Ostertag, Harold C.	Rep.	Attica	S.C.	2	*Fogarty, John E.	Dem.	Harmony
	42	Miller, William E.	Rep.	Lockport		1	*Rivers, L. Mendel	Dem.	Charleston
	43	Radwan, Edmund P.	Rep.	Buffalo		2	Riley, John J.	Dem.	Sumter
	44	Butler, John C.	Rep.	Buffalo		3	Dorn, W. J. Bryan	Dem.	Greenwood
N.C.	45	*Reed, Daniel A.	Rep.	Dunkirk		4	*Bryson, Joseph R.	Dem.	Greenville
	1	*Bonner, Herbert C.	Dem.	Washington		5	*Richards, James P.	Dem.	Lancaster
	2	*Kerr, John H.	Dem.	Warrenton		6	*McMillan, John L.	Dem.	Florence
	3	*Barden, Graham A.	Dem.	New Bern	S.D.	1	*Lovre, Harold O.	Rep.	Watertown
	4	*Cooley, Harold D.	Dem.	Nashville		2	Berry, E. Y.	Rep.	McLaughlin
	5	*Chatham, Thurmond	Dem.	Winston-Salem	Tenn.	1	Reece, B. Carroll	Rep.	Johnson City
	6	*Durham, Carl T.	Dem.	Chapel Hill		2	Baker, Howard H.	Rep.	Huntsville
	7	*Carlyle, F. Ertel	Dem.	Lumberton		3	*Frazier, James B., Jr.	Dem.	Chattanooga
						4	*Gore, Albert	Dem.	Carthage



State	Dist.	Name	Party	Residence
Tenn.	5	*Evens, Joe L.	Dem.	Smithville
	6	*Priest, J. Percy	Dem.	Nashville
	7	*Sutton, Pat	Dem.	Lawrenceburg
	8	*Murray, Tom	Dem.	Jackson
	9	*Cooper, Jere	Dem.	Dyersburg
	10	*Davis, Clifford	Dem.	Memphis
Texas	1	*Patman, Wright	Dem.	Texarkana
	2	*Combs, J. M.	Dem.	Beaumont
	3	*Beckworth, Lindley	Dem.	Gladewater (R.F.D.)
	4	*Rayburn, Sam	Dem.	Bonham
	5	*Wilson, J. Frank	Dem.	Dallas
	6	*Teague, Olin E.	Dem.	College Station
	7	*Pickett, Tom	Dem.	Palestine
	8	*Thomas, Albert	Dem.	Houston
	9	*Thompson, Clark W.	Dem.	Galveston
	10	Thornberry, Homer	Dem.	Austin
	11	*Poage, W. R.	Dem.	Waco
	12	*Lucas, Wingate H.	Dem.	Grapevine
	13	*Gossett, Ed	Dem.	Wichita Falls
	14	*Lyle, John E., Jr.	Dem.	Corpus Christi
	15	*Bentsen, Lloyd M., Jr.	Dem.	McAllen
	16	*Regan, Ken	Dem.	Midland
	17	*Burlison, Omar	Dem.	Anson
	18	Rogers, Walter	Dem.	Pampa
	19	*Mahon, George H.	Dem.	Colorado City
	20	*Kilday, Paul J.	Dem.	San Antonio
	21	*Fisher, O. C.	Dem.	San Angelo
Utah	1	*Granger, Walter K.	Dem.	Cedar City
	2	*Bosone, Reva Beck	Dem.	Salt Lake City
Vt.		Prouty, Winston L.	Rep.	Newport City
Va.	1	*Robeson, Edward J., Jr.	Dem.	Newport News
	2	*Hardy, Porter, Jr.	Dem.	Churchland
	3	*Gary, J. Vaughan	Dem.	Richmond
	4	*Abbitt, Watkins M.	Dem.	Appomattox
	5	*Stanley, Thomas B.	Dem.	Stanleytown
	6	*Burton, Clarence G.	Dem.	Lynchburg
	7	*Harrison, Burr P.	Dem.	Winchester
	8	*Smith, Howard W.	Dem.	Alexandria
	9	*Fugate, Tom B.	Dem.	Ewing
Wash.	1	*Mitchell, Hugh B.	Dem.	Seattle
	2	*Jackson, Henry M.	Dem.	Everett
	3	*Mack, Russell V.	Rep.	Hoquiam
	4	*Holmes, Hal	Rep.	Ellensburg
	5	*Horan, Walt	Rep.	Wenatchee
	6	*Tollefson, Thor C.	Rep.	Tacoma
W.Va.	1	*Ramsey, Robert L.	Dem.	Follansbee
	2	*Staggers, Harley O.	Dem.	Keyser
	3	*Bailey, Cleveland M.	Dem.	Clarksburg
	4	*Burnside, M. G.	Dem.	Huntington
	5	*Kee, John	Dem.	Bluefield
	6	*Hedrick, E. H.	Dem.	Beckley
Wis.	1	*Smith, Lawrence H.	Rep.	Racine
	2	*Davis, Glenn R.	Rep.	Waukesha
	3	*Withrow, Gardner R.	Rep.	La Crosse
	4	*Zablocki, Clement J.	Dem.	Milwaukee
	5	Kersten, Charles J.	Rep.	Milwaukee
	6	Van Pelt, William K.	Rep.	Fond du Lac
	7	*Murray, Reid F.	Rep.	Ogdensburg
	8	*Byrnes, John W.	Rep.	Green Bay
	9	*Hull, Merlin	Rep.	Black River Falls
	10	*O'Konski, Alvin E.	Rep.	Mercer
Wyo.		Harrison, William H.	Rep.	Sheridan

**Congress of Industrial Organizations:** see LABOUR UNIONS.

**Connally, Tom (Thomas Terry)** (1877– ), U.S. senator, was born on Aug. 19 in McLennan county, Tex., and studied at Baylor university, Waco, Tex., and the University of Texas, Austin. He served in the Texas house of representatives for two terms beginning in 1900, and went to the U.S. house of representatives for six successive terms beginning in 1916. He was elected to the U.S. senate in 1928 and re-elected in 1934, 1940 and 1946. During most of World War II and the postwar years he served as chairman of the senate foreign relations committee, with the exception of the 80th congress when Republicans controlled that body. He, with Republican Sen. Arthur H. Vandenberg, exemplified the postwar bipartisan foreign policy. Early in 1950 Connally was one of the staunchest supporters of the U.S. Asiatic policy, including the announced decision not to give aid to Chinese nationalist forces in Formosa. In August, when Republicans on the for-

eign relations committee made an issue of foreign policy for the forthcoming congressional elections, Connally accused the Republicans of "plain and palpable" politics, asserting they had participated in the actions whose results they criticized.

**Connecticut.** One of the 13 original states and the southwesternmost of the New England states, popularly known as the "Nutmeg state," the "Land of Steady Habits" or the "Constitution state." Connecticut has an area of 5,009 sq. mi., including 110 sq.mi. (approximately) of water. Its population in 1950, according to final 1950 U.S. census reports was 2,007,280, an increase of 17.4% over 1940. This was the largest increase of any of the New England states. Population figures for the principal cities (preliminary 1950 census) were: Hartford, the capital, 176,634; New Haven, 164,076; Bridgeport, 158,678; Waterbury, 104,209; Stamford, 73,869; and New Britain, 73,663.

**History.**—At the regular 1949 session of the general assembly, a commission had been appointed to study the organization of state government, make recommendations and draft proposed legislation to carry out its recommendations. By Feb. 1950, the commission had completed its work and was ready to make its report. Gov. Chester Bowles called a fourth special session (he had already called three in 1949) to meet March 9. The commission, in brief, recommended that the approximately 180 departments, agencies, institutions and commissions of the executive branch be grouped and managed in 14 operating departments, to which would be added six others; i.e. (1) executive office of the governor, (2) office of personnel services, (3) office of general services, (4) office of public works services, (5) judicial department and (6) legislative department. The draft of a proposed new constitution was also submitted.

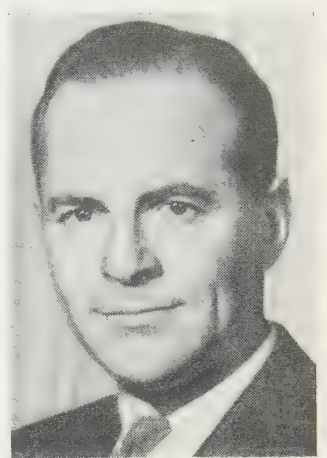
In general, opinion on the report strictly followed party lines. The Democratic governor and the Democratic-controlled senate favoured the report, but the Republican-controlled house opposed it. After more than two months' debate, no real agreement was reached and the session adjourned May 26. Two compromise bills passed, establishing a central purchasing department and a public works department, but they were far from the recommendations of the commission. The debate on the new constitution seemed to arouse the most controversy. A stopgap act concerning temporary rent control was passed in case the federal congress did not continue rent control.

Gov. Bowles called a fifth special session on Sept. 5, 1950, to consider the matter of civilian defense and also to increase the authorized amount of the housing bond issue. Both houses of the general assembly were in agreement on civilian defense, so that a director and suitable appropriation were quickly authorized.

On the question of increasing the existing housing bond issue of \$30,000,000 the governor wished an additional \$60,000,000, but the house would approve only \$30,000,000 increase, which the governor finally accepted.

A few other bills were passed, among them an increase in salaries for state employees in the classified service, and the session adjourned on Sept. 15.

State officers in 1950 were: governor, Chester Bowles; lieu-



JOHN D. LODGE, Republican, elected governor of Connecticut, Nov. 7, 1950



tenant governor, William T. Carroll; secretary of state, Mrs. Winifred McDonald; treasurer, Joseph A. Adorno; comptroller, Raymond S. Thatcher; attorney general, William L. Hadden; superintendent of education, Finis E. Engleman. U.S. senators were Brien McMahon and William Benton.

The election campaign, at which state officers were to be elected for four-year terms instead of two years, resulted in a Republican victory for all state elective offices. John Davis Lodge won over Chester Bowles for governor by a plurality of 17,014; the pluralities in the voting for the other state offices were even smaller. The Democrats retained control of the state senate by a majority of two, 19 to 17. In the previous session, the majority had been 10. In the house, the Republicans increased their majority to 108 from 86.

For the U.S. senate, Democrat Brien McMahon was re-elected over Joseph E. Talbot by a plurality of almost 45,000, and William Benton, Democrat, for the short term defeated Prescott S. Bush by 1,102 votes. The Republicans elected four out of six congressmen.

**Education.**—The state department of education reported the following statistics for the school year 1949-50: there were 678 elementary day schools in the state with 206,214 pupils and 5,694 teachers; 90 high schools with 61,083 pupils and 2,385 teachers; 34 junior high schools with 16,266 pupils and 687 teachers; 197 parochial, ecclesiastical and private schools with 64,587 pupils and 2,692 teachers. The expenditure of the state on public education was \$11,780,069, and local expenditure was \$60,940,424. For the school year 1949-50 there were in the state 30 institutions of higher education, including four state teachers colleges and six junior colleges. Total enrolment was 31,603. There were also 12 vocational-technical schools wholly supported by the state with 307 teachers and 16,756 students. The establishment of four more such schools had been authorized.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The state public welfare department reported in June 1950 that there were 73,551 persons in the state receiving assistance, compared with 64,393 in June 1949, an increase of 14.2%. The cost of this assistance was \$3,887,420, compared with \$3,204,584 in 1949, an increase of 21.3%. The various types of relief making up the above total were: general local relief, 18,772 persons, costing \$623,752; old-age assistance, 19,715 persons, costing \$1,270,727; aid to dependent children, 17,072 children, costing \$575,852; aid to 334 blind, costing \$19,676; aid to 12,419 persons in mental, feeble-minded and tubercular state institutions, costing \$1,210,923; aid to 3,343 county wards (6-18 years), costing \$143,461; and aid to 2,133 state wards (under 6 years), costing \$43,029. For the year the total welfare outlay was \$26,555,465, an increase of \$7,000,000 over the previous year and \$4,000,000 more than was appropriated. The total expenditure by the state for the year ending June 30, 1950, for charities and hospitals was \$51,709,086, and for health and sanitation \$1,473,307.

**Communications.**—The Federal Communications commission reported that in 1950 there were 27 standard AM broadcasting stations in the state, 14 with frequency modulation (FM), one licensed television station and two experimental stations.

Railroad mileage in Connecticut in 1950 was 830.9 mi. Most of this, 766.76 mi., was operated by the New York, New Haven and Hartford Railroad company (freight and passenger); 59.94 mi. was operated by the Central Vermont Railway, Inc. (freight only); and 4.20 mi. was owned and operated by the Branford Steam railway (freight only).

There were 2,985 mi. of roads in the state highway system, more than 880 mi. of which were concrete. During the fiscal year ending June 30, 1950, 748,488 motor vehicles were registered and 841,564 operators were licensed. Total receipts of the motor vehicle department reached a peak of \$29,446,094.

**Banking and Finance.**—The financial condition of the state at the end of the fiscal year June 30, 1950, according to the state treasurer was as follows: cash balance June 30, 1949, \$26,716,086.22; receipts, July 1, 1949, to June 30, 1950, \$448,881,623.44; total, \$475,597,709.66; payments July 1, 1949, to June 30, 1950, \$456,555,382.19; cash balance, June 30, 1950, \$19,042,327.47. The bonded indebtedness of the state was \$84,039,000 and the bond retirement fund was \$4,189,316. The unemployment compensation fund deposited with the secretary of the treasury of the United States was \$148,537,561.11.

The tax department reported total tax collections for the fiscal year of \$68,454,785 (not including the gasoline tax or motor vehicle fees) as compared with \$59,036,313 in 1949.

The state banking department reported the total assets of banks as of June 30, 1950, as follows: 72 mutual savings banks had assets of \$1,516,185,334; 60 state banks and trust companies had assets of \$849,115,061;

48 national banks had assets of \$777,733,000; seven industrial banks had assets of \$6,819,889; two private banks had assets of \$1,648,187; and 31 building or savings and loan associations had assets as of Sept. 30, 1949, of \$60,461,352.

**Agriculture.**—The department of farms and markets reported that the total cash receipts from farm marketing in 1949 were \$156,294,000, compared with \$162,614,000 (revised) in 1948. From commodity crops, receipts were \$58,198,000; from livestock and livestock products, \$97,703,000; and government payments, \$393,000.

**Manufacturing.**—In Aug. 1949 only 689,820 persons were employed in nonagricultural industries and 106,290 were unemployed. From that time, conditions slowly improved, and by Jan. 1950, 712,370 were employed and the number of unemployed had dropped to 70,500. By Aug. 1950, 757,970 were employed and unemployment was down to 25,400, the lowest since Dec. 1947. In some selected industries, actual labour shortages occurred. Overtime increased the factory time to an average of 42.2 hours per week and the average weekly earnings rose to a record level of \$60.27. Preliminary reports indicated that in Sept. 1950 employment had risen to 775,590 and that unemployment had fallen to 21,600 on Oct. 1.

**Mineral Production.**—The mineral production of Connecticut is all in the nonmetallic field. The value of mineral products for 1948 totalled \$6,745,000. The three chief products in the order of their importance were clay products, stone and sand and gravel. (J. Br.)

**Conservation, Soil:** see SOIL EROSION AND SOIL CONSERVATION.

**Consumer Co-operatives:** see CO-OPERATIVES.

**Consumer Credit.** As the economy of the United States during the year 1950 expanded with an unprecedented volume of production, earning power and retail sales, the credit used by consumers also increased in amount and their outstanding indebtedness at the end of the year exceeded \$20,000,000,000. Simultaneously, because of the supposed influences of credit buying upon the price level and upon consumer expenditure patterns, and as a result of the greater use made of credit, consumer credit was again during 1950 brought under federal regulation. This increase of debt and the resumption of credit regulation were the two outstanding events of the year in this field.

The importance of the increase in consumer credit and debt, however, is not fully apparent merely in the fact that the outstandings increased about \$4,000,000,000, or about 28%, during the year from Sept. 1949 to Sept. 1950. In the first place, this increase in debt does not represent an increase of that amount in goods bought through the use of credit. Price inflation accounted for a large portion of the increase, for according to the Index of Retail Prices published by the U.S. department of commerce, prices rose from 169.1 in Sept. 1949 to 192.3 in the same month of the following year (1935-1939 = 100). When, therefore, the debt outstanding in those respective months is adjusted for the change in the price level, it is found to have increased by but 17% in 1950. This was not much different from its increase in 1949 over 1948, similarly measured, when the deflated volume of debt rose 15.8%. Thus it is apparent that consumer debt increased steadily and at a slightly increasing rate but that the magnitude of the dollar debt was attributable in part to price conditions.

The increase in consumer debt, moreover, was not uniform throughout the various types of outstandings. While on the whole the debt increased 28%, charge accounts outstanding increased but 19% and all noninstalment credit 20%. The largest increase during the 12-month period ending in Sept. 1950 was found in instalment credit, which increased 33%. This was mainly the result of disproportionately large expenditures being made by consumers for automobiles and other durable household goods and of the somewhat longer terms and lower down payments which were then characteristic of instalment selling.

The significance of the volume of consumer debt, however, is appreciable only in the light of the general economic conditions which surrounded the debt. This premise is especially important in view of the fact that conclusions are sometimes based upon dollar data alone or upon percentages unrelated to other facts.

#### Leading Crops of Connecticut

	1950	1949	1939-48 (Average)
Corn, bu. . . . .	1,935,000	1,800,000	2,039,000
Oats, bu. . . . .	190,000	222,000	176,000
Hay, tons . . . . .	481,000	464,000	448,000
Tobacco, lb. . . . .	27,509,000	26,568,000	23,527,000
Apples, bu. . . . .	1,406,000	1,640,000	1,188,000
Peaches, bu. . . . .	104,000	164,000	126,000
Pears, bu. . . . .	52,000	57,000	51,000
Potatoes, bu. . . . .	3,481,000	3,013,000	3,431,000



For example, whereas total consumer debt in 1949 amounted to 8.1% of personal disposable income, in 1950 the ratio was 9.4%. Similarly, whereas in 1949 that debt was 8.3% of personal consumption expenditures, the following year it was 9.7%. Thus it is seen that consumer debt during 1950 increased relatively faster than some other aspects of the economy, but it was still not out of proportion to consumers' disposable income in comparison with the condition existing in 1939 when the debt was 10% of such income. Moreover, while instalment debt increased relatively more than other forms of consumer debt, that was a result of consumers buying commodities commonly sold on instalment plans and it does not appear that the sale of such goods was increased by inordinate use of instalment credit. In Sept. 1949, total instalment debt outstanding was 40.1% of durable goods expenditures; one year later it was but 39.7% of such expenditures.

One may conclude from these facts that while consumer credit and debt reached new highs in 1950, they had not increased out of proportion to other economic phenomena and were more or less normally related to current consumer expenditures.

Nevertheless, because of the impelling necessity to restrain inflation and exorbitant consumption expenditures in an economy faced with preparations for war, consumer credit was viewed as an area where restraining regulations would accomplish several objectives: to relieve upward pressure on prices; to reduce demand especially for specific goods; and to release materials and labour for defense production.

Consequently, the controls on instalment credit known as regulation W were reissued by the federal reserve board, effective Sept. 18 and revised effective Oct. 16, stating requirements of down payments and maturity periods as follows:

*Minimum Down Payments and Maximum Maturities Under Regulation W*

Listed articles and loans	Minimum down payment (per cent)		Maximum maturity (months)	
	Sept. 18— Oct. 15	Oct. 16	Sept. 18— Oct. 15	Oct. 16
<b>Listed articles</b>				
Passenger automobiles . . . . .	33½	33½	21	15
Major appliances . . . . .	15	25	18	15
Furniture and floor coverings . . . . .	10	15	18	15
Home improvement materials, articles and services . . . . .	10	10	30	30
<b>Loans</b>				
To purchase listed articles . . . . .	Same as on instalment sales of articles			
Unclassified . . . . .			18	15

Source: *Federal Reserve Bulletin*, p. 1430 (Nov. 1950).

The immediate effect of this regulation was to decrease the demand for automobiles and for some of the other listed articles. After a short period the market adjusted itself to the conditions and demand increased somewhat. Prices of used automobiles dropped. By the end of the year, however, there was no conclusive evidence of the effect of the regulation upon the general price level, for prices continued to increase and expenditures were thought to be transferred from hard to soft goods.

Thus effort was made to control general conditions of the economy indirectly through restraints upon consumer credit, whereas there is reason to think that consumer credit and debt are mainly effects rather than causes of general economic conditions. (See also *FEDERAL RESERVE SYSTEM*.) (R. BA.)

**Canada.**—In September the dominion bureau of statistics reported that during the second quarter of 1950 instalment buying in the 16 major credit-dealing trades rose to 9.3% of the total sales, compared with 9.2% in the first quarter of 1950 and 8.3% in the second quarter of 1949. During the second quarter of 1950 unpaid instalment accounts increased by 22% and charge accounts by 3% over the first quarter of the year.

The total figure and percentages, from a dominion bureau of statistics estimate for all of 1950, were: total estimated retail trade of \$8,000,000,000; cash sales at the rate of 62.8% (cash

sales stood at 67% in July 1945); instalment sales at 9.3%; charge sales at 27.9%.

In the face of such serious inflationary threats, the August-September special session of the federal parliament passed consumer credit controls, which went into effect on Nov. 1. The government created a consumer credit administration. Restrictions included higher down payments and shorter time to pay off balances. During 1950, up to Nov. 1, the only restrictions on instalment buying in Canada were certain types confined to the provinces of Quebec and New Brunswick.

A survey of the associated credit bureaus of Canada at key points disclosed that in eastern Canada down payments averaged 10% on hard goods whereas in western Canada down payments on similar goods ran from 20% to 33%; 70% of those answering the survey set \$5 as the most desirable minimum monthly payment.

(C. CY.)

**Great Britain.**—During 1950 the main changes in the position of consumer credit in Great Britain occurred in the fields of instalment-purchase and credit sales, in both of which considerable extensions took place. These increases would undoubtedly have been greater but for the government's continuing to hold the opinion that undue instalment-purchase credit had an inflationary tendency and that such transactions, so far as they affected consumer goods, should be therefore restricted. The money available for instalment-purchase sales in these articles was thus still limited; and for this reason many retailers, especially those whose liquid capital was already fully employed, could not handle as many transactions as were offered to them, being unable to obtain additional finance from their bankers or from the specialized houses that cater to this particular need.

The Hire Purchase and Credit Sale Agreement (Maximum Prices and Charges) order came into force on Jan. 23, 1950. Although closely following the previous control orders on this subject, the new regulations had several important effects. The principal one was that, for the first time since the restrictions necessitated by World War II were imposed, a service charge could be made for instalment-purchase facilities upon all articles. The only question which faced the retailer was whether the article that he wished to sell was subject to instalment-purchase control or not: if it was, then the deposit, the maturity and the service charge were all regulated, together with one or two minor matters, mainly of detail; if it was not, then the terms could be negotiated between the trader and his customer. Although it might seem that the new order greatly widened the field over which instalment-purchase transactions could be extended, in effect the change was not so great as would appear, as in the main the majority of items suitable for instalment-purchase had already been covered.

The position at the end of 1950 therefore was that instalment-purchase terms were controlled: (1) upon all price-controlled goods, other than new sewing machines, dictaphones, typewriters, and office machinery generally; (2) upon all domestic furniture, whether price-controlled or not; (3) upon all bedding, whether price-controlled or not. Upon all other items, deposit, maturity and service charge were matters for agreement between the two parties.

In all cases (whether the control order applied or not) the agreement was subject to the provisions of the Hire Purchase act of 1938 for such transactions as fell within its scope; *i.e.*, generally speaking, transactions where the total instalment-purchase price was £100 or less.

A further legislative change affecting instalment-purchase credit was the repeal as from Oct. 9, 1950, of the Courts Emergency Powers act. This repeal made it legal again for an owner (subject to the relevant provisions of the Hire Purchase act) to recover goods let on an instalment-purchase agreement, where



the customer had become in arrears with his payments, without first having to obtain the sanction of the courts. (C. C. Ws.)

**Contract Bridge.** Bridge-playing in the United States was not much affected by the sudden popularity of canasta (*q.v.*) except that those taking up card playing for the first time were apparently learning canasta instead of contract bridge, as evidenced by a sharp drop in the sale of bridge instruction books while the sale of bridge playing cards remained about the same. Attendance at bridge tournaments increased.

There was no change in the laws of contract bridge during 1950 since the existing laws, published in 1948, were guaranteed to remain unchanged for at least five years. For the first time in several years, however, new trends in bidding appeared. Principal among these was a shift in methods of hand valuation. Millions of players who for years had valued their hands by "honour-tricks" began instead to use a "point count" in which an ace counts 4 points, a king 3, a queen 2 and a jack 1, with various methods of valuing long and short suits. A bidding innovation that became popular was the "Stayman convention" of no-trump responses, which spread more rapidly than had any other convention since Easley Blackwood's slam method was introduced in the 1930s.

The international team matches played in Bermuda in November between teams from the United States, Great Britain and the European Bridge league came much closer than had any matches before to representing a world championship contest (*see below*). However, South America was not represented, nor were Negro bridge players of the United States.

Winners of the principal championship contests of the American Contract Bridge league in 1950 were:

*Masters' individual:* Morrie Elis, New York city.

*Masters' teams:* Howard Schenken, George Rapee, Samuel M. Stayman, New York city; John Crawford, Sidney Silodor, Philadelphia, Pa.

*Masters' pairs:* C. W. Yorke, Manuel Sherwin, Flint, Mich.

*Open teams, cumulative scoring (Vanderbilt cup):* Schenken, Rapee, Stayman, Crawford and Oswald Jacoby of Dallas, Tex.

*Open teams, match-point scoring:* Charles H. Goren, Sidney Silodor, Philadelphia; Mrs. Helen Sobel, Myron Field, B. Jay Becker, New York city.

*Open pairs:* Jack Kushner, Springfield, Mass.; Mark Kelleher, Stratford, Mass. (A. H. Md.)

**Great Britain and Europe.**—The three-cornered world championship match at Bermuda was won by the U.S., with Europe second and Great Britain third. The U.S. team comprised H. Schenken, J. Crawford, G. Rapee, S. Stayman, C. Goren and S. Silodor; the European, J. Werner, N. Nilliehook, R. Coch and J. Wohlin (Sweden) and E. Thorfinnsson and G. Gudmundsson (Iceland); and the British, M. Harrison Gray (captain), J. Tarlo, L. W. Dodds, K. W. Konstam, L. Tarlo and N. Gardener. Each team played 144 boards against each other team. The margins were: the U.S. beat Britain by 3,660 and Europe by 4,720; Europe beat Britain by 1,940.

For the third year in succession Great Britain, after a very close finish, won the European championship, which was held at Brighton from June 4 to June 11. Sweden was again second, Iceland was third and Italy fourth. Great Britain also won the ladies' championship, for the first time; Belgium was second and France third.

The Camrose cup, an international contest between England, Scotland, Wales, Northern Ireland and the Bridge Association of Ireland, was easily won by England.

The Waddington cup for masters' pairs was won by R. Sharples and J. Sharples; K. W. Konstam and G. Mathieson were runners-up. The Gold cup was won by J. T. Reese's team (J. T. Reese, B. Schapiro, A. Meredith, H. Leist, S. Lee and Mrs. A. L. Fleming). Crockford's cup was won by Mrs. A. L. Fleming's team (Mrs. A. L. Fleming, E. Bruce Parker, J. T. Reese, B. Schapiro,

K. W. Konstam and G. Mathieson).

Four major congresses were held during the year: by the English Bridge union at Harrogate, by the London association at Earls Court and two, by the Tournament Bridge association and the English Bridge union, at Eastbourne.

On the technical side the Acol system strengthened its hold among leading tournament players and was played by 15 of the 22 partnerships in the masters' pairs. (T. REE.)

**Co-operatives.** During 1950 the co-operatives made substantial progress in almost every field. Total membership in the U.S. was considerably in excess of 10,000,000 and the estimated world membership was 140,000,000.

The credit co-operatives or credit unions, which had the largest membership of any type of co-operative in America, added more than 100,000 new members in a special campaign, and reported more than 5,000,000 members in the U.S. with another 1,000,000 in Canada, Hawaii, Puerto Rico and Jamaica.

The rural electric co-operatives, which constituted another large section of the co-operative movement, added 380,000 subscribers. Rural electric co-operatives served more than 3,000,000 members in the U.S. and brought electric light and power to millions of farm homes. Twenty co-operative telephone lines or extensions of existing co-operative lines were launched during the year.

In the field of co-operative housing, the U.S. congress rejected by a narrow margin a proposal to create a co-operative housing administration which would be responsible for the promotion and development of co-operative housing projects in the country, with low-cost government loans and 50-year amortization mortgage payments. The law as adopted established a co-operative section within the Federal Housing administration to assist in development of co-operatives as part of the regular work of FHA. By the close of 1950 applications had been submitted for \$200,000,000 worth of co-operative housing projects under this program, and a few of these projects were already under construction. More than 100 co-operative housing projects serving 30,000 families were in operation before the FHA program got under way.

#### Consumer Co-Operatives in the U.S., Jan. 1951

Type of associations	Number of Associations	Membership†	Volume of business
<b>Commodity co-ops</b>			
Co-operative stores . . . . .	2,400	1,356,000	\$ 828,000,000
Service stations . . . . .	2,500	960,000	385,000,000
Farm supply . . . . .	1,353	710,000	480,000,000
Other . . . . .	80	38,000	16,500,000
	6,333	3,064,000	\$1,709,500,000
<b>Service co-ops</b>			
Medical associations . . . . .	70	800,000	\$ 15,000,000
Funeral associations . . . . .	44	40,000	500,000
Housing . . . . .	50	20,000	9,000,000
Campus co-ops . . . . .	500	50,000	10,000,000
Miscellaneous . . . . .	125	25,000	1,800,000
	789	935,000	\$ 36,300,000
<b>Specialized consumer co-ops</b>			
Rural electric co-ops . . . . .	1,000	3,000,000	\$ 200,000,000
Credit unions* . . . . .	1,300	6,000,000	1,000,000,000
Telephone . . . . .	33,000	675,000	10,000,000
Co-operative insurance† . . . . .	13	4,500,000	85,000,000
	35,313	14,175,000	\$1,295,000,000

\*Includes Canada.

†Includes only those organizations affiliated with the Insurance Conference of the Co-operative League of USA. Mutual insurance companies reported by the U.S. bureau of labour statistics include 2,000 associations, with 11,300,000 members and business of \$207,500,000.

‡Many individuals are members of several co-operative associations. Source: Compiled from figures issued by the U.S. Bureau of Labor Statistics, the Farm Credit Administration and the Cooperative League of USA.

Very few co-operative food stores were opened during the year, but most of the established retail units continued to grow in membership and volume of business. About 1,000 co-operative food stores handled an estimated \$100,000,000 worth of food-stuffs during the year.

Bulking largest in all co-operative activity in the United States were the co-operative marketing and farm supply associations. The marketing associations reported 3,600,000 members



with a business of \$7,195,000,000 by the close of 1948. The marketing co-operatives handle such diverse commodities as cotton, dairy products, fruit and vegetables, grain, dried beans and rice, livestock, nuts, poultry, tobacco, wool and other products.

The parallel co-operative purchasing associations buying feed, seed, fertilizer and other farm supplies, numbered in their membership 2,260,000 farmers. Business for the 1950 season was estimated at well above the \$1,440,000,000 mark which had been its previous record.

Co-operative petroleum associations weathered a severe economic storm which wiped out many other small independent refining companies as the industry went further into catalytic cracking and other expensive processing methods. The oil squeeze ended with the invasion of Korea when petroleum again came into short supply. Petroleum co-operatives, in addition to serving 960,000 farm and city consumers, operated 20 petroleum refineries, 1,500 oil wells and nearly 2,000 miles of pipe line.

The Insurance Conference of the Cooperative league, made up of 14 companies, reported continued rapid growth in this field. The number of individuals insured was 4,045,000 by the end of 1950. Insurance in force, which had reached \$830,000,000 by the end of 1949, was estimated to have passed the \$1,000,000,000 mark. A more accurate measure of operations was the premium income of \$67,000,000 with admitted assets of \$95,910,000. For the first time the investments by these insurance companies in other co-operatives became a substantial figure.

In the international field the co-operatives loomed large as a factor in the United States Point Four program for aid to underdeveloped countries. They also became an important factor in the technical assistance program of the United Nations. Under these programs co-operative marketing of farm products, purchasing of farm machinery, fertilizer and other farm supplies, co-operative development of irrigation systems, electric power, handicraft industries, etc., were essential in increasing the standard of living in all of the underdeveloped countries.

Both the agricultural marketing co-operatives and the consumer co-operatives participated actively in the programs of the Food and Agriculture organization and the Economic and Social council of the United Nations.

Two operating co-operatives in the international field continued to perform an outstanding international public service. They were CARE (Cooperative for American Remittances to Europe), which had distributed more than \$100,000,000 in food and textile packages overseas since 1945, and the International Cooperative Petroleum association which supplied oil and other products from co-operatively owned oil wells, pipe lines and refineries to farm and city consumers in such diverse areas as South Africa and the Scandinavian countries.

Characteristic of all of these co-operatives was open membership, democratic control and nonprofit operation which had been cardinal principles of co-operative enterprise for more than 100 years. (See also FARM CREDIT ADMINISTRATION.) (W. J. CL.)

**International Co-operative Alliance.**—During 1950 the International Co-operative alliance held together formally, but was rent by serious disputes between two groups, one from either side of the "iron curtain." The principal controversies during 1950 turned on the soviet demand that the I.C.A. should associate itself with the peace congress movement and on the conditions to be laid down for dealing with new applications for membership. Among the applicants were the reorganized co-operative movements of Hungary and eastern Germany which the committee decided not to consider individually until it had made a general interpretation of the rule governing membership and which were eventually refused admission. Administratively, the I.C.A. was firmly in the hands of the western co-operators.

In 1950 the I.C.A. submitted to the United Nations Economic

and Social council a resolution demanding that world oil resources be brought under the control of the United Nations. To increase its influence with U.N., the I.C.A. decided to appoint permanent co-operative representatives at Geneva and at Lake Success; it also acquired new headquarters in London and decided to increase its contribution rates to cover these additional costs. It was further determined to set up an agricultural auxiliary (to represent various agricultural co-operatives) and to make special efforts to promote joint working between the agricultural and the consumers' movements.

**Great Britain.**—In Great Britain the Co-operative union recorded for 1949 further increases in both membership and trade but experienced a further fall in rates of dividend on purchases. Membership of retail consumers' societies rose by 250,000 to 10,413,618, and the value of retail trade increased by £46,000,000 to £549,000,000; but the average rate of dividend fell from 1s. 5½d. to 1s. 4½d. on the £1. This continuing fall in dividend rates was partly the result of the societies' reluctance to raise prices; but the policy adopted had little effect in diverting trade from the movement's rivals. As far as it was possible to judge, the co-operative share in total retail trade fell a little, or at best was barely maintained, partly because it was greatest in the trade in basic foods, on which consumers spent a diminishing fraction of total income (on account of public subsidies as well as of changing demand).

During the last months of 1949 and the early part of 1950 the co-operative leaders complained to the Labour party that they had not been consulted on the plans for further nationalization included in the election program and demanded prior consultation about any future projects. The Labour party, under pressure, abandoned its scheme for nationalizing industrial insurance, which threatened the Co-operative Insurance society, and substituted a scheme of "mutualization," of which nothing was heard after the election.

**Other Countries.**—In Europe governments east of the "iron curtain" took further steps to bring the co-operative societies under Communist control, especially the peasant co-operatives, which were being gradually forced into the framework of a collective system. In Yugoslavia on the other hand the tendency was to encourage more co-operative autonomy and to stimulate measures of workers' control in the factories as a counterblast to soviet insistence on "democratic" centralism. There was a further recovery of consumers' co-operation in western Germany, including a notable revival of wholesale co-operation. Italian co-operation also recovered further, but was rent by doctrinal disputes. The Chinese movement underwent extensive reorganization after the Communist victory; but the government appeared to be handling the situation carefully, in order not to disturb the foundations of rural credit.

(G. D. H. C.)

**Copper.** World production of copper declined by 4% in 1949 in spite of sharp increases in Northern Rhodesia and Canada, the gains being more than offset by losses in Chile, the United States and Belgian Congo. The outputs of the major producing countries and the world totals during recent years are

Table I.—World Mine Production of Copper

	(Thousands of short tons)					
	1944	1945	1946	1947	1948	1949
Belgian Congo . . . . .	182.4	176.6	158.6	166.2	171.4	155.9
Canada . . . . .	273.5	237.5	184.0	225.9	240.7	263.6
Chile . . . . .	549.5	492.1	395.5	456.9	494.2	404.5
Cyprus . . . . .	1.6	...	0.1	14.0	17.4	26.4
Mexico . . . . .	45.5	68.0	67.3	71.4	65.1	63.1
Peru . . . . .	35.7	35.2	27.1	24.8	20.0	31.3
No. Rhodesia . . . . .	248.8	219.7	211.1	217.5	249.7	285.6
South Africa . . . . .	25.2	26.5	29.8	32.4	32.5	33.3
U.S.S.R. . . . .	149.9	154.9	163.8	182.2	198.7	229.2
United States . . . . .	972.5	772.9	608.7	847.6	834.8	752.8
Yugoslavia . . . . .	25.0	13.8	35.6	44.7	58.0	37.5
Total . . . . .	2,780	2,380	2,050	2,460	2,570	2,460



shown in Table I.

**United States.**—Table II presents the more important data on the copper industry in the United States, while Table III shows the output by states. These data were reported by the U.S. bureau of mines.

Table II.—Data of Copper Industry in the U.S.

(Thousands of short tons)						
	1944	1945	1946	1947	1948	1949
Mine output . . .	972.5	772.9	608.7	847.6	834.8	752.7
Smelter output . . .	1,003.4	782.7	599.7	862.9	842.5	757.9
Refinery output . . .	1,221.2	1,108.6	878.7	1,160.0	1,107.4	927.9
Domestic ore . . .	973.9	775.7	578.4	909.2	860.0	695.0
Foreign ore . . .	247.3	332.9	300.2	250.8	247.4	232.9
Secondary recovery . . .	950.9	1,006.5	803.5	961.7	972.8	713.1
From old scrap . . .	456.7	497.1	406.5	503.4	505.5	383.5
From new scrap . . .	494.2	509.4	397.1	458.4	467.3	329.6
Imports . . .	785.4	853.2	393.3	413.9	507.4	552.7
Refined . . .	492.4	531.4	154.4	149.5	249.1	275.8
Exports . . .	237.5	132.6	97.5	197.0	207.0	196.0
Available for use* . . .	1,932.8	2,004.5	1,342.1	1,615.9	1,655.0	1,391.2

\*Available for use includes total refinery output, secondary from old scrap, and refined imports less exports; secondary from new scrap is only a turnover of metal in process and does not add to the supply available for use, and other imports have been covered in refined output from foreign ores.

Table III.—Mine Production of Copper in U.S.

(Thousands of short tons)						
	1944	1945	1946	1947	1948	1949
Arizona . . .	358.3	287.2	289.2	366.2	375.1	359.0
California . . .	12.7	6.5	4.2	2.4	0.5	0.6
Colorado . . .	1.0	1.5	1.8	2.2	2.3	2.4
Idaho . . .	1.7	1.5	1.0	1.6	1.6	1.4
Michigan . . .	42.4	30.4	21.7	24.2	27.8	19.5
Missouri . . .	3.3	3.4	1.9	1.8	2.4	3.7
Montana . . .	118.2	88.5	58.5	57.9	58.3	56.6
Nevada . . .	61.2	52.6	48.6	49.6	45.2	38.1
New Mexico . . .	69.7	56.6	50.2	60.2	74.7	55.4
Utah . . .	282.6	226.4	114.3	266.5	227.0	197.2
Washington . . .	6.2	5.8	4.5	2.2	5.7	5.3
Others . . .	15.2	12.5	12.8	12.7	14.3	13.5
Total . . .	972.5	772.9	608.7	847.6	834.8	752.8

Mine and smelter output in 1949 declined 10%, refinery output 16%, and refinery output from domestic ores 19%. Imports increased, and although exports and secondary recovery declined, the supply available for use was down 16%. The drop was partly caused by strikes in the mines and smelters, and partly by a shift to a 40-hr. week.

In 1950 higher prices and increased demand advanced mine output to 666,943 tons in the first three quarters.

**Canada.**—An advance in primary copper output from 240,732 tons in 1948 to 262,991 tons in 1949 continued in 1950, with 173,906 tons in the first seven months; the corresponding refinery figures were 221,275 tons, 226,083 tons and 160,872 tons. (See also MINERAL AND METAL PRODUCTION AND PRICES.)

FILMS OF 1950.—*Copper Mining and Smelting* (Encyclopædia Britannica Films Inc.). (G. A. Ro.)

**Corn** (MAIZE). The 1950 U.S. corn crop of 3,131,790,000 bu., of which 2,845,000,000 bu. were harvested for grain, was 7% less than the 3,379,436,000 bu. of 1949, but 8% above the 1939-48 average. It appeared that this crop would not be sufficient to meet the feeding needs of the expanding livestock population, and that the Oct. 1, 1950, record carry-over of corn (859,280,000 bu.) would be partially used.

Table I.—The U.S. Corn Crops

	1950	1949	1948	Average, 1939-48
Total production (thousands of bu.) . . .	3,131,009	3,379,436	3,681,795	2,900,932
Acres harvested (thousands) . . .	83,302	87,029	86,067	88,007
Yields (bushels per acre) . . .	37.6	38.8	42.8	32.9

Acres harvested in 1950 declined to 83,302,000, as compared with 87,029,000 in 1949 and 88,007,000 average for 1939-48. The farmers only partially complied in 1950 with the government request for a sharp cut in acres planted in corn; by late 1950, the situation was sufficiently changed that all acreage restrictions were removed from the 1951 crop and something like

90,000,000 ac. were hoped for. Average yields per acre also declined to 37.6 bu. compared with 38.8 bu. in 1949, but continued well above the ten-year average of 32.9 bu.

Table II.—U.S. Corn Production by Leading States

(In thousands of bushels)						
State	1950	1949	Average, 1939-48	State	1950	1949
Iowa . . .	463,655	550,608	527,548	Alabama . . .	64,012	57,456
Illinois . . .	419,934	518,112	417,760	Pennsylvania . . .	60,834	64,077
Nebraska . . .	250,675	239,330	194,409	Mississippi . . .	60,473	47,725
Indiana . . .	213,790	249,548	207,605	Georgia . . .	57,172	59,400
Minnesota . . .	194,218	248,512	214,392	Virginia . . .	54,733	53,580
Missouri . . .	187,110	173,963	137,551	Arkansas . . .	38,610	28,368
Ohio . . .	174,928	202,552	166,283	South Carolina . . .	33,258	31,590
Wisconsin . . .	104,304	129,800	103,589	Oklahoma . . .	31,725	29,392
South Dakota . . .	99,296	82,824	88,607	New York . . .	30,340	29,610
Kansas . . .	93,188	73,196	64,779	North Dakota . . .	25,042	23,790
North Carolina . . .	81,955	77,525	55,385	Louisiana . . .	19,918	18,446
Kentucky . . .	78,810	88,762	74,129	Maryland . . .	18,920	18,354
Tennessee . . .	72,794	68,900	64,072	Colorado . . .	14,496	17,314
Texas . . .	65,730	58,208	64,272	Florida . . .	9,968	8,983
Michigan . . .	64,796	85,920	56,482	West Virginia . . .	9,287	11,748

Corn prices tended generally upward during much of the year. The average price for the 1950 crop was preliminarily estimated at \$1.45 per bushel, as compared with \$1.24 per bushel for the 1949 crop, or a total value for the 1950 crop of \$4,535,607,000. The government support level was \$1.47 per bushel national average on the 1950 crop. Exports were estimated at 125,000,000 bu. in the year beginning Oct. 1, as compared with 110,000,000 bu. in the previous year.

The world corn crop of 1950-51 was forecast at 5,285,000,000 bu., compared with 5,580,000,000 bu. in the previous year and a prewar average of 4,750,000,000 bu. (See also FOOD SUPPLY OF THE WORLD; LIVESTOCK; VEGETABLES.) (J. K. R.)

**Corporation Income Tax:** see TAXATION.

**Cortisone:** see ARTHRITIS; BIOCHEMISTRY; CHEMOTHERAPY; ENDOCRINOLOGY; HEART AND HEART DISEASES; INTOXICATION, ALCOHOLIC; MEDICINE; PHYSIOLOGY.

**Cosmic Rays:** see PHYSICS.

**Costa Rica.** A Central American republic, Costa Rica is located between Nicaragua and Panamá. Area: 19,238 sq.mi.; pop. (Dec. 31, 1949, official est.): 850,659, classified as about 80% white, 16% mixed, 3% Negro and less than 1% Indian. The capital is San José (pop. in 1949: 79,694); other principal cities are: Alajuela (11,187), Cartago (11,624), Guadalupe (15,966), Heredia (10,730), Liberia (3,061), Limón (12,666), Puntarenas (12,329), Tibás (5,227) and Turrialba (5,316). Language: Spanish; religion: predominantly Roman Catholic. President in 1950: Otilio Ulate Blanco.

**History.**—The political highlight of the year 1950 was the discovery and frustration of a revolutionary plot. According to the official announcement, issued Aug. 12 by President Ulate, the conspiracy involved several partisans of former Pres. Rafael Angel Calderón Guardia and a number of Communists. Among the 300 persons arrested as suspects was Manuel Mora, leader of the Vanguardia Popular, the outlawed Communist party. Mora had returned to the country in April after two years of exile in Mexico. Many of those arrested were released shortly afterward, and the incident passed without a suspension of constitutional guarantees.

Financial matters occupied the bulk of the government's attention during the year. The black market in foreign exchange was undercut early in April by a law creating a legal free market, and the free rate for the national monetary unit fell in a few days from 8.9 to 7.4 per U.S. dollar. On Sept. 22 a stock exchange was opened in San José with a capital of 600,000 colones. Although about 60% of the shares were owned by the nationalized banks and other government organizations, the market was reportedly under private management.



On July 27 the council of ministers decided that Costa Rica would support the United Nations' action in the Korean crisis, and offered volunteer soldiers and sites for air and naval bases to the U.N. forces.

**Education.**—In 1948 there were 919 primary schools with 99,550 students and 44 secondary schools with 10,055 students. The national university had 907 students and 180 professors in 1945. With the abolishment of the army in Jan. 1950, the country had more school teachers than soldiers. Approximately 17% of the 1950 national budget was allocated to public education.

**Finance.**—The monetary unit is the colón, valued officially at 17.6 cents U.S. and on the uncontrolled market at 11.3 cents on Oct. 31, 1950. The national budget for 1950 provided for expenditures of 108,000,000 colones; the proposed budget for 1951, 134,824,000 colones. In 1949 actual expenditures were 125,397,000 colones; actual revenues, 125,423,000 colones, leaving the first recorded surplus since 1940. At the close of 1949 the foreign debt amounted to 147,117,139 colones; the internal debt, 267,761,789 colones. At the end of June 1949, the central bank held gold reserves totalling 11,547,000 colones; total bank deposits were 63,128,000 colones; currency in circulation, 103,410,000 colones.

**Trade and Resources.**—Exports in 1949 were valued at \$31,440,000 (\$31,839,000 in 1948); imports, at \$43,350,000 (\$42,344,000 in 1948). During the first 6 months of 1950 exports were up 5.5% and imports down 11.0%. The chief exports (with 1949 values) were: bananas (\$11,815,410), coffee (\$10,005,000), abacá fibre (\$2,534,000), cacao (\$2,319,000) and sugar (\$1,038,000). The United States took 75% of the exports and supplied 75% of the imports in 1949. Increased banana planting during 1950 was expected to make Costa Rica the leading producer in the world by 1951 with a yield of more than 13,000,000 stems. The 1950 coffee crop was 500,000 bags of 132 lb. each, about 150,000 bags over the 1949 crop. In 1949 industrial production was valued at approximately \$44,652,000, of which \$13,728,000 was paid to about 65,000 workers.

**Communications.**—At the end of 1947 there were 414 mi. of public and 255 mi. of private railroad and 1,014.9 mi. of improved highways. At the end of 1948 there were 4,005 automobiles and 2,845 trucks and buses registered. Domestic air-line passenger flights reached a record in 1949 with 120,000 passengers and 13,000,000 lb. of cargo being flown; international flights carried 34,000 passengers and 2,300,000 lb. of cargo. At the end of 1949 the merchant marine had one ship of 1,000 tons. In 1948 the country had 32,000 radios and 7,100 telephones.

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**FILMS OF 1950.**—*Costa Rica* (March of Time Forum Films).

(M. L. M.)

**Cost of Living:** see BUSINESS REVIEW; PRICES.

**Cotton.** **Cotton Manufacture.**—The increased rate of activity in the U.S. cotton industry which began in the second half of 1949 continued in 1950, with additional stimulation provided by international events in June and thereafter, pushing the industry to boom levels. At the year's end, mills were booked up with orders well into the second quarter of 1951.

Production in 1950 was about 26% more than in the previous year and the largest since 1943. On a linear yardage basis, 1950 production was up about 1,700,000,000 yd. Production during the first nine months of the year was 7,245,449,000 yd., compared with 6,091,669,000 yd. in the corresponding period of 1949. In the final quarter production was running 25% higher than in the same quarter of 1949; operation during November was at a rate of 143% capacity on a two-shift 80-hr. week basis. Prices advanced as much as 27% on some standard cotton textiles during the year; a price index for 17 basic cotton gray goods registered 69.07 cents per pound in January, declined to 64.65 cents in May, then rose to 89.16 cents at the end of October.

The U.S. continued to hold a considerable share of the world's textile export market, but cotton cloth exports declined 41% during the first ten months of 1950 to 457,126,000 yd. as compared with 771,476,000 yd. for the same period of 1940.

**United States Production.**—Unlike 1949, when the raw-cotton surplus and its temporarily unsolved problems were the dominant factors in the situation, the short 1950 crop in the face of a mounting demand presented a new and very different set of problems. The U.S. cotton crop of 1950 of 9,884,000 bales (of 500-lb. gross weight) was one of eight since 1900 of less than 10,000,000 bales, whereas the 16,128,000-bale crop of 1949 was the largest since 1937 and the fourth largest on record. The average for the preceding ten-year period was

11,599,000 bales. Because of unfavourable weather and heavy boll weevil damage, the estimated lint yield per acre dropped to 265.4 lb., little more than the ten-year average of 261.3 lb. and low compared with 284 lb. in 1949 and 312.6 lb. in 1948. Acreage harvested in 1950 was 17,850,000, the third smallest since 1884 and comparable with 27,230,000 ac. in 1949 and the 21,282,000-ac. average for 1939-48. Only 18,654,000 ac. were planted to cotton, the smallest since 1885, partly because of wet weather at planting time and some labour shortage, but more especially because the government, with what then appeared to be a serious surplus of cotton on its hands, and fearful of another large crop, set the acreage allotment at 21,600,000 ac. and put cotton under marketing quota controls. Texas produced about 30% of the crop.

The 1950 crop of American Egyptian cotton was 58,300 bales, whereas only 4,000 bales were produced in 1949, but the average for 1939-48 was 27,800 bales.

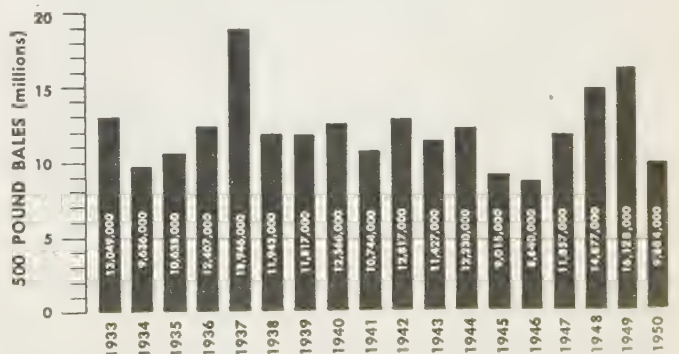
U.S. Cotton Production by States

(In thousands of 500-lb. bales)

State	1950	1949	Average 1939-48
Texas	2,900	6,040	2,729
Mississippi	1,340	1,487	1,653
Arkansas	1,100	1,632	1,393
California	930	1,268	501
Alabama	570	852	912
Georgia	495	604	769
Arizona	440	543	188
Louisiana	430	650	536
South Carolina	400	554	738
Tennessee	400	633	541
Missouri	253	462	373
Oklahoma	230	610	502
New Mexico	190	276	133
Florida	14	16	13
Virginia	5	20	23
Other states	7	15	16

Cotton prices during 1950 set a new record high since 1870 when they reached 44.14 cents per pound on the December futures on the New York Cotton exchange. The previous record was 43.75 cents per pound made in July 1920. Prices to growers which stood at 26.47 cents per pound in January, before the condition and probable size of the 1950 crop was indicated, and before international affairs took a serious turn, rose to 40.36 cents per pound in December. The probable average price for the 1950 crop was indicated at 40 cents per pound, compared with 28.58 cents average for the 1949 crop, though there was some concern near the year's end about the level of a probable ceiling price, inasmuch as cotton was one of the few agricultural products well above parity, which in Dec. 1950 was 32.36 cents per pound.

The average government loan rate on 1950 seven-eighths-inch upland cotton to producers was 27.90 cents per pound but only small amounts were included because of the higher market price, which by the year's end had allowed the C.C.C. (Commodity Credit corporation) to dispose of practically all of its once large



COTTON CROP in the United States. The figure for 1950 is the department of agriculture's estimate



holding (which amounted to about 6,500,000 bales at the beginning of 1950) at a profit.

Exports of cotton from the U.S. were a problem in reverse of the usual. In 1949 and early 1950 exports were strongly pushed. Later in the year when it became clear that world demand was insistent, prices inflating, C.C.C. stocks melting and the 1950 crop a small one, export allocations were ordered, the first comprising 2,000,000 bales for the period Aug. 1, 1950, to March 31, 1951. This caused some controversy; the allocation for the eight months was later increased to about 3,854,000 bales.

In summary, the 1950 crop of 9,884,000 bales, plus a carry-over of 6,748,000 bales, provided a total U.S. supply of about 16,632,000 bales against a probable domestic consumption of at least 10,000,000 bales and an export of perhaps 4,500,000 bales, thus leaving a probable carry-over as of Aug. 1951 of about 2,000,000 bales. This rapidly emerging tight supply situation, in contradistinction to a worrisome surplus only a year before, resulted in the U.S. department of agriculture's announcing that all curbs in the form of acreage allocations and marketing quotas were removed for the 1951 crop; that at least 27,000,000 planted acres and a 16,000,000-bale crop were officially desired; and that the 1951 crop would be supported at 90% of parity instead of a lower price level, which would have been permitted under the law.

**World Cotton Production.**—World cotton production in 1950 was 14% smaller than in 1949. The preliminary estimate for the crop for 1950–51 indicated 26,925,000 bales compared with the 31,190,000 bales of the previous year, and 31,695,000 bales average during 1935–39. Acreage declined to 65,370,000 from 68,770,000 in 1949, but was substantially below the 81,142,000 ac. of pre-World War II. Mexico harvested 1,800,000 ac. against 1,416,000 ac. in 1949, producing a record crop of 1,040,000 bales, or three times the prewar average. India increased production to 2,650,000 bales from 2,300,000 bales the previous year. Egypt reported a near record crop of 2,000,000 bales. The crop was also believed to be larger in China and the U.S.S.R. than in 1949.

World total cotton carry-over from previous crops increased to 16,600,000 bales, from 14,900,000 bales in 1949, but was low compared with the 1935–39 average of 17,352,000 bales. The carry-over was expected to drop sharply by Aug. 1, 1951. Total world consumption was expected to increase to at least 29,200,000 bales or fully 800,000 bales more than in the previous year. World cotton export was 12,300,000 bales in 1949–50, or 1,600,000 bales larger than in the previous year.

**Cottonseed.**—U.S. production of cottonseed, a derivative of fibre production, which is used as an edible oil base for margarine, was estimated preliminarily at only 4,005,000 tons for 1950, compared with 6,559,000 tons in 1949, and a ten-year average of 4,730,000 tons. The government support price program on cottonseed, set equal to 75% of effective parity price, translated into a loan of \$51 per ton or purchase at \$47 per ton, was not much used because the average price to producers at harvest-time was about \$71 per ton and in December \$102 per ton. World cottonseed production was estimated at 12,800,000 tons, 11% less than in 1949–50 and 16% less than the pre-World War II average.

(See also LINEN AND FLAX; RAYON AND OTHER SYNTHETIC FIBRES; TEXTILE INDUSTRY; WOOL.)

(J. K. R.)

**Cottonseed Oil:** see VEGETABLE OILS AND ANIMAL FATS.

**Council of Europe:** see EUROPEAN UNION.

**Council of Foreign Ministers:** see EUROPEAN RECOVERY PROGRAM; EUROPEAN UNION; NORTH ATLANTIC COMMUNITY.

**Counterfeiting:** see SECRET SERVICE, U.S.

**Countries of the World, Areas and Populations of the:** see AREAS AND POPULATIONS OF THE COUNTRIES OF THE WORLD.

**Courts:** see LAW.

**Cranberries:** see FRUIT.

**Credit, Consumer:** see CONSUMER CREDIT.

**Cricket.** In the winter of 1949–50 a visiting Australian team beat the South Africans in four out of five tests (the other was drawn). A second Australian team visited New Zealand and asserted clear superiority in the five first-class matches played. In the domestic Australian season South Australia secured the Sheffield shield. For the first time in 15 years Wellington won the Plunket shield in New Zealand.

A commonwealth eleven had a long and successful tour in India and Pakistan but lost the odd game of the three unofficial tests finished.

The main interest of the English season of 1950 centred around the visit of the West Indian team (captain, J. D. Goddard). The burden of their attack was in the hands of two young bowlers of less than medium pace and with practically no previous experience of first-class cricket: A. L. Valentine and K. T. Ramadhin in the four matches together took 59 wickets at an over-all average cost of 21 apiece, bowling 367 maidens in a total of 800 overs, more than double the number bowled by all the other members of the side. In batting the West Indies could command an invaluable combination of soundness and aggression. The opening pair were generally A. F. Rae and J. V. Stollmeyer. After these two would come E. D. Weekes, F. M. Worrell and C. L. Walcott.

The visitors' defeat by the Marylebone Cricket club at Lord's was rather unexpected; and their defeat by 202 runs in the first test, at Manchester, at the beginning of June, greatly disappointed them. They were 97 behind England's 312 on the first innings. England's second total was 288.

A fortnight later, however, on a perfect wicket, the West Indian team won the next test match at Lord's by the devastating margin of 326 runs. When Valentine and Ramadhin took complete charge of the bowling, 10 wickets fell for 89 runs in England's first innings.

In the third test, on the Trent Bridge ground at Nottingham, England made 223 and the West Indies 558 in the first innings. In the second, when England had lost only 5 wickets for 408, there seemed a good chance of a draw. But in the end the West Indies had but 105 runs to win, which their opening pair made.

In the last test match at the Oval the West Indies began by making 503, and the last English wicket fell with 9 runs still needed. In the second innings England could make nothing of Valentine (6 for 39) or Ramadhin (3 for 38).

In the domestic English season the Gentlemen set the Players 253 to get in two and one-half hours; and when time came, with the last batsman in, only 11 runs were needed.

Cambridge university's eleven had G. H. G. Doggart, J. G. Dewes and D. S. Sheppard, who all played for England in test matches, and P. B. H. May, like Sheppard a freshman, who was little behind them in skill. In the university match Oxford did very well, mainly because of C. B. Van Ryneveld's spinners, to dismiss so strong a batting side for 200 on the first day, but the game drifted to a draw.

In county cricket Surrey, by a victory over Leicestershire in their last match, caught Lancashire on the tape and tied with them for the championship. Yorkshire, with a young side, trod hard upon their heels; and Warwickshire, which finished fourth, was the only county to defeat the West Indian team.

In school cricket Harrow had rather the better of Eton in a drawn match.

(H. S. A.)



**Crime.** **United States.**—Crime in 1950 continued the upward course recorded in 1949. The net increase in cities was not large, but in rural areas the sharp upswing that followed the urban and rural declines of 1948 was extended into 1950 at an undiminished pace.

Cities showed marked changes chiefly with respect to negligent manslaughter (chiefly highway traffic deaths) which reversed a marked 1949 decline with an amazing rise in 1950. Auto thefts also reversed their downward tendencies in 1949 with a 1950 rise.

Table I compares 1950's crime fluctuation in city and country. Among other contrasts, this table shows that the three crimes which declined in city frequency (murder, rape and robbery) increased in the rural districts.

**Table I.—Crime Changes in U.S. Cities and Rural Areas—January to June 1949 and 1950**

Offense classification	Per Cent Change in 1950	
	Cities	Rural Areas
Murder and nonnegligent manslaughter . . . . .	- 1.1	+ 1.6
Negligent manslaughter . . . . .	+19.8	- 3.7
Rape . . . . .	- 4.6	+ 4.8
Robbery . . . . .	- 3.8	+ 3.4
Aggravated assault . . . . .	+ 0.4	+ 4.7
Burglary . . . . .	+ 1.9	+14.9
Larceny . . . . .	+ 2.2	+ 5.6
Auto theft . . . . .	+ 3.2	- 3.9
Total . . . . .	+ 1.9	+ 7.4

Based upon returns from more than 3,000 cities, villages and rural townships, 2,000 sheriffs and most state police organizations, the estimated national total of major crimes and larcenies in 1949 was 1,763,000, representing an increase of 77,000 over 1948. Thus an average day in 1949 produced almost 300 homicides or felonious assaults, 162 robberies, more than 1,100 burglaries, almost 450 auto thefts and some 2,800 larcenies of other property.

Urban and rural crime rates for 1950 appear in Table II.

**Table II.—Urban and Rural Crimes: Semiannual Rates per 100,000 Population, January to June 1950**

Offense classification	Urban	Rural
Murder and nonnegligent manslaughter . . . . .	2.76	2.83
Negligent manslaughter . . . . .	1.77	2.27
Rape . . . . .	6.03	6.00
Robbery . . . . .	30.0	10.1
Aggravated assault . . . . .	39.4	18.6
Burglary . . . . .	211.5	92.2
Larceny . . . . .	499.1	113.3
Auto theft . . . . .	83.8	23.1

In 346 cities with more than 25,000 population (total population 37,480,000) the value of property stolen in 1949 totalled more than \$108,000,000. Auto thefts recorded the highest average value at \$835. This was followed by robberies at \$172, burglaries at \$116 and miscellaneous larcenies at \$56. In the group of cities specifically under review, recovered property represented 62.4% of the theft total in 1949. But if the high recovery rates for motor cars is excluded from the reckoning the recovery rate drops to 22.6%. Nonetheless the record of recoveries improved in 1949 over 1948.

Among the nine geographic divisions, the south Atlantic and south central cities led in murders and in assaults with lethal weapons.

The Pacific coast, on the other hand, was consistently highest for all of the property crimes, with cities of the mountain area generally in runner-up position. As in past years the New England and middle Atlantic cities divided honours for the lowest region-wide rates.

During the first six months of 1950, the FBI in Washington, D.C., received and filed the arrest and identification records of 402,383 individuals who had been taken into custody by local, state and federal law enforcement officers. The peak age of such arrests was 21 years, followed by those who were 22, 23, 19 and



"THE GREAT GAMBLING INVESTIGATION," a cartoon by Pease published in the *Newark Evening News* during 1950

20 years of age. Women represented only 9.4% of the total. The white race predominated with 293,298 arrests in this six months period, 103,677 were Negroes, and the small balance was made up of Indians, Chinese, Japanese and other races.

**Table III.—Range in Semiannual Crime Rates per 100,000 Population in Cities Grouped by Geographic Divisions; January-June 1950**

Offense classification	Highest Rate	Lowest Rate
Murder and nonnegligent manslaughter . . . . .	East south central . . . 8.26	New England . . . 0.68
Robbery . . . . .	Pacific . . . . . 57.3	New England . . . 9.0
Aggravated assault . . . . .	South Atlantic . . . 121.4	New England . . . 5.5
Burglary . . . . .	Pacific . . . . . 362.3	Middle Atlantic . . 120.8
Larceny . . . . .	Pacific . . . . . 1,078.5	Middle Atlantic . . 213.4
Auto theft . . . . .	Pacific . . . . . 149.0	Middle Atlantic . . 149.0

A feature of the year was the program of the U.S. senate's special committee to investigate organized crime in interstate commerce. Its hearings, conducted under the chairmanship of Senator Estes Kefauver of Tennessee, were directed chiefly at gambling offenses in major urban centres. (See also FEDERAL BUREAU OF INVESTIGATION; JUVENILE DELINQUENCY; LAW; MUNICIPAL GOVERNMENT; POLICE; SECRET SERVICE, U.S.).

**BIBLIOGRAPHY.**—Federal Bureau of Investigation, *Uniform Crime Reports for the United States and Its Possessions* (semiannual bulletins) for 1949 and first half of 1950. (Br. S.)

**Great Britain.**—In 1949 the number of persons in England and Wales found guilty of offenses of all kinds was 650,497, of whom 114,294 had committed indictable offenses, 523,563 nonindictable offenses and 12,640 offenses against defense regulations, a decline of 15,090, 4,003 and 7,523 respectively against the figures for 1948. Traffic offenses accounted for 50.2% of the total. Of those found guilty of indictable offenses, 99,054 were males and 15,240 females. The age-distribution remained almost unchanged: 22% were less than 14 years old, 13% between 14 and 17, 11% between 17 and 21, 23% between 21 and 30 and 31% over 30.

Indictable offenses known to the police decreased from 522,684 in 1948 to 459,869. In the metropolitan police district the figure per 1,000 of the population went down from 15.1 to 12.6 (before World War II it had been between 10 and 11). The decline was largely confined to the various categories of theft and breakings, whereas the more sophisticated types of offenses against property, such as receiving, frauds and false pretenses, showed a considerable increase. Sexual offenses also rose from 10,922 to 12,015, crimes of violence only slightly—from 5,183 to 5,235. In view of the alarm caused by a number of serious acts of violence committed by young people, which led to debates



in the houses of parliament and demands for the reintroduction of corporal punishment (abolished by the Criminal Justice act, 1948), a special home office paper giving statistical information on the subject for the years 1946 to 1949 was published in May 1950. From this it appeared that the total of "floggable" crimes of robbery known to the police had declined from 978 in 1948 to 860 in 1949, and the number of persons found guilty of such acts from 448 to 414; but the numbers of offenders between 14 and 17 years of age and between 17 and 21 had risen slightly, from 44 to 50 and from 87 to 96 respectively. One hundred cases of murder, involving 114 persons aged one year and over, became known to the police. Sixty-one persons were arrested in 59 cases, involving 67 victims: 12 of them were found unfit to plead, 12 guilty but insane and 1 insane after conviction and 17 were executed; 34 committed suicide.

In Scotland the total of persons convicted or found guilty in 1949 was 92,778, of whom 90.9% were males. The highest incidence was in the 17-20 age group for males and in the 30-39 age group for females. The total number of crimes and offenses known to the police was 162,498, a decrease of 9,631 or 5.6% against the total for 1948; 60% of them were committed in the four counties of cities, which together included only 37.7% of the total population. Sentences of imprisonment went down by 649. Fourteen cases of murder became known to the police; but of eight persons proceeded against, seven were acquitted and one was found insane and unfit for trial. The percentage of crimes and offenses cleared up was 72.4, as against 68.9 in 1948.

**Europe.**—In France the total number of cases dealt with declined from 720,461 in 1948 to 670,962 in 1949, but the percentage of arrests increased from 47 to 58. Crimes against life went up from 9,138 to 14,969, sexual offenses from 6,557 to 8,094; but thefts remained stationary, and offenses against police regulations of an economic character decreased from 18,919 to 11,585.

In Austria the total number of cases brought to the notice of the police declined from 301,103 in 1948 to 221,097 in 1949. The decline was particularly noticeable for murder and manslaughter (155 as against 227) and for crimes against property (53,485 as against 82,619), whereas sexual offenses increased (from 2,060 to 2,691).

In Italy too there was a decline in the number of cases brought to the notice of the police (1,281,408 in 1949 as against 1,357,193 in 1948) for all categories of crime except sexual offenses, which increased from 6,760 to 7,377.

In Switzerland the figures available for the whole country referred only to the number of persons found guilty. There was a slight decline in the total from 18,672 in 1948 to 18,296 in 1949 for practically all categories except sexual offenses, which increased from 1,772 to 1,818. (See also JUVENILE DELINQUENCY; POLICE; PRISONS.) (H. MM.)

**Crude Oil:** see PETROLEUM.

**Cuba.** The republic of Cuba occupies all of the island which lies between 20° and 25° N. lat. and 74° and 85° W. long. Area: 44,217 sq. mi., including Isle of Pines and smaller islands. The population (est. 1950) was about 5,400,000, approximately half of European and half wholly or partly of non-European origin. Greater Havana had a population in excess of 800,000 (1949); other important cities (1946), Santiago de Cuba, 152,000; Camagüey, 87,000; Pinar del Río, 64,000; Matanzas, 55,000; Santa Clara, 54,000; Cienfuegos, 53,000. Cuba took no census in 1950, but expected to do so in 1951. President during 1950: Carlos Prío Socarrás.

**History.**—In domestic affairs, Cuba went through 1950 on a basis of expanding activity, full employment and rising de-

mand for its principal product, sugar. By the end of the sugar-producing season (June 14) the output attained 6,126,000 tons, the third largest crop on record. The outlook for a larger crop in 1951 was considered reasonable. The public leaders, as well as contract farmers, sugar refiners and labour leaders seemed all to agree in 1950 as to the need of a new agreement, embracing the regulation of production and marketing as well as of price movement.

The projected foreign loan of 200,000,000 pesos (the peso is generally on a parity with the U.S. dollar), proposed in 1949, encountered much opposition, and the constitutionality of the legislation was challenged in the supreme court. Negotiations with the International Bank for Reconstruction and Development (*q.v.*) were carried on during the year. Meanwhile, a public works program was launched under an internal loan of \$45,000,000, and some road-construction contracts were let in the autumn. Government revenue for the fiscal year ending June 30, 1950, on all accounts, amounted to \$301,000,000. The budget for 1950-51 was not approved until the closing days of the congress, in late December. A number of minor technical changes in tax laws were enacted during the session. The congress enacted a law creating an agricultural and industrial bank, and others reorganizing the structure of the provinces and their government. The only other law of importance was that sent to the president on Dec. 12 granting women equal civil rights with men with respect to marriage and property rights. The right to vote was conferred on women in 1936. Legislation requiring all labels on food containers to be printed in Spanish was given effect during the year, and the date in 1951 after which this must be done was fixed.

The National Bank of Cuba, created in 1949, began formal operation in April as the central bank, and shortly after, as the national clearinghouse for all banks in the republic. In August its first statement disclosed that it had assumed responsibility for about \$37,000,000 of treasury demand notes issued in 1947, in part for the purpose of paying the Cuban share in the capital of the International bank.

Prices of consumer goods continued to rise, and wages and other costs followed. The expansion of the capital and large provincial cities could not take place sufficiently rapidly to provide adequate housing, in spite of great building activity.

Cuban-Dominican tension subsided in 1950. When the Nationalist outbreak occurred in Puerto Rico, some sovietophil members of congress proposed resolutions advocating the independence of Puerto Rico from the United States.

Eighteen countries of the western hemisphere were represented at the first regional conference of the United Nations Educational, Scientific and Cultural organization, which opened at Havana on Dec. 8. (C. ME.)

**Education.**—In the school year 1944-45 there were 498,286 children in attendance at public schools and 72,000 at private schools. There were 21 institutes for advanced education and a normal school and a commercial school in each province. University education was available at the University of Havana.

**Finance.**—The monetary unit is the peso, officially pegged at par with the U.S. dollar. As of Dec. 31, 1949, the national debt was \$105,880,000, of which \$73,912,700 was foreign and \$31,967,300 was domestic. Notes in circulation (including U.S. currency) on March 31, 1950, totalled \$722,000,000; the gold reserve was \$299,000,000. The composite statement of the 15 principal banks on Dec. 31, 1949, showed assets of \$662,518,500; total deposits amounted to \$554,462,128.

**Trade and Communications.**—Exports in the year 1949 amounted to \$578,306,696; imports were \$451,390,279. The chief exports were sugar and molasses (88%) and tobacco and its products (4%). The U.S. supplied 83% of the imports. Leading customers were the U.S. (64%), the United Kingdom (12%) and Germany (5%).

Cuba in 1949 had 3,017 mi. of main-line public railroad and about 660 mi. of sidings and yards. In addition, there was a total of 7,870 mi. of industrial trackage. Roads on Jan. 1, 1949, included 1,720 mi. of paved highways and 600 mi. of improved highways. As of Dec. 31, 1948, there were 40,878 passenger cars, 2,795 motorcycles, 24,634 trucks and 4,118 buses. There were two domestic aviation companies—Compania Cubana de Aviacion and Aerovias "Q," both of which had international routes.



In addition, international service was supplied by Pan American World Airways and several other air lines. The merchant marine had 34 steamers and motorships (100 tons and over) aggregating 36,135 gross tons on June 30, 1949.

On Dec. 31, 1948, there were 93,426 connected telephones and about 100 long- and short-wave broadcasting stations. A television station began operation in Oct. 1950; there were about 1,500 television receivers.

**Agriculture.**—Sugar cane continued to be by far the most important crop. Production in the 1949–50 season amounted to 6,126,000 short tons (1948–49: 5,763,500 tons). Production of blackstrap molasses totalled 265,000,000 gal. Production of other crops in 1949 included leaf tobacco 30,000 short tons; coffee 30,500 tons; henequen fibre 17,500 tons; pineapples 138,500 tons; and rice (milled) 42,500 tons. The livestock census of July 1, 1946, showed 4,136,000 cattle, 1,338,000 pigs, 154,000 sheep and 141,000 goats.

**Manufactures.**—The manufacture of sugar from sugar cane is the principal industry. There were in 1950 approximately 160 sugar mills scattered throughout the island. Industrial production in 1949 included cigars 514,254,000 units; cigarettes 7,808,000,000 units; cement 1,837,000 bbl.; cotton piece goods 27,611,387 yd.; tires 53,050 units; paper 24,000 short tons; beer 96,513,920 litres; leather footwear 5,850,000 pr. The cost-of-living index (food) stood at 236 in Aug. 1950 (July-Dec. 1937=100).

**Mineral Production.**—Refractory chromite was the most important mineral in volume of output; 92,287 long tons were produced in 1949. Other minerals included copper concentrate 53,489 long tons; chemical manganese ore 10,982 tons; and metallurgical manganese ore 50,534 tons.

**FILMS OF 1950.**—*Pearl of the Antilles—Cuba* (Cornell Associates). (J. W. Mw.)

**Curaçao:** see NETHERLANDS ANTILLES.

**Curling.** The Gordon international medal was returned to the United States in March 1950 when U.S. skips captured 15 of 28 matches from their Canadian rivals in a two-day bonspiel at the Utica (N.Y.) Curling club. The victors tallied a total of 332 points against 299 for the Canadian stars.

Ross Tarlton became the first skip ever to win the Douglas medal three times by pacing his Hamilton (Ontario) Thistles to victory in the 15th annual contest at the St. Andrew's Golf club. The Thistles gained the prize with a 19-7 victory over the Mahopac rink in the final match.

The Utica club numbered among its many victories a triumph in the Royal Caledonian trophy series while a team led by Roy Read won the Gordon Grand National medal and another skipped by Ward Murray captured the Mitchell medal for Utica. The Country club of Brookline, Mass., won the Mohawk trophy bonspiel and St. Andrew's of Hastings-on-Hudson, N.Y., took the Utica cup. (T. V. H.)

**Currency:** see COINAGE; EXCHANGE CONTROL AND EXCHANGE RATES. See also under various countries.

**Cycling.** Bobby Pfarr of Kenosha, Wis., pedalled his way to the senior men's title in the 22nd annual national cycling championships held at New Brunswick, N.J. Pfarr scored 9½ points to edge out Bob Travani of Detroit, Mich., who tallied 9. Harry Backer of San Diego, Calif., took the junior men's crown and Doris Travani rode off with the women's laurels in 1950 for the fourth straight year.

Maurice Verdeun of France won world amateur sprint honours, Sid Patterson of Australia captured the pursuit title and Jack Hoobin of Australia the road-race crown. World professional champions were: Reginald H. Harris of England, sprint; Antonio Bevilacqua of Italy, pursuit; Brik Schotte of Belgium, road; and Raoul LeSueur of France, motor-paced.

Ferdinand Kubler of Switzerland led home a huge field of stars in the classic Tour de France, the blue-ribbon event of European bicycle racing. Win van Est of the Netherlands triumphed in the Bordeaux-to-Paris race of 365 mi.

Ed Troll of Ridgewood, L.I., N.Y., finished first in the 21st annual 100-mi. handicap road race of the German Bicycle Sports club at Old Westbury, L.I., N.Y. His time was 4 hr. 17 min. 15 sec. Barney Vander Valk of Hawthorne, N.J., took the best time award with a record 4 hr. 15 min. 33 sec.

(T. V. H.)

**C.Y.O.:** see SOCIETIES AND ASSOCIATIONS: *Catholic Organizations for Youth.*

**Cyprus.** An island in the eastern Mediterranean, Cyprus is a British colony. It lies south of Turkey and west of Syria and Lebanon. Area: 3,572 sq.mi.; pop. (1946 census): 450,114, (1949 est.): 467,000. Chief towns (pop. 1946): Nicosia (cap., 34,463); Larnaca (14,746); Limassol (22,693); Famagusta (15,912). Languages: Greek 80%, Turkish 18%; English also is spoken by about 10%. Religions: Greek Orthodox 80%, Moslem 18%. Governor in 1950: Sir Andrew Wright.

**History.**—The *enosis* movement for union with Greece filled the political stage during 1950, being supported both by the authorities of the Greek Orthodox Church in the island and by the political Left. The Turkish population of the island were opposed to union with Greece and continued to support the British connection. The attitude of the British government remained that the issue of *enosis* was closed and could not be reopened.

It was announced at the beginning of the year that the malaria-eradication campaign could now be regarded as completely successful. The number of cases of malaria had been reduced from about 18,000 in 1946 to less than 100 in 1949; none of these 100 cases was a new infection. The cost of the campaign was £300,000 or 13s. a head of the population. In March the government contracted for the construction of a new power station at Dhekelia to cost £182,962 as the first instalment of a project to supply electric power to almost the whole island, and in May it was announced that a colonial development grant of £46,000 had been made for a geological and geophysical survey of the colony. In his budget speech in March the governor said that Cyprus had reduced its adverse trade balance from £9,700,000 in 1948 to less than £3,000,000 in 1949. A further reduction of more than £700,000 followed in the first half of 1950. There were 611 co-operative societies with a membership of 98,485. An archaeological expedition, financed by the Ashmolean museum, Oxford university, and Sydney university, Sydney, N.S.W., arrived in August to investigate an Iron Age site near Myrtou.

**Finance and Trade.**—Currency: the Cyprus pound of 180 piastres (£1=£1 sterling=280 cents U.S.). Budget (est. 1950): revenue £4,225,610; expenditure £4,053,062. Foreign trade (1949): imports £11,026,971; exports, incl. re-exports, £8,243,353. Principal exports: cuprous concentrates, iron pyrites, asbestos, wine and agricultural produce. (K. G. B.)

**Cyrenaica:** see LIBYA.

**Czechoslovakia.** A people's republic of central Europe, Czechoslovakia has an area of 49,330 sq.mi. Pop.: (1949 est.) 12,463,000. Languages: Czech and Slovak. Religion: mainly Roman Catholic. Chief towns (pop. 1947 census): Prague (cap., 921,416); Brno (272,760); Moravska Ostrava (181,181); Bratislava (172,664); Plzeň (118,152). President of the republic: Klement Gottwald; prime minister: Antonin Zápotocký.

**History.**—The Slovak Communist party held a congress at the end of May 1950. The main theme of the discussions was the "sin" of nationalism, of which prominent Slovak Communists had proved guilty. These included the premier of the Slovak regional government, Karel Husak, the regional commissioner of justice, Laco Novoměsky, the former chairman of the Slovak party, Karel Šmidke, and the former foreign minister of the republic, Vlado Clementis. According to vice-premier and foreign minister Vilem Široky, Novoměsky had tolerated nationalism in Slovak schools, where "liberalism was making itself felt." Education had been left in the hands of "outspoken enemies of the republic." As for Clementis, his most serious crime was that "in 1939, after the conclusion of the Soviet-German pact, which had such great importance for progressive mankind because it marred the base and treacherous plans of the Anglo-American (*sic*) imperialists.





STATE COURT HEARINGS during a mass trial of Catholic priests in Prague, Czech., during 1950. The Redemptorist monk shown testifying was reported to have pleaded guilty to treason and was sentenced to ten years in prison

he stood up against the Soviet Union, he took up the position of a class enemy." His impious attitude persisted during the Finnish-Soviet war and the "liberation of western Ukraine and western White Russia." At the congress all four heretics appeared and abased themselves. Husak and Novoměsky were accepted as penitents, but the "self-criticism" of Šmidke and Clementis was rejected. The obdurate heretics were handed over to the secular arm, and nothing more was reported on their fate.

Spy trials continued to flourish during 1950. In the first five months of the year there were six, involving accusations of espionage for the United States, Great Britain and the Netherlands. The most important was concluded on May 31. The chief accused, the former member of parliament and prominent figure in the Czech Socialist party, Mrs. Milada Hořáková, was hanged. The authorities paid special attention to the police and army. On May 23 a new ministry of national security was set up, distinct from the ministry of the interior. It was entrusted to the Communist Ladislav Kopřiva. In June an order of the defense minister Alexěj Čepička gave greater powers to the political commissars and urged greater activity by the branches of the Communist party and of the youth organization within the army.

Official spokesmen continued to complain of insufficient efforts by the industrial workers. At a meeting of the Miners' union in Moravská Ostrava on Sept. 8, Premier Antonín Zápotocký stated that before World War II the average hourly output of coal had been 213 kg., and in 1950 was only 175 kg.

Collectivization of agriculture had not gone so far in Czechoslovakia as in other countries of eastern Europe. There were three forms of "unified agricultural co-operative" in the republic. The most widespread was one in which members shared agricultural machinery but farmed their own holdings independently. At the end of Feb. 1950 there were 2,400 of these in the country, with 110,000 members. Preparatory committees existed, to prepare such co-operatives, in a further 1,300 villages. The second type of co-operative provided for joint harvesting, but the crop was distributed according to the acreage held by

each member. The third type was one in which the crop was distributed mainly according to the labour of the members, but some account was also taken of the size of the holdings which members brought with them into the co-operative. Of this last type, which resembled that which was being rapidly developed in Bulgaria and Hungary, there were only 30 in Czechoslovakia in the first months of 1950. The slow rate of collectivization in Czechoslovakia could be explained partly by the comparative prosperity of the peasants, especially in the Czech lands. There was not much land shortage, methods of cultivation were comparatively good and peasants could do well from individual small and medium holdings. There was no destitute rural proletariat. In such conditions peasants were not eager to join collective farms and strongly opposed them. The government did not wish to antagonize the whole peasantry and so was going slowly. Another reason was that, as industry was already well developed and the skilled working class numerous, industrial planning did not require such a large and rapid increase in the unskilled labour force.

In the conflict with the Catholic Church there was no change in policy. The government's efforts to organize a group of collaborationist clergy, to denounce the reactionary aims of the Vatican and the hierarchy, continued. The archbishop of Prague, Josef Beran, remained confined to his palace. On April 18 the government took over monastery buildings throughout the republic, on the grounds of housing shortage, and concentrated all monks in a few selected buildings.

In foreign policy, the Moscow-sponsored *rapprochement* with eastern Germany continued. On June 21 a German delegation led by the Communist leader Walter Ulbricht visited Prague and signed a declaration accepting the present western frontiers of Czechoslovakia as definitely binding on the German people. Among other features of Czechoslovakia's foreign relations may be mentioned the propaganda campaign started in July which accused the United States of dropping Colorado beetles from aircraft over Czechoslovak territory.

(H. S.-W.)

Education.—Schools (1948): elementary 12,019, pupils 1,059,010; higher grade 2,280, pupils 463,295; secondary 292, pupils 70,440; vocational



1,243, pupils 91,160; universities 7, students 31,769; institutions of higher education 10, students 23,127.

**Finance and Banking.**—Budget: (1949) revenue 89,320,000,000 koruny, expenditure 89,278,000,000 koruny; (1950 est.) revenue 131,930,000,000 koruny, expenditure 131,556,000,000 koruny. National debt (Sept. 1949) 116,177,000,000 koruny. Currency circulation (March 1950) 72,000,000,000 koruny. Bank deposits (Jan. 1950) 146,000,000,000 koruny. Monetary unit: koruna, with an official exchange rate of 50.15 koruny to the U.S. dollar.

**Foreign Trade.**—(1949) Imports 39,399,000,000 koruny; exports 40,308,000,000 koruny.

**Transport and Communications.**—Roads (Dec. 1946) 43,969 mi. Licensed motor vehicles (Dec. 1949): cars 161,000; commercial 63,000. Railways (1947) 8,161 mi.; passenger-miles (six months 1949) 5,502,000,000; freight net ton-miles (six months 1949) 4,401,000,000. Air transport (1949): flights 16,833; miles flown 4,884,000; passenger-miles 40,931,000; freight net ton-miles 2,598,000. Telephones (1948) 350,708. Radio receiving set licences (Aug. 1949) 2,229,000.

**Agriculture.**—Main crops (metric tons, 1949): wheat 1,573,000, (1950) 1,590,000; rye 1,339,000, (1950) 1,250,000; barley 1,116,000; oats 1,107,000; maize 231,000; potatoes 6,263,000; sugar, raw value, 627,000; grapes 60,000. Livestock (Jan. 1949): cattle 3,663,000; pigs 3,242,000; sheep 459,000; horses 640,000; chickens 13,737,000. Food production (metric tons, 1949): milk 2,618,000; butter 30,000; cheese 13,000; meat 294,000 of which beef 104,400.

**Industry.**—Persons employed in manufacturing industries (Nov. 1949) 1,477,700. Fuel and power (1949): coal 17,004,000 metric tons; lignite 26,520,000 metric tons; manufactured gas 2,189,000,000 cu.m.; electricity 8,268,000,000 kw.hr. Raw materials (metric tons, 1949): pig iron 1,875,000; steel ingots and castings 2,745,000. Manufactured goods (1949): cotton piece goods 318,000,000 m.; cotton yarn 75,800 metric tons; wool yarn 35,400 metric tons; rayon filament yarn 5,500 metric tons; rayon staple fibre 20,500 metric tons; sheet glass 135,500 metric tons; cement 1,740,000 metric tons. Production of motor vehicles (1948) 25,200.

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**Dahomey:** see FRENCH UNION; FRENCH WEST AFRICA.

**Dairy Industry, Bureau of:** see AGRICULTURAL RESEARCH ADMINISTRATION.

**Dairy Products.** Production of milk on farms in the U.S. in 1950 was estimated at slightly more than the 119,136,000,000 lb. produced in 1949, perhaps as much as 120,500,000,000 lb., compared with a record production of 121,504,000,000 lb. in 1945. This provided for a total civilian milk consumption (in all forms) per person of 763 lb., compared with 801 lb. per person as an average for 1935-39 and 760 lb. in 1949. Of the total, 390 lb. were used as fluid milk and cream in 1950, or 15% more than the 340 lb. of 1935-39.

The output of milk per cow again set a new record, 5,310 lb. in 1950, as compared with 5,239 lb. in 1949 and a pre-World War II average of only 4,403 lb. The number of milk cows on farms at the beginning of the year was 24,625,000, compared with 24,416,000 in 1949 and 26,175,000 average for the previous decade. The average value per head dropped to \$177 as of Jan. 1, 1950, from \$193 a year previous.

A slight general decline in the price to the farmer for milk and milk products was in evidence until after the outbreak of the war in Korea. The seasonal low reached in June was \$3.45 per hundredweight, rising to \$4.45 in December, as compared with \$4.21 per hundredweight a year earlier. Cash farm receipts for the sale of milk and dairy products in 1950 were estimated at about \$3,710,000,000, as compared with a record of about \$4,441,000,000 in 1948 and \$3,781,000,000 in 1949. Retail prices averaged about one cent per quart higher at the year's end.

The Agricultural act of 1949 made price support mandatory on milk and butterfat at from 75% to 90% of revised parity. In carrying this out, support prices were set to reflect 79% of parity. The department of agriculture announced that farm prices through March 1951 for butterfat and manufacturing milk would be supported at a national average of approximately \$3.07 per hundredweight for milk and 60 cents per pound for butterfat. Cheese would be purchased at 31 cents per pound and evaporated milk at \$3.95 per case. Dried milk solids also would be purchased. The dairy product-feed price ratios were below average and even less favourable than a year earlier.

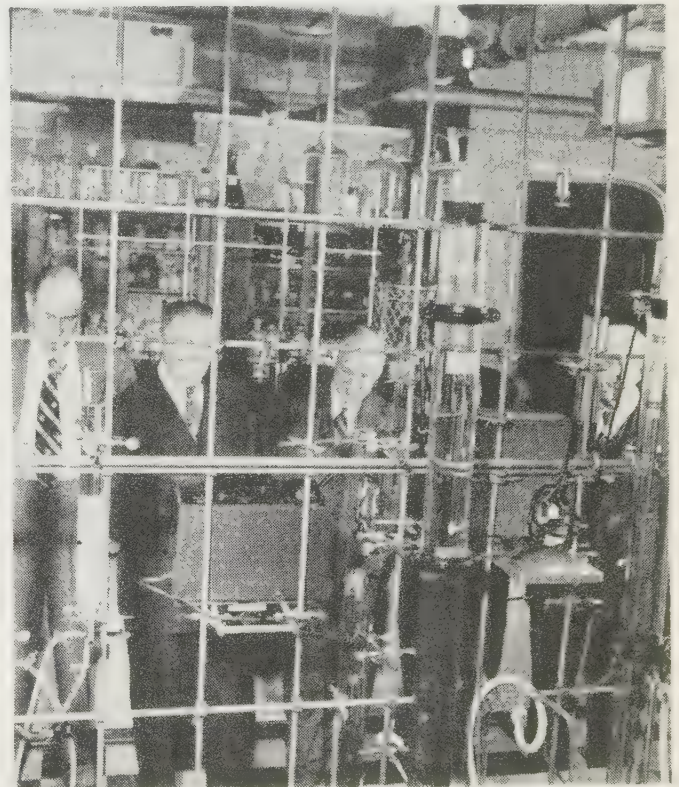
Stocks of dairy products rose to record levels. Consumption

in the U.S. of butter remained about the same as in 1949, but the 10.5 lb. used per capita was only 63% as much as pre-World War II. Meanwhile, production of butter in the U.S. in 1950 was estimated at more than 1,600,000,000 lb., compared with nearly 1,700,000,000 lb. in 1949 and 2,170,000,000 lb. annually before World War II. With increased consumption of whole milk, supplies of milk for manufactured dairy products were reduced and a record low amount of cream was forecast for 1951. Much of the butter output was accumulated in storage in carrying out the price support provisions of the Agriculture act. Storage stocks of butter on Nov. 30 were 159,297,000 lb., as compared with 130,452,000 lb. a year previous. Near the end of the year, large withdrawals from storage took place because of a rise in price; fair amounts had been exported, especially to Italy; butter was taken off the list of surplus commodities for sale by the Commodity Credit corporation (CCC).

The wholesale price of butter fluctuated near the government support level of approximately 60 cents per pound until late in the year when inflationary trends carried it up a few cents. Retail prices averaged about 10 cents per pound higher than wholesale prices.

The U.S. production of cheese in 1950 was estimated at 1,190,000,000 lb., almost the same as the 1,193,000,000 lb. in 1949; the average for 1935-39 was 669,000,000 lb. Production per capita was 7.8 lb. in 1950, but consumption was estimated at only 7.1 lb. per capita. Thus stocks accumulated, and late in the year were 246,500,000 lb., compared with 153,000,000 lb. a year earlier. More than 109,000,000 lb. of cheese, valued at nearly \$39,000,000, were included in the inventory holdings of the CCC at the end of Oct. 1950, but late in the year it was removed from the list of surplus commodities available for sale by the CCC.

American cheddar, as in previous years, was the major type produced. Wisconsin continued to hold first place among the states with both standard and specialty types, producing about



CHEMICAL APPARATUS at the National Dairy Research laboratories which were dedicated at Oakdale, L.I., N.Y., June 2, 1950. Shown above are the ion exchange columns used to remove mineral salts and acids from whey



one-half of the total for the U.S. Prices were comparatively stable near the government support price, averaging about 31 cents per pound

The 1950 production of ice cream was estimated preliminarily to have used 6,320,000,000 lb. of milk, or 41.4 lb. per person, as compared with 6,640,000,000 lb. in 1949 and a record in 1946 of 8,196,000,000 lb. of milk. Consumption in 1950 in this form was about 3 lb. less per capita than in 1949.

Production of nonfat dry milk solids in 1950 was a record of 950,000,000 lb., compared with 918,000,000 lb. in 1949 and 243,000,000 lb. average pre-World War II. Domestic requirements were only one-half of production, so about half of the output in 1950 was purchased by the government as a price support measure for manufacturing milk—hence the modest increase in exports of this product, of which the CCC had an inventory of 383,510,481 lb. in October.

Production of dry whole milk declined further in 1950 to 125,000,000 lb., compared with a peak 217,000,000 lb. in 1945. Domestic consumption accounted for less than half the total.

Production of evaporated milk in the U.S. in 1950 was substantially below previous record levels, but at 2,850,000,000 lb. was somewhat larger than the 2,756,000,000 lb. of 1949. Stocks late in the year were nearly 20% lower than in 1949.

U.S. exports of dairy products in 1949-50 dropped sharply as to cheese and condensed and evaporated milk, but increased slightly in dried milk. There was a substantial increase in milk production in other countries, particularly in western Europe where production in 1950, due to good pasture, expanding herds and increased supplies of concentrate feeds, generally surpassed pre-World War II levels.

(J. K. R.)

**Dakar:** see FRENCH WEST AFRICA.

SHASTA DAM in California, under multicoloured floodlights as thousands of spectators watched the water flowing over the spillways for the first time at formal dedication ceremonies June 17, 1950

**Dams.** The construction of dams increased during 1950 as the development of water resources continued to expand in most parts of the world.

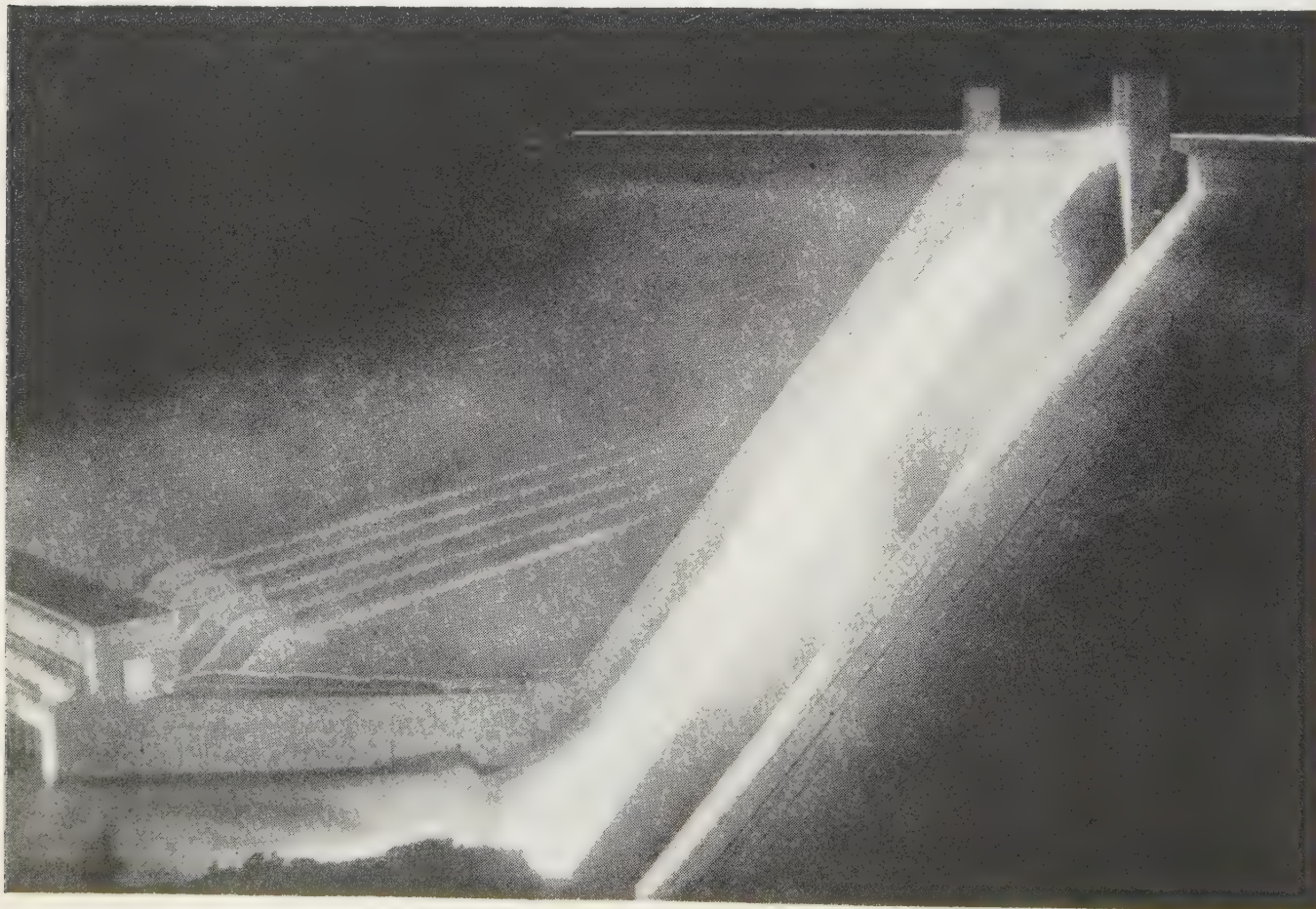
In the United States, the Columbia river basin projects were pushed to increase the government-controlled power supply for the northwest power pool. At Hungry Horse dam, the world's fourth largest concrete dam, concrete placing reached a rate of 6,618 cu.yd. in 24 hr. on Sept. 4, 1950. An innovation in its construction was the substitution, for 30% of the cement, of fly ash, a by-product of the burning of pulverized coal. Its use results in a more easily placed concrete mixture which has less heat of hydration and less shrinkage and cracking of the concrete mass.

On the main stem of the Columbia river, 51 mi. below Grand Coulee, the world's largest concrete dam, preliminary construction was under way at Chief Joseph dam. On Nov. 9, 1950, bids were opened for the second stage of construction.

Further downstream, at McNary dam, the difficult task of diverting the Columbia river from its main channel was largely accomplished when more than 2,000 concrete tetrahedrons, weighing 12 tons each, being dumped into the gap, broke the water surface the morning of Nov. 16, 1950. The tremendous volume of water flowing through the 240-ft.-wide, 60-ft.-deep gap, was too swift to be withstood by any available stone. Six weeks were required to fill the gap, during which time the river flow increased from about 100,000 cu.ft. per second to 152,000 cu.ft. per second.

On the Missouri river, nearly three quarters of the U.S. army engineer's joint program with the U.S. bureau of reclamation for the development of the Missouri river basin was under contract, and Garrison and Fort Randall dams, largest projects of the program, were more than 25% complete in 1950.

In Canada, the Ladore dam, at the outlet of Lake Campbell





## Chief Dams Completed or Under Construction During 1950

Name of Dam	River	Place	Type	Maximum Height, Ft.	Crest Length, Ft.	Volume (Cu.yd.)	Purpose*	Built by	Progress†
Alvaro Obregón (Oviachic) . . . .	Yaqui	Sonora, Mexico	Earthfill	187	—	11,143,300	I	Secretaría de Recursos Hidráulicos	U
Bull Shoals . . . . .	White	Arkansas, U.S.	Concrete gravity	283	2,256	2,100,000	F,P	U.S. army engineers	U
Castelo-do-Bode . . . .	Zezere	Portugal	Concrete arch	377	—	523,000	P	—	U
Fort Randall . . . . .	Missouri	South Dakota, U.S.	Earthfill	160	10,000	30,000,000	F,N,P,W	U.S. army engineers	U
Gal Oya . . . . .	Gal Oya	Ceylon	Earthfill	154	4,000	6,000,000	I,P	—	U
Garrison . . . . .	Missouri	North Dakota, U.S.	Earthfill	210	12,000	68,511,000	I,F,N,P	U.S. army engineers	U
Hungry Horse . . . . .	Flathead, S. Fork	Montana, U.S.	Concrete arch gravity	564	2,115	3,331,000	I,F,P	U.S. bureau of reclamation	U
Ladore . . . . .	Lake Campbell	British Columbia, Canada	Concrete gravity	140	342	—	P	British Columbia Power commission	C
Lach Sloy . . . . .	Lach Sloy	Scotland	Concrete buttress	165	1,160	—	P	North of Scotland Hydroelectric board	U
Merriman . . . . .	Rondout	New York, U.S.	Earthfill	200	2,500	6,600,000	W	N.Y. board of water supply	U
Morelos . . . . .	Colorado	Arizona, U.S.-Mexico	Concrete	105	1,300	—	I	—	C
Oahe . . . . .	Missouri	South Dakota, U.S.	Earthfill	230	9,300	78,000,000	F,I,N,P	U.S. army engineers	U
Pieve di Cadore . . . .	Piave	Italy	Concrete arch-gravity	180	1,340	500,000	P	Società Adriatica di Elettricità	C
St. Mary . . . . .	St. Mary	Alberta, Canada	Earthfill	191	2,536	4,500,000	I	Prairie Farm Rehabilitation administration	U
San Angelo . . . . .	North Concho	Texas, U.S.	Earthfill	128	37,540	18,000,000	F	U.S. army engineers	U

\*F—flood control, I—irrigation, N—navigation, P—power, W—water supply. †C—completed in 1950, U—under construction.

on Vancouver Island, B.C., was dedicated in 1950 by the British Columbia Power commission. It was an element of the John Hart project.

In India, because of lack of funds, construction work was delayed in 1950 on Hirakud dam, India's largest, and on the Damodar valley project. Preliminary work on the Bhakra dam in east Punjab was completed in 1950, but later progress was interrupted.

In Africa, the Edfina dam on the Rosetta branch of the Nile river was under construction in 1950.

In Europe, on the Vajont river, tributary of the Piave river in Italy, Vajont dam, to be the second highest dam in the world (Hoover is the highest), was under construction in 1950. A concrete arch dam, it would be built to a height of 662 ft. Ultimately it was planned to raise the dam to a height of 833 ft. It was one of four dams being built to develop 820,000,000 kw.hr. per year from the Piave river and its tributaries. Pieve di Cadore dam, completed in 1950, formed the principal reservoir in the development, storing 52,000 ac.ft. of water.

On the Zezere river in Portugal, placing of concrete in the Castelo-do-Bode dam continued during 1950 at monthly rates of 40,000 cu.yd., with daily rates as high as 2,100 cu.yd. It would be the first of four dams to develop 905 ft. of fall in 85 mi. of the river to produce 400,000 h.p.

In the Ruhr basin in Germany, work was expected to be completed in 1950 on the Verse dam, a 197-ft.-high, 1,050-ft.-long, 1,770,000-cu.yd. earth dam, to store 25,000 ac.ft. of water. Started in 1929, interrupted in 1936 by money and labour shortages and stopped by war in 1944, the work had resumed in 1948.

The accompanying table lists 15 of the important dams of the world under construction during 1950. (See also AQUEDUCTS; IRRIGATION; TENNESSEE VALLEY AUTHORITY.) (B. O. M.)

**Dance.** The year 1950 was marked by extensive international exchange of ballet companies and individual dance artists. Ballet Theatre, the New York City Ballet, Les Ballets Americains and Martha Graham's company appeared in Europe, while the Sadler's Wells Ballet, Ballets de Paris and the Marquis de Cuevas' Grand Ballet de Monte Carlo danced in America.

**United States.**—The New York City Ballet presented three new works choreographed by George Balanchine: *Pas de deux romantique*, with music by Carl Maria von Weber; *Pas de deux* from *Sylvia*, music by Léo Delibes; and the *Mazurka* from *A Life for the Tsar*, by Michael Glinka. *The Prodigal Son* and *Le Baiser de la fée* were revived, and William Dollar's *The Duel* produced in a new version. Frederick Ashton staged *Illuminations*, with a score by Benjamin Britten and costumes by Cecil Beaton. Jerome Robbins choreographed *The Age of Anxiety*, with music by Leonard Bernstein, and collaborated with Balanchine on *Jones Beach*. Patricia Wilde, Diana Adams, Hugh Laing and Harold Lang joined the company, headed by Maria Tallchief,

Tanaquil le Clerq, Janet Reed, Todd Bolender, Herbert Bliss, Francisco Moncion and Nicholas Magallanes. In October Balanchine made his American debut as a performer, miming the father in *The Prodigal Son* and dancing in the *Mazurka*. During the summer the company appeared for six weeks at Covent Garden Opera house, London, and toured England.

Ballet Theatre celebrated its tenth anniversary, presenting *Nimbus*, choreographed by Antony Tudor with music by Louis Gruenberg; *Caprichos*, choreographed by Herbert Ross with music by Béla Bartók; *Joux*, choreographed by Dollar with music by Claude Debussy; and *Design for Strings*, choreographed by John Taras with music by Peter Tschaikovsky. Renamed the American National Ballet Theatre, the company toured Europe, appearing at the Edinburgh and Venice festivals and in Belgium, England, France, the Netherlands, Italy and Switzerland. Mary Ellen Moylan joined the company, which was headed by Nora Kaye, Igor Youskevitch, John Kriza, Norma Vance and Paul Godkin. Alicia Alonso, Allyn McClerie and James Mitchell appeared as guest artists during the European tour. Ballet Theatre was selected to form a new ballet for the Metropolitan Opera, and appointed Tudor as director, with Nana Gollner as prima ballerina. The Metropolitan revived the Walpurgis Night ballet in *Faust*. The Opera Ballet school was reorganized under Tudor and Margaret Craske. Ballet Theatre's production of *Giselle*, with Kaye and Youskevitch, was televised.

Alexandra Danilova, Frederic Franklin, Leon Danielian and Nina Novak headed the Ballet Russe de Monte Carlo, which toured the United States. Yvette Chauviré appeared as guest artist. Ruthanna Boris resigned; Nathalie Kravosvka returned after a year in Europe. New works were *Prima Ballerina*, choreographed by Tatiana Chamie, music by Charles Lecocq; and *Nocturne*, choreography by Victor Gsovsky, music by Wolfgang Mozart.

The Marquis de Cuevas' Grand Ballet, headed by Rosella Hightower, André Eglevsky, Marjorie Tallchief, George Skibine, Ethery Pagava and Ana Ricarda, made its American debut, presenting several works new to America: *Del Amor y de la muerte*, choreography by Ricarda and music by Enrique Granados Campina; *A Tragedy in Verona*, Skibine's first choreographic work, to music by Tschaikovsky; *Salome*, choreography by Hightower, music by Richard Strauss; *Persephone*, arranged by Taras, the company's ballet master, to music by Robert Schumann; and *Les Biches*, choreography by Bronislava Nijinska and music by Francis Poulenc.

Sadler's Wells Ballet danced for three weeks at the Metropolitan Opera house in New York city and made its first transcontinental tour, breaking all box-office records for ballet. New to America were its productions of *Giselle*, *Dante Sonata* and *Don Quixote*. Margot Fonteyn was prima ballerina, with Moira Shearer, Beryl Grey, Violetta Elvin, Pamela May, Michael Somes and Alexis Rassine in prominent roles.





JOSÉ LIMON AND LETITIA IDE in *The Exiles*, a ballet composed by Limon, which was first performed at the American Dance festival held at New London, Conn., during the summer of 1950

Roland Petit's Ballets de Paris appeared in New York and California, presenting American premières of Petit's *Les Forains*, *Les Chaises musicales* and *La Croqueuse de diamants*. Renée Jeanmaire, Colette Marchand and Gordon Hamilton headed the company.

The Jacob's Pillow Dance festival, directed by Ted Shawn, presented Ruth St. Denis, Patricia Bowman, Anna Istomina, Iva Kitchell, Myra Kinch, La Meri, Lillian Moore, Pearl Primus, José Limon, Paul Petroff and others, as well as works choreographed by Aubrey Hitchens, David Tihmar, Herbert Ross and Shawn.

The third American Dance festival, at Connecticut college, New London, presented new works by Limon, Jane Dudley, Sophie Maslow and William Bales. Dancers who appeared included Nina Fonaroff, Pauline Koner, Katherine Litz and Merce Cunningham.

The San Francisco Ballet, directed by William Christensen, gave *Nothing Doing Bar*, music by Darius Milhaud; and *Prelude*, music by George Frederick Handel. San Francisco Ballet guild, Pacific Dance theatre and the Lester Horton Dance theatre were active in California. *Ballet Ballads* was revived in Hollywood.

Chicago saw performances by the Stone-Camryn Ballet, directed by Bentley Stone and Walter Camryn, the Chicago Ballet guild, Chicago Dance theatre and Berenice Holmes' Palette Ballet. Ruth Page staged the ballets in *Aida* during the visit of the New York City Opera company.

There was increasing dance activity in other centres. The National Ballet was founded by Marion Venable in Washington, D.C. Thelma Biracree produced the ballets for the annual Festival of American Music in Rochester, N.Y. Marion Miller founded the Houston Ballet. André van Damme choreographed Maurice Ravel's *Beauty and the Beast* in Charleston, W.Va.

Ted Shawn, Ruth Page, Bentley Stone, Iva Kitchell, Sujata and Asoka, Talley Beatty, Marina Svetlova, Mark Ryder and Emily Frankel, Mata and Hari, and the Viennese Ballet ensemble made extensive tours, while Katherine Dunham, Ruth St. Denis, Uday Shankar, Rosario and Antonio, Valerie Bettis and Carmelita Maracci appeared in New York city.

**England.**—Sadler's Wells Ballet presented *Don Quixote*, choreographed by Ninette de Valois, the company's director, to music by Roberto Gerhard; *Ballabile*, choreography by Petit, music by Emmanuel Chabrier; and *Ballet Imperial*, choreography by Balanchine, music by Tschaikovsky. With a small company, Margot Fonteyn and Robert Helpmann toured England. At a gala performance celebrating the 21st anniversary of Sadler's Wells Ballet, De Valois reappeared as a dancer.

Sadler's Wells Theatre Ballet produced *El Destino*, *Summer Interlude* and Balanchine's *Trumpet Concerto*. Svetlana Beriosova joined the company.

The Ballet Rambert toured England and Germany, and had seasons in Paris and London. David Paltenghi choreographed *St. Agnes' Eve*, to music by César Franck, and *Prismatic Variations*, with music by Beethoven. *Winter Night* was produced by Walter Gore.

Anton Dolin and Alicia Markova formed the Festival Ballet, which opened in London Oct. 24. The repertoire included *Giselle*, *Petrouchka*, *Capriccioso* and Ricarda's new *Fiesta*. Léonide Massine and Yvette Chauviré appeared as guest artists.

Massine revived *Gaité parisienne* for the International Ballet, headed by Mona Inglesby, which toured England and Switzerland. The British Broadcasting company formed its own ballet, to present *Ballet for Beginners* and other dance programs on television.

The Marquis de Cuevas' Grand Ballet, Mariemma, and Rosario and Antonio appeared at the Edinburgh festival, the New York City Ballet danced at Covent Garden and the American National Ballet theatre appeared at both Edinburgh and London. Angna Enters, Juana, Cilli Wang, Angelo Andes, Consuelo Carmona, Ram Gopal and Raden Mas Utomo appeared in London concerts.

**France.**—Tamara Toumanova was engaged as guest ballerina at the Paris Opera, and appeared in *Phèdre*, by Jean Cocteau, with choreography by Serge Lifar and music by Georges Auric. Lifar also produced *Septuor*, music by Jean Lutèce, and *L'Inconnue*, music by André Jolivet. Albert Aveline revived *La Grande Jatte*, *Les Éléments* and *Fêtes d'Hebé*. Liane Dayde was promoted to *première danseuse* and Alexander Kalioujny to *premier danseur*. Nina Vyroubova made her debut in *Giselle*.

Massine produced Ravel's *La Valse* and revived *Le Beau Danube* and *La Boutique fantasque* for the Opéra Comique, while Jean-Jacques Etcheverry choreographed a ballet to Tschaikovsky's *First Piano Concerto*.

Roland Petit produced *Les Chaises musicales*, music by Auric, and *La Croqueuse de diamants*, music by Jean-Michel Damase, for his Ballets de Paris. In September Jeanmaire returned after an absence resulting from a leg injury, during which time Shearer and Marchand replaced her in *Carmen*.



In May Les Ballets Americains, headed by Ruth Page, Bentley Stone and José Limon, presented *Frankie and Johnny*, *Billy Sunday*, *The Bells*, *The Moor's Pavane* and *La Malinche* at the Théâtre des Champs Élysées, Paris.

For the April coronation festivities of Prince Rainier III of Monaco, Massine produced *Suite de danses*, music by Jean Philippe Rameau, and *Concertino*, music by Jean Francaix. The Marquis de Cuevas' Grand Ballet presented *Persephone* and *Divertissement pour un couronnement* for the celebration. With Janine Charrat as guest artist, this company toured Germany and France, and, with Jean Babilée and Nathalie Philippart, danced at the Venice festival. After a New York season, the company was completely reorganized, returning to France in late December.

**Austria.**—For the Vienna State Opera Ballet, Erika Hanka choreographed Theo Berger's *Homeric Ballad* and Igor Stravinsky's *The Firebird*. The Opera Ballet danced *Coppélia* and *Austrian Peasant Wedding* at the Bregenz festival. At the Austrian Dance competition, prizes were awarded to Christel Florian, Hertha Bade, Inge Fiala, Grete Bauer and Richard Novotny.

**Canada.**—At the third Canadian Dance festival, held in Montreal in November, outstanding works were given by Kay Armstrong of Vancouver, Elizabeth Leese of Montreal, Arnold Spohr of Winnipeg, Irene Apine and Juris Gotshalks of Halifax. Ruthanna Boris presented her *Sonata*, with music by Johannes Brahms, in Montreal.

**Germany.**—For the Berlin Staedtische Opera, Jens Keith choreographed *Chiarina*, music by Boris Blacher, and *Wundertheater*, music by Hans-Werner Henze. Lee Spiess choreographed *Don Quixote* for the Staatsoper. Victor Gzovsky was appointed ballet master, and Irene Skorik prima ballerina, of the Munich Opera. In Hamburg, Dore Hoyer choreographed Ravel's *Bolero* and Stravinsky's *Suite in D Minor* for the Opera, while *Vita Nostra*, by Lola Rogge, was presented at the Deutsches Schauspielhaus.

**Italy.**—For the May festival in Florence, Aurel Milloss choreographed Sergei Prokofiev's *Chout* and the operas *Olympia*, by Gasparo Spontini, and *Armide*, by Jean-Baptiste Lully, with Maria Dalba, Genevieve Lespagnol, Vladimir Skouratoff and Boris Trailine as leading dancers. The Paris Opera Ballet, with Toumanova, Vyroubova and Lifar, appeared.

*Les Sylphides* and *The Sleeping Beauty* were presented by Margarete Wallman at La Scala, Milan, where Fonteyn, May, Chauviré, Helpmann and Skouratoff appeared as guest artists. Boris Romanoff was engaged as choreographer and Vera Volkova as head of the school at La Scala.

Euripides' *Le Baccanti* and Aeschylus' *I Persiani* were presented in the Greek theatre at Syracuse, with choreography by Chladek.

For the Venice Festival of Contemporary Music, Milloss choreographed *The Wooden Prince*, music by Bartók, and *Ballad without Music*. Leading dancers were Skorik, Skouratoff and Yurek Shabelevsky. American National Ballet theatre and Marquis de Cuevas' Grand Ballet also appeared.

**Netherlands.**—The Ballet of the Low Countries, headed by Max Dooyes; Ballet Recital, directed by Sonia Gaskell; and Han Rijnbeck's group were active. Rosario and Antonio and the Marquis de Cuevas' Grand Ballet danced at the Scheveningen festival.

**Scandinavia.**—Fonteyn and Helpmann appeared in Oslo, Nor., at a benefit for the New Norwegian Ballet, which presented *Spanish Fantasy* and *Mot Ballade*. Later this company danced in England.

Tudor completed his guest contract at the Stockholm Opera, where he presented *Gala Performance*, *Lilac Garden*, *Giselle* and a new ballet, *Arabesque*. The Stadtsteatern in Malmö presented *The Princess and the Swineherd*, choreography by Gustaf Kruuse,

music by Kurt Atterberg.

Margot Lander retired after 17 years as prima ballerina of the Royal Opera, Copenhagen, Den., and was presented with the king's gold medal. During a summer season, the Royal Opera Ballet, headed by Kirsten Ralov, Margarethe Schanne and Mona Vangsaa, presented 21 ballets choreographed by Augusteournonville, Harald Lander, Borge Ralov, Nini Theilade and Birger Bartholin. Nina Stroganova and Vladimir Dokoudovsky appeared as guest artists.

**South America.**—Ballet Alicia Alonso obtained a subsidy from the government of Cuba, and produced *Ensayos sinfonicos*, Alonso's first choreographic work, to music of Brahms. Alicia Markova, Anton Dolin and Mia Slavenska toured the Caribbean. José Limon and his company danced in Mexico City.

The Teatro Colon, Buenos Aires, Arg., presented Werner Egk's *Joan de Zarissa* and Arnoldo d'Esposito's *Ajedrez*, both choreographed by Tatiana Gzovsky. Tatiana Leskova was the new ballet mistress at the Teatro Municipal, Rio de Janeiro, Braz. Katherine Dunham, Pilar Lopez and the Paris Opera Ballet, headed by Toumanova, Vyroubova, Lifar and Kalioujny, appeared in South America.

**U.S.S.R.**—A conference of 14 choreographic schools was held in Moscow, with Agrippina Vaganova presiding. Peter Andrianov, 19, made his debut in *La Fille mal gardée* and was hailed as a future Nijinsky. At Leningrad, the new ballet, *Youth*, choreographed by Boris Fenster, received the Stalin prize. At Stalingrad *Swan Lake* was restaged by Konstantin Sergeyev, after Marius Petipa and Lev Ivanov. (LN. M.)

**Ballroom Dancing.**—The year 1950 brought a widespread return of the Charleston, a dance first seen in 1925. Swift impetus was added to the revival through contests held in Hollywood, Calif. Newsreel and candid camera pictures were taken of film stars dancing the Charleston, and further interest in the dance was awakened by the Broadway musical revue *Gentlemen Prefer Blondes*. Many big-name bands made new Charleston recordings.

The mambo, an advanced and syncopated form of rumba, increased in popularity, with all new rumba tunes of 1950 written in mambo tempo. Samba, the easiest of the Latin-type dances, continued in popularity. Toward the end of 1950, interest in the tango was evidenced. Jitterbug or "swing" dancing continued to quiet down, adopting less frenzied patterns, and there were few new popular swing tempo tunes.

Square dancing found many new enthusiasts. In the early fall the world's largest square dance jamboree took place in Santa Monica, Calif., where 8,000 dancers were guided by 36 "callers."

FILMS OF 1950.—*The Desperate Heart* (D. D. Livingston); *Fable of the Peacock*, *People Dance*, *The Moor's Pavane* (Brandon Films, Inc.); *Mask* (A. F. Films, Inc.); *Steps of the Ballet* (Encyclopædia Britannica Films Inc.). (A. Mu.)

**Dates:** see FRUIT.

**Daughters of the American Revolution, National Society of:** see SOCIETIES AND ASSOCIATIONS.

**DDT:** see AGRICULTURAL RESEARCH ADMINISTRATION.

**Deafness.** In 1950 there were approximately 10,000,000 people in the United States who were hard-of-hearing to some extent in one or both ears, but only about 4,000,000 were believed to have serious handicaps. Approximately 100,000 people in the United States were totally deaf.

In Jan. 1950, there were 20,252 deaf children being educated in 73 public residential schools, 139 public day schools and 37 denominational and private schools for the deaf in the United States. Approximately 1,000,000 children in public schools were hard-of-hearing but not sufficiently handicapped to require hearing aids or lip reading. Mothers of deaf children were advised to seek medical and professional advice about the early training so



that the child's native ability might not necessarily be retarded. Lip reading was preferred to sign language.

Otologists were becoming more familiar with the fenestration operation for the rehabilitation of the hard-of-hearing. This operation, no matter how well done, did not re-establish normal hearing. Reliable information indicated that approximately 12,000 fenestration operations had been performed in the United States. The operations that gave practicable, serviceable hearing without a hearing aid were estimated to be 60%. Another 10% were so much improved that hearing aids were found of value in rehabilitation.

Most of the hard-of-hearing persons continued to be rehabilitated by means of a hearing aid. It was estimated that about 3,000,000 required hearing aids or the use of lip reading or both, and that less than 1,000,000 used hearing aids. A hearing loss of 30 to 35 decibels (sound level units) in both ears within speech frequency range was declared as a handicapping loss. Hard-of-hearing persons were advised to have their ears examined by a physician before purchasing a hearing aid. A comfortable ear mould fitted before attempting to select a hearing aid was essential to good performance. Several clinics were established in medical schools for appraising the hearing of deafened persons and to provide an opportunity to try out a large number of acceptable hearing aids.

Twenty-one hearing-aid bureaus were a part of the service of at least 119 local branches of the American Hearing society in as many cities. Seventy-two of these branches gave instruction in lip reading. Practically all of the hearing aids available in 1950 were of the single unit type in which all of the components were packed in a single case with the exception of the earphone and its connecting wire. Hearing aids weighed approximately four to five ounces complete and cost from \$75 to \$225. In general, the difference in price was attributed largely to the amount of free service rendered to the hard-of-hearing after the purchase of a hearing aid. The upkeep for maintaining a battery was approximately ten cents a day on an eight-hour operational basis. A list of accepted hearing aids and requirements for acceptance is obtainable from the Council on Physical Medicine and Rehabilitation of the American Medical association, 535 N. Dearborn St., Chicago 10, Ill. (See also EAR, NOSE AND THROAT, DISEASES OF.) (H. A. C.)

**Dean, Gordon Evans** (1905– ), chairman of the U.S. Atomic Energy commission, was born on Dec. 28 in Seattle, Wash., and studied at the University of Redlands, Redlands, Calif.; the University of Southern California at Los Angeles; and Duke university, Durham, N.C., where he also served as instructor and assistant to the dean of the law school. In 1934 he joined the staff of the criminal division of the department of justice, and the following year was admitted to practice before the U.S. supreme court. In 1936 he became chief of the appellate section of the department's criminal division, and from 1937 to 1940 was special executive assistant to the attorney general in charge of public relations. From 1943 to 1945 he served on active duty in the U.S. naval reserve, and in May 1945 was appointed assistant to Robert H. Jackson, chief U.S. prosecutor at the war crimes trials at Nuremberg, Ger. On his return to the U.S. in 1946 he became professor of criminal law at the University of Southern California. On May 9, 1949, he was appointed to the U.S. Atomic Energy commission. In early 1950 he issued a statement in which he anticipated a relaxing of government monopoly of atomic energy, once weaponmaking was at a specified rate, so that science and industry might put the new power source to peacetime uses. His reappointment to the commission was confirmed in June 1950, and in July he was appointed its permanent chairman by Pres. Harry S. Truman.

**Deaths** (of prominent persons in 1950): see OBITUARIES.

**Death Statistics.** Mortality in the United States reached a record low point in 1950; for the first nine months of that year the death rate was 9.6 per 1,000 population, or 1% lower than the corresponding rate for the same period of 1949. A month-by-month comparison for the two years showed higher rates for 1950 in March and April when there was an outbreak of influenza. During the entire year 1949, there were 1,446,000 deaths, with a death rate of 9.7 per 1,000 population. Provisional indications for Canada pointed to a slightly higher death rate for 1950 than for 1949, when that country recorded 121,115 deaths and a rate of 9.2 per 1,000 population. In England and Wales, however, provisional urban data for the first ten months of 1950 showed 2% fewer deaths than in the like period of 1949. In all of England and Wales, 510,819 deaths were recorded in 1949, and the death rate was 11.7 per 1,000. In the same year, Australia had a death rate of 9.5 per 1,000, and New Zealand (excluding Maoris) 9.1 per 1,000. It should be noted that valid international comparisons of death rates cannot be made without taking account of the differences in the age distribution of their populations. A nation having a large proportion of its people at the prime ages of life, when mortality is low, will tend to have a lower death rate than another nation with a large proportion of aged people.

A better comparison of the health status of nations is provided by the figures for average length of life. In 1947, the latest year of comparison, the average length of life for white males in the United States was 65.2 years; this was 1.1 years less than the corresponding figure for Australia, and 2.6 years less than for New Zealand, but 0.6 years greater than for England and Wales. In the case of white females, the average length of life for the United States in 1947 was 70.5 years; it was only 0.4 years greater in Australia, 1.1 years greater in New Zealand, and 1.2 years less in England and Wales.

A noteworthy point is that the recent differences in longevity between the United States and New Zealand, the country with the best record, were much smaller than at the beginning of the century. In 1901–10, white males in the United States, with an average lifetime of 49.3 years, were 9.3 years below the record for New Zealand; for white females, the corresponding figures were 52.5 years and 8.7 years.

The latest figures for average lifetime for the United States, relating to 1948, were 67.2 years for total persons, 65.5 years for white males, 71.0 years for white females, 58.1 years for nonwhite males, and 62.5 years for nonwhite females. Compared with the like figures for 1939–41, not quite a decade earlier, the recent situation showed gains of 3.6 years for total persons, 2.7 years for white males, 3.7 years for white females, 5.8 years for nonwhite males, and 6.9 years for nonwhite females.

Provisional data for the United States comparing the first eight months of 1950 with the like period of 1949 showed reductions in death rates for tuberculosis, syphilis, acute poliomyelitis, measles, diphtheria, appendicitis, hernia and intestinal obstruction, gastritis, cirrhosis of the liver, nephritis, complications of pregnancy, accidents other than motor vehicle and homicide. On the other hand, rises were shown for whooping cough, cancer, diabetes mellitus, the category comprising the major cardiovascular-renal diseases, pneumonia, influenza, ulcer of the stomach, motor vehicle accidents and suicide. For the same period of comparison, mortality in the first year of life was lower in 1950 than in 1949. It was also lower for ages 1 to 24 years and again for ages 45 to 74 years; however, for ages 25 to 44 years, there was no change in the death rates.

In 1949, several changes were introduced that affected the comparability of mortality from specific causes of death over the



years. First, a new form of death certificate was adopted by most states in which the physician was asked to specify the morbid condition underlying the train of events that terminated with death. Second, the single condition accepted as the cause of death for purposes of statistical classification was the underlying condition stated by the physician; prior to 1949, the selection of the primary condition, when more than one was stated on the death certificate, was made in a statistical office according to a designated procedure. Third, the international list used for classifying the causes of death reported on death certificates was radically changed at an international conference held in Paris in 1948. To measure the effect of the changes in classification procedure, the deaths for 1949 were classified by both the old and the new methods. It was found that the deaths ascribed to tuberculosis by the new procedure decreased by 4%, syphilis by 27%, acute poliomyelitis by 2%, measles by 6%, diabetes mellitus by 42%, pneumonia by 25%, bronchitis by 5%, ulcer of stomach or duodenum by 14%; appendicitis by 10%, gastritis by 2%, cirrhosis of the liver by 18% and conditions arising out of pregnancy or childbirth by 10%. By the same change in procedure, deaths ascribed to diphtheria increased by 2%, rheumatic fever by 164%, diseases of the cardiovascular-renal system by 5%, influenza by 21%, hernia and intestinal obstruction by 7%, diseases of early infancy by 6%, and homicide by 2%. By both procedures, practically the same numbers were ascribed to whooping cough, malignant neoplasms, suicide and motor vehicle accidents. However, deaths classed as accidents of other forms decreased by 7% by the new procedure.

According to a report from the defense department dated Nov. 30, 1950; there were 5,303 U.S. personnel who died in action in Korea; the subsequent campaign raised this number significantly. (See also ACCIDENT PREVENTION; CENSUS DATA, U.S.; DISASTERS; INFANT MORTALITY; SUICIDE STATISTICS.)

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**Debt, National.** The national debt of the United States at the end of the fiscal year 1951 was estimated by Pres. Harry S. Truman in his budget message of Jan. 15, 1951, at approximately \$260,000,000,000. This figure represented an increase of less than \$3,000,000,000 from the debt total at the end of the preceding fiscal year. (See Table I.) In con-

a year later that the actual expenditures would amount to more than \$47,000,000,000. A simultaneous increase in taxes, however, had held the increase in national debt to smaller proportions. Nonetheless, it is significant that after a few years of debt reduction following the peak total of \$279,214,000,000 reached at the end of Feb. 1946, the national debt was again on a rising trend in the fiscal years 1950 and 1951.

The postwar debt-retirement program involved a gross reduction in marketable interest-bearing securities of \$44,686,000,000 from March 1946 to the end of 1949. As may be seen in Table II, this trend was reversed in 1950 when the marketable debt rose by \$2,673,000,000.

Table II.—Decrease in Marketable Interest-Bearing Public Debt\*

	(Millions of dollars)				
	1946 Mar. 1— Dec. 31	1947 Jan. 1— Dec. 31	1948 Jan. 1— Dec. 31	1949 Jan. 1— Dec. 31	1950 Jan. 1— Dec. 31
Treasury bills . . . . .	—1	1,897	2,912	—95	1,308
Certificates of indebtedness . . .	11,426	8,767	—5,305	—3,111	—24,263
Treasury notes . . . . .	9,461	—1,284	4,244	—1,118	31,009
Treasury bonds— bank restricted . . . . .	3,791	0	0	0	0
Treasury bonds—bank eligible . .	—1,479	1,460	6,423	6,682	10,723
Postal savings and other bonds . . . . .	1	14	1	2	—3
Total marketable interest- bearing public debt . . . . .	23,197	10,854	8,276	2,359	—2,673

\*Negative figures denote increases.  
Detail will not necessarily add to totals because of rounding.  
Source: U.S. Department of the Treasury.

Table III furnishes data on the sources of funds for the reduction in the marketable interest-bearing public debt. The funds used to retire aggregate maturities of \$23,197,000,000 during the last ten months of 1946 were obtained chiefly from the general fund cash balance accumulated by the Victory Loan drive.

Table III.—Sources of Funds for Reduction in Marketable Interest-Bearing Public Debt

	(Millions of dollars)				
	1946 Mar. 1— Dec. 31	1947 Jan. 1— Dec. 31	1948 Jan. 1— Dec. 31	1949 Jan. 1— Dec. 31	1950 Jan. 1— Dec. 31
1. Reduction in general fund balance . .	22,459	405	—1,111	—471	447
2. Net budgetary surplus . . . . .	—1,714	2,434	5,440	—3,358	—335
3. Net receipts in trust accounts, etc.* .	—681	—590	229	—502	312
4. Increase in nonmarketable public debt .	3,132	8,605	4,177	6,689	2,249
Savings bonds . . . . .	1,084	2,312	2,998	1,655	1,312
Special issues . . . . .	3,688	4,370	2,759	2,182	—189
Other debt . . . . .	—1,640	1,923	—1,580	2,852	1,126
5. Decrease in interest-bearing marketable public debt (1, 2, 3, 4) .	23,197	10,854	8,276	2,359	2,673
6. Net decrease in total public debt (5, 4) . . . . .	20,065	2,249	4,100	—4,331	424

\*Includes transactions of Foreign Economic Cooperation Trust fund, 1948–49.  
Detail will not necessarily add to totals because of rounding.  
Source: U.S. Department of the Treasury.

In 1947, 1948 and the first half of 1949 funds for reducing the marketable public debt were derived mainly from the growth in nonmarketable issues and from budgetary surpluses. In the second half of 1949 and 1950, when the decrease in marketable securities was nominal, the further substantial increase in nonmarketable obligations was offset by a budget deficit. As a result of the substantial reduction in marketable issues, together with the increase in nonmarketable issues, the portion of the total public debt constituted by marketable interest-bearing obligations declined from 72% in March 1946 to 59% at the end of 1950.

The significance of federal debt management in 1950 can best be viewed against the background of previous management operations. The maintenance of order and stability in the government bond market—a policy initiated in the pre-World War II period—was a primary objective of the debt management program in the war and postwar periods. In line with this objective, the prewar structure of interest rates was maintained with only minor variation during the war, permitting the authorities to finance cheaply the huge requirements of war finance.

In the postwar period the stabilization of the government bond market, a joint treasury-federal reserve function, required different policies to meet changing conditions. Beginning in the spring of 1947, for example, several steps were taken to control

Table I.—National Debt of the United States

June 30		(Millions of dollars)	
1915 . . . . .	1,191	1944 . . . . .	201,003
1920 . . . . .	24,298	1945 . . . . .	258,682
1925 . . . . .	20,516	1946 . . . . .	269,422
1930 . . . . .	16,185	1947 . . . . .	258,286
1935 . . . . .	28,701	1948 . . . . .	252,292
1940 . . . . .	42,971	1949 . . . . .	252,770
1941 . . . . .	48,961	1950 . . . . .	257,357
1942 . . . . .	72,422	1951 . . . . .	260,000
1943 . . . . .	136,696		

Source: Data from 1915 to 1950 are from U.S. Department of the Treasury, daily treasury statement (revised); 1951 is estimate from President Truman's Jan. 1951 budget message.

nection with the budget for the fiscal year 1952, the president estimated that because of the heavy requirements for the rearmament program that was initiated after the outbreak of the Korean war, the national debt would rise by more than \$16,000,000,000 unless taxes were further increased. He proposed that new tax legislation be initiated which would result at least in a balanced budget for the fiscal year 1952.

In the fiscal year 1951 the budgetary expenditures of the government had to be substantially revised after the beginning of the Korean conflict. Whereas President Truman had originally recommended expenditures of \$42,439,000,000, it was expected



an incipient boom in the government bond market. But in 1948, when a downward pressure on government bond prices developed, the federal reserve system shifted its policy. It supported the market through substantial purchases of government bonds from investment institutions and other nonbank holders seeking to acquire funds for lending. The prices of the longest-term issues were stabilized at slightly above par.

While pursuing the broad policy of stabilizing the market for government securities, treasury and federal reserve authorities adopted numerous measures designed to combat postwar inflation. Among them may be noted: (1) the substantial reduction effected in bank ownership of federal securities; (2) active promotion of the sale of savings bonds; (3) permitting interest rates to rise on short-term government securities from mid-1947 until the fall of 1948; and (4) raising by approximately \$3,000,000,000 in 1948 the amount of reserves required to be held by member banks, to prevent the additional reserves created by federal reserve support purchases from becoming the basis for multiple credit expansion.

With the abatement of inflationary pressures and the moderate slackening of business activity, the federal reserve board in May, June and Aug. 1949 reduced reserve requirements of member banks in order to make credit more freely available.

The strong bank demand that stemmed from the series of reductions in reserve requirements resulted in sharp increases in the prices of government securities. To maintain orderly conditions in the money markets, the federal reserve sold short-term securities in considerable volume; but it discontinued the practice of freely selling government bonds. This compromise policy moderated the decline in yields on short-term government securities but permitted market forces to depress sharply the yields on medium and long-term government securities, thereby encouraging investors to seek municipal and corporate securities and mortgage loans as outlets for their funds.

It was thus evident that the policy established in mid-1949 marked a new development in public debt management. Removing the maintenance of a fixed pattern of rates on government securities from the position of primary concern gave the monetary authorities more flexibility in adapting to changing economic conditions.

In the period after the outbreak of war in Korea steps were taken to restrict credit expansion without disturbing the stability of the government bond market. As there was a prospect of further rise in government debt, the drive to shift debt-holding to nonbank investors was intensified. There was a minor increase in the interest rate on short-term government securities. In order to restrain the expansion of bank credit to private business, the discount rate of the Federal Reserve Bank of New York was raised, the federal reserve system sold government securities in the open market, and at the end of the year an increase in reserve requirements to take effect shortly was announced.

Debt operations in the postwar period effected a striking redistribution in public debt ownership. (See Table IV.) The public

Table V.—Debt of State and Local Governments, U.S.

June 30	(Millions of dollars)				
	Total	State	County	City and township	School district and special district
1929 . . . . .	17,234	2,300	2,270	9,259	3,405
1930 . . . . .	18,459	2,444	2,434	9,929	3,652
1931 . . . . .	19,534	2,666	2,564	10,458	3,846
1932 . . . . .	19,804	2,896	2,565	10,483	3,860
1933 . . . . .	19,985	3,018	2,521	10,577	3,869
1934 . . . . .	19,286	3,201	2,477	9,730	3,878
1935 . . . . .	19,429	3,318	2,433	9,778	3,887
1936 . . . . .	19,662	3,318	2,389	10,058	3,897
1937 . . . . .	19,594	3,276	2,345	10,067	3,906
1938 . . . . .	19,576	3,309	2,282	9,923	4,062
1939 . . . . .	19,996	3,343	2,219	10,215	4,219
1940 . . . . .	20,246	3,526	2,156	10,189	4,375
1941 . . . . .	20,226	3,413	2,046	10,210	4,557
1942 . . . . .	19,690	3,211	1,846	10,079	4,554
1943 . . . . .	18,692	2,909	1,634	9,784	4,365
1944 . . . . .	17,471	2,768	1,694	8,826	4,183
1945 . . . . .	16,589	2,425	1,545	8,589	4,030
1946 . . . . .	15,922	2,358	1,417	8,267	3,880
1947 . . . . .	16,825	2,978	1,481	8,275	4,091
1948 . . . . .	18,702	3,722	1,408	9,135	4,437
1949 . . . . .	20,875	4,024	1,603	9,805	5,442
1950 . . . . .	23,647	5,323	1,666	10,444	6,214

Source: U.S. Department of Commerce.

debt and guaranteed securities held by banks declined from 42% of the total in Feb. 1946 to 33% in June 1949. The decline was arrested thereafter as a result of commercial bank investments of excess reserves.

The average interest rate on the public debt was 2.200% in Dec. 1950, as compared with 2.215% in Dec. 1948. In President Truman's Jan. 1951 budget message it was estimated that total payment of interest on the public debt would amount to \$5,800,000,000 in fiscal 1952. This compared with the total of \$5,625,000,000 in fiscal 1951. The president cited three factors accounting for this increase: (1) the expansion of special issues to

Table VI.—National Debt of Various Countries

Country (Unit of currency) *	Date	Total debt (000,000's)	Date	Total debt (000,000's)
Argentina (peso) . . . . .	12/31/39	5,242	12/31/46	13,436
Australia (pound-Aust.) . . . . .	6/30/39	1,295	6/30/47	2,767†
Austria (schilling) . . . . .	12/31/37	3,495		
Belgium (franc) . . . . .	12/31/39	59,608	12/31/47	276,996
Bolivia (boliviano) . . . . .	12/31/39	4,192	12/31/44	5,699
Brazil (cruzeiro) . . . . .	12/31/39	12,535	12/31/46	37,966
Bulgaria (lev) . . . . .	12/31/39	22,864	12/31/46	162,049
Canada (dollar-Canadian) . . . . .	3/31/39	3,708	3/31/47	17,696
Chile (peso) . . . . .	12/31/39	4,227	12/31/47	7,246
Colombia (peso) . . . . .	12/31/39	182	12/31/46	437
Costa Rica (colón) . . . . .	12/31/39	133	12/31/47	255
Cuba (peso) . . . . .	2/28/39	229	6/30/44	180
Czechoslovakia (koruna) . . . . .	12/31/39	38,449	12/31/46	108,758
Denmark (krone) . . . . .	3/31/39	1,244	3/31/47	11,601†
Dominican Republic (U.S. dollar) . . . . .	12/31/37	18	12/31/46	21
Ecuador (sucro) . . . . .	12/31/39	78	12/31/46	224
Egypt (pound-Egyptian) . . . . .	4/30/39	95	4/30/47	125
Finland (markka) . . . . .	12/31/39	5,636	12/31/46	104,769†
France (franc) . . . . .	12/31/39	482,967	12/31/47	2,499,073
Germany (reichsmark) . . . . .	3/31/39	30,847	9/30/44	323,615
Greece (drachma) . . . . .	3/31/39	52,138	3/31/41	52,996
Guatemala (quetzal) . . . . .	12/31/39	12	12/31/46	4
Haiti (gourde) . . . . .	9/30/39	52	9/30/47	50
Honduras (lempira) . . . . .	6/30/39	19	6/30/47	13
Hungary (pengő) . . . . .	6/30/39	1,937	12/31/43	6,501
India (rupee) . . . . .	3/31/39	12,064	3/31/46	22,563
Ireland, Republic of (pound) . . . . .	3/31/39	61	3/31/46	77
Italy (lira) . . . . .	6/30/39	145,795‡	6/30/47	1,321,465†
Japan (yen) . . . . .	3/31/39	17,921	2/28/47	255,496
Mexico (peso) . . . . .	12/31/39	1,500	12/31/45	1,438
Netherlands (guilder) . . . . .	12/31/39	4,218	12/31/47	21,586
New Zealand (pound) . . . . .	3/31/39	304	3/31/47	605
Nicaragua (córdoba) . . . . .	1/31/39	8	12/31/45	10
Norway (krone) . . . . .	6/30/39	1,528	6/30/46	7,005
Panamá (balboa) . . . . .	12/31/39	21	12/31/47	22
Paraguay (peso) . . . . .	10/31/39	3,340	12/31/47	9,990
Peru (sol) . . . . .	12/31/39	833	12/31/45	1,596
Poland (zloty) . . . . .	3/31/39	5,318	9/30/47	29,380†
Portugal (escudo) . . . . .	12/31/39	9,650	12/31/46	13,567
Rumania (leu) . . . . .	3/31/39	107,716§	3/31/42	94,697§
Salvador (colón) . . . . .	12/31/39	38	12/31/47	38
Siam (baht) . . . . .	3/31/39	73	3/31/46	166
Spain (peseta) . . . . .	12/31/39	24,127	12/31/47	53,173
Sweden (krona) . . . . .	6/30/39	2,634	6/30/47	11,420
Switzerland (franc) . . . . .	12/31/39	3,101	12/31/46	11,476
Turkey (pound-Turkish) . . . . .	5/31/39	619	9/30/46	1,847
Union of South Africa (pound-S.A.) . . . . .	3/31/39	279	3/31/47	595
Union of Soviet Socialist Republics (rouble) . . . . .	12/31/37	28,766‡		
United Kingdom (pound) . . . . .	3/31/39	8,301	3/31/47	25,771
United States of America (dollar) . . . . .	6/30/39	45,890	6/30/47	258,376
Uruguay (peso) . . . . .	12/31/39	410	12/31/47	708
Venezuela (bolivar) . . . . .	6/30/39	3	6/30/47	31

\*For approximate value of various currencies see Exchange Control and Exchange Rates.

†Not strictly comparable with the 1939 figure.

‡Domestic debt only.

§Long-term domestic debt and foreign debt.

||Includes guaranteed securities as well as public debt outstanding.

Source: United Nations, Department of Economic Affairs.

Table IV.—Estimated Ownership of Federal Securities—Public Debt and Guaranteed Securities

	(Billions of dollars)				
	Feb. 1946	Dec. 1947	Dec. 1948	Dec. 1949	June 1950
Total federal securities outstanding . . . . .	279.8	257.0	252.9	257.2	257.4
Total held by banks . . . . .	116.7	91.3	85.8	85.7	84.0
Commercial banks . . . . .	93.8	68.7	62.5	66.8	65.7
Federal reserve banks . . . . .	22.9	22.6	23.3	18.9	18.3
Total held by nonbank investors . . . . .	163.1	165.7	167.1	171.5	173.4
Individuals . . . . .	64.6	66.6	67.6	69.6	67.1
Insurance companies . . . . .	24.8	24.3	21.5	20.5	20.1
Mutual savings banks . . . . .	11.1	12.0	11.5	11.4	11.6
Other corporations and associations . . . . .	27.9	21.2	21.4	26.1	28.5
State and local governments . . . . .	6.7	7.3	7.9	8.0	8.2
U.S. government agencies and trust funds . . . . .	28.0	34.4	37.3	39.4	37.8

Detail will not necessarily add to totals because of rounding.

Source: U.S. Department of the Treasury.



government trust funds at rates of interest higher than the average on the debt as a whole; (2) the increase in the size of the total debt; (3) the large accruals of interest on World War II savings bonds as they get closer to maturity.

**U.S. State and Local Government Debt.**—From June 30, 1949, to June 30, 1950, the aggregate debt of state and local governments in the U.S. increased almost \$3,000,000,000—from \$20,-875,000,000 to \$23,647,000,000. (See Table V.) The largest increase was in the debts of states, though cities and school districts also rose appreciably.

The rise in state and local government debt from 1946 to 1950 by 50% was in contrast to the widespread reductions effected during the war years. Rising revenues and restricted expenditures allowed state and local governments to reduce their total gross debt from \$20,246,000,000 in 1940 to \$15,922,000,000 in 1946.

**Other Countries.**—In Table VI are presented data on the national debts of many countries of the world. Insofar as available information permitted, the data are shown for 1946 or 1947 and for 1939, affording a comparison of national debts before and after World War II.

In nearly all the countries for which data are provided in the table, national indebtedness was substantially higher in the post-war period than in 1939.

During World War II, debt increases were particularly large in the belligerent countries, but sizable increases occurred in numerous non-belligerent countries, which were required to make unusual expenditures. (See also BUDGET, NATIONAL.)

(M. Gt.)

**Defense, U.S. Department of:** see GOVERNMENT DEPARTMENTS AND BUREAUS.

**De Gasperi, Alcide:** see GASPARI, ALCIDE DE.

**Delaware.** Delaware, on the middle Atlantic seaboard, one of the original 13 states of the United States, is called the "First state," having been the first to ratify the federal constitution, Dec. 7, 1787. The "Diamond state" is also a popular name. Area 2,057 sq.mi. (land 1,978; inland water 79). Population (1950 U.S. census) 318,085 compared with (1940) 266,505. Of the latter, native white numbered 215,695; foreign-born 14,913; Negro 35,876.

Dover (pop. 1950 census preliminary figures) 6,322 is the capital; Wilmington (1950 preliminary figures) 109,907 is the only large city in the state.

**History.**—The commission on reorganization of state government adopted in 1950 a report prepared by a firm of consultants for the consolidation of 92 existing boards, commissions and agencies of the executive branch into 19 departments and agencies.

The U.S. air force established a complete reserve training centre at the New Castle county airport. Negro undergraduates were admitted to the University of Delaware upon decision of the court of chancery. A state museum of arts and history was opened at Dover.

A cash bonus was paid by the state to 31,740 veterans of World War II or their beneficiaries.

The chief state officers in 1950 were: governor, Elbert N. Carvel; lieutenant governor, Alexis I. du Pont Bayard; secretary of state, Harris B. McDowell, Jr.; tax commissioner, Howard S. Abbott; bank commissioner, John C. Darby; chief justice, Charles S. Richards; director, legislative reference bureau, Robert W. Tunnell. Newly elected in November were: attorney general, H. Albert Young; insurance commissioner, William R. Murphy; state treasurer, Ralph W. Emerson; state auditor, George Daniel Enterline, Sr. Newly appointed were: chancellor, Daniel O. Wolcott; adjutant general, Brig. Gen. Joseph J. Scannell.

**Education.**—The council for Delaware education conducted a study and prepared legislative proposals to permit reorganization of the state's many small school districts into larger efficient units; also for increasing the required attendance in the school year from 160 to 180 days and the compulsory attendance age from 14 to 16 years. During the fiscal year ending June 30, 1950, the state board of vocational education placed 423 disabled persons in earning jobs. The commissioner of education in 1950 was George R. Miller, Jr.

The cost of operation of the state schools for the fiscal year was \$10,-131,119. The expenditure per pupil in attendance increased from \$212.48 to \$243.42. The 142 elementary schools had a net enrolment of 28,423 as of June 1950. The elementary teaching staff numbered 952. The 47 secondary schools had 16,923 pupils and a teaching staff of 879.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Servicemen's readjustment allowances paid in 1950 totalled \$41,106; state unemployment compensation, \$1,821,268; the number of active claims in the last week of Dec. 1950 was 2,525. The cost of outside relief for the calendar year was \$534,327 for an average of 1,246 cases per month. The cost was shared half and half by the state and the county in which the relief was given. In Dec. 1950, 1,614 persons were receiving old-age pensions, compared with 1,617 in Dec. 1949.

During the fiscal year ending June 30, 1950, 843 children were cared for in their own or foster homes at a cost of \$249,083; the number of dependent children aided was 2,468 at a cost of \$601,111. The state appropriation for public welfare was \$3,165,740 (not including additional grants to semipublic institutions). Included were Ferris school (industrial for boys) \$192,500; Kruse school (correctional for Negro girls) \$58,200. The New Castle county workhouse which accepts some long term prisoners from the other counties (there is no state prison) received 2,344 prisoners during the fiscal year and discharged 2,365. There were 333 inmates on June 30, 1950.

**Communications.**—The mileage of highways including rural roads under state control was 3,910. Income of the state highway department for the fiscal year ending June 30, 1950, including federal aid of \$2,145,669, was \$10,467,752; expenditures \$8,761,353. Railroad mileage was approximately 270.

For the calendar year tonnage at the port of Wilmington was 692,042 compared with 618,140 for 11 months of 1949; the value of cargoes was \$34,972,934 for the calendar year compared with \$33,980,633 for the first 11 months of 1949. Cargo tons (2,000 lb.) through the Delaware and Chesapeake canal in 1950 were 7,414,761; transits of vessels, 14,506. Operations at the New Castle county airport changed from predominantly civilian to predominantly military upon establishment of a U.S. air force complete reserve training centre. Civil-local flights dropped from 53,870 to 11,776 during the fiscal year, carrying 14,041 passengers; 91,122 lb. of air mail were carried by the regular lines, 270,468 lb. of air express and 764,415 lb. of air freight. The city of Wilmington had four radio stations. On Nov. 30, 1950, the state had 117,206 telephones in use.

**Banking and Finance.**—There were 27 state banks, mutual savings banks and trust companies with 6 branch banks and 12 branch offices; 13 national banks, 39 building and loan associations and 20 small loan companies. Total assets of all state banks June 30, 1950, were \$651,190,763 compared with \$557,028,448 on the same day in 1949; deposits June 30, 1950, were \$580,305,507 compared with \$489,508,176 on the same day in 1949. Assets of the national banks were \$42,860,446 June 30, 1950, compared with \$41,742,597 on the same day in 1949.

Total state revenue for the year ending June 30, 1950, was \$37,578,930.-14; nonrevenue income \$40,243,722.32; total \$77,822,652.46. Expenditures were \$54,429,436.22. The excess income over expenditures plus the balance of \$13,527,308.78 equalled \$36,920,525.02. The gross debt was \$36,750,000. Total debt service (interest and redemptive) \$662,092.

**Agriculture.**—The estimated total cash income from agricultural production in 1950 was \$100,000,000. Total livestock income (estimated) was \$67,383,000 (including the large broiler industry for which separate data were not available.) The total from crops from January to October was \$13,508,000.

Table I.—Leading Agricultural Products of Delaware

Crop	1950	1949	Average 1939-48
Corn, bu. . . . .	5,256,000	4,380,000	3,992,000
Apples, bu. (commercial) . . . . .	525,000	624,000	661,000
Hay, tons . . . . .	96,000	90,000	96,000
Wheat, bu. . . . .	1,037,000	1,202,000	1,228,000
Tomatoes, tons (processed) . . . . .	40,000	45,000	
Strawberries, crates . . . . .	50,000	63,000	
Lima beans, tons shelled . . . . .	15,610	16,200*	

\*Revised.

**Manufacturing.**—Gross receipts of 979 licensed manufacturers for the year ending June 30, 1950, were \$285,273,053, compared with \$185,246,-411 in the previous fiscal year. The total of employees under the unemployment compensation law July 1, 1950, was 103,788. Total wages for the year ending June 30, 1950, were \$299,659,522. On Nov. 15, 1950, 562 plants in the Wilmington area reported an employment total of 62,785 compared with 56,287 for Nov. 15, 1949. New corporations chartered at Dover for the year ending June 30, 1950, were 2,464 compared with 2,333

Table II.—Principal Industries of Delaware

Industry	1950	1949
Food . . . . .	\$67,461,557	\$63,299,055
Clothing . . . . .	75,811,606	17,095,871
Household supplies . . . . .	11,129,538	458,643
Auto supplies . . . . .	10,227,693	6,100,656
Drugs and medical supplies . . . . .	3,274,467	8,066,907
Tobacco . . . . .	433,938	397,120
Miscellaneous . . . . .	126,934,254	89,828,159



in the preceding year. Dissolutions were 1,171 compared with 977 in 1949. Miscellaneous manufactures in Table II include chemicals, shipbuilding, fibre, leather, textiles, foundries and machine shops—the notable industries of the Wilmington area.

**Mineral Production.**—According to the federal census of manufactures in Delaware (1947, released 1949), the total value added by manufacture of stone, clay and glass products was \$1,011,000. (J. EN.)

**Democracy.** During 1950 the word democracy was used with two opposite meanings. Communists used the word democracy, sometimes also called people's democracy or true democracy, to connote their own system. That kind of "democracy" is discussed in the article COMMUNISM. It represents the very opposite of that form of government and way of life which is based upon the multiparty representative system, respect for individual liberty and the freedom of discussion and expression as established in the constitutional struggles from the 17th to the 19th centuries. Democracy in this sense only is considered here.

Democracy during 1950 was consolidated and strengthened wherever it existed. In the 1930s fascism in its various forms appeared as the most powerful challenge to democracy and regarded itself as the "wave of the future." In 1945 fascism suffered a crushing defeat. It was replaced by communism as the chief threat to democracy. Many began to regard communism as the "wave of the future." However, in 1950, as in the preceding year, every free election held in the western world, even in countries in the immediate shadow of the soviet army, testified to the vitality of democracy and to the decline of communism in free competition. Nor did the Communist "peace" propaganda impress the democratic world. The act of Communist aggression against the Republic of Korea in June 1950 united almost the whole non-Communist world and revealed even to many sympathizers with communism the hollowness of Communist "peace." The democratic nations of the North Atlantic area drew more closely together under the threat of communism and the appointment of Gen. Dwight D. Eisenhower (*q.v.*) as commander in chief of all the North Atlantic treaty nations' armies in Europe became the visible symbol of this growing unity.

The weakness of communism in the western world showed itself even in the soviet-occupied zone of Austria where in the municipal elections of May 7 the Communists received only slightly more than 5% of the votes, a little less than in 1949. In all the cities where in 1945 Communist municipal administrations had been introduced, like industrial St. Poelten, the municipal administration fell into the hands of the non-Communist governmental parties. The Catholic People's party which campaigned on an outright anti-Marxist platform, received about 52% of all the votes, the moderate socialists 40%. Similarly the Communists were defeated in all elections held in western Germany. In west Berlin about 90% of all the voters went to the polls on Dec. 3 in spite of an intensive Communist propaganda campaign to dissuade west Berliners from voting. The moderate Social Democrats polled 44.7% of the votes, the Christian Democrats 24.6% and the Free Democrats 23.0%. The vote in the proletarian districts which had been heavily Communist before 1933, Reinickendorf, Wedding, Neukoelln and Tempelhof, turned out as strongly anti-Communist as all the other parts of the city. In the elections for the west German states of Hessen and Wurttemberg-Baden on Nov. 19 the Communist party, for the first time since the end of World War II, failed to win even the 5% of the total votes required for a seat in the parliaments. A week later, in the elections in the state of Bavaria, the Communists received only 1.9% of the very large total vote. In all these elections it was the moderate Social Democratic party which found the strongest support among the voters. This was also the case in the elections in Schleswig-Holstein on July 9 where the vote for the Communists dropped from 43,000 to 28,000.

Elections in other European countries presented the same picture. On April 26 the Communist vote in the provincial elections in Amsterdam, the Netherlands, a stronghold of the Communists, fell from 31.5% in 1946 to 24.6%, and in The Hague from 8.2% in 1946 to 7.5% in 1950. Of the 590 seats of the Dutch provincial parliaments the Communists in 1946 gained 58 seats and in 1950 only 31 seats. In Belgium the Communists held 12 seats in the chamber of deputies in 1949 and 5 in the senate; in 1950 their numbers dropped to 7 in the chamber of deputies and 3 in the senate. In Switzerland where the Communists had shown some strength in the Zurich municipal parliament elections of 1946, the elections of March 1950 reduced their representation to 4. Nor was the verdict of the voters different in Denmark. The national elections of Sept. 5 reduced the number of Communist deputies among the 149 members of the *folketing*, the Danish house of representatives, from 9 to 7. Swedish municipal elections on Sept. 17 brought the Communists an even greater reduction of their representation in the city and town councils from 91 to 29 seats, and in Stockholm from 17 to 5 seats. An even more crushing defeat was administered to the Communists in the general elections in Britain in Feb. 1950. The Communists polled only 91,815 votes in a total of 28,724,754 and lost the 2 seats which they held in the previous parliament, even then an insignificant minority among 640 deputies. In the November elections in the United States the only representative of the Communist trend in the previous congress lost his seat.

Thus it can be asserted that in all democratic countries wherever full freedom of speech, press and assembly existed, communism was rejected by the overwhelming majority of the voters. In Uruguay, one of the few Latin-American countries with a developed democracy, the Communist party suffered a similar rout at the national elections in Nov. 1950. Only in Italy and to a much lesser degree in France did communism retain a stronghold over a relatively considerable minority of the population, especially among the workers in both countries and the peasants in Italy. To counteract the Communist-dominated World Federation of Trade Unions which controlled most of organized labour, the International Confederation of Free Trade Unions was founded with the support of the American Federation of Labor and of the Congress of Industrial Organizations, with its seat in Brussels, Belgium. This confederation planned to organize regional meetings in Asia and in Latin America to spread free trade unionism. The confederation co-operated closely with the Free Trade Union Centre in Exile representing the democratic labour movements in the countries behind the "iron curtain" and in Spain.

The events of 1950 proved the strength and vitality of democracy in all western lands in spite of the challenge of communism. Two countries in which democracy made definite gains during the year were Greece and Turkey. In Greece general elections were held on March 5 in an atmosphere of liberty, freedom of movement and personal security, unknown in that country for many years. Of the 250 seats in the new chamber the extreme left, organized under the name Democratic front, received only 18 seats and the extreme right, calling itself Independent Political front, received only 16 seats. Even more significant was the development in Turkey. This young republic had been ruled for 27 years by the Republican People's party with practically dictatorial power. In the last years opposition was admitted, and the elections of May 14 brought a complete victory of the opposition, the Democratic party. The ruling party yielded in the best democratic tradition to the freely expressed will of the people.

The only real threat to democracy in 1950 was not offered by a weakness within but by the danger of military conquest from without. Democracy is a system of life glorifying peace and co-operation among classes and nations in the interests of general





FIRST SECRET BALLOTING in Turkish history, during the elections of May 1950. An estimated 7,500,000 of the 9,000,000 registered voters cast ballots and brought a surprise defeat for Pres. Ismet İnönü's Republican People's party

harmony and well-being. It is difficult for democracy to understand the challenge of systems which believe in class or national warfare as the fundamental principle of history. It took the democracies a long time in the 1930s to prepare and to unite against the threat of fascism. In 1950 the democracies, aroused by the Communist aggression against the Republic of Korea, started to pool and mobilize their moral, economic and military resources. They hoped thereby to prevent further acts of Communist aggression and to avert the disaster of a new general war. Under the leadership of the United States, which in the 1940s emerged as the most powerful democracy, the foundation was laid for a union of the democratic nations organized in the North Atlantic treaty community. (See also EDUCATION; ELECTIONS; EUROPEAN UNION; GREAT BRITAIN; SOCIALISM; UNITED STATES.)

FILMS OF 1950.—*Why We Respect the Law* (Coronet Instructional Films.) (H. Ko.)

**Democratic Party.** The Democratic party in 1950 suffered from reverses at the polls and from intraparty dissension involving key members of congress and distinguished party members. At the end of the year, Pres. Harry S. Truman and National Chairman William M. Boyle, Jr., were engaged in making new plans for rebuilding the organization which had kept the party in the White House for 17 years.

In the elections of Nov. 7, the Democrats lost 5 senate seats and 30 in the house, leaving them a margin of only 2 in the upper chamber and 35 in the lower. They lost six governorships to the Republicans, which gave the G.O.P. control of 25 of the 48 state governments.

The Democrats professed to find consolation from the fact

that their 1950 losses were fewer than in such off-years as 1934, 1938, 1942 and 1946. But there were certain features of the 1950 rebuff that seemed to offset these comforting conclusions.

The Democratic vote in the great cities—New York, Pittsburgh, Cleveland, Chicago, San Francisco, Los Angeles—hit a record low from pre-Roosevelt days. This indicated that many groups once loyal to New Deal-Fair Deal policies and promises—labour, liberals and racial blocs, especially the Negro race—had fallen away. It was also considered significant that several Truman leaders on Capitol Hill, including Senate Majority Leader Scott W. Lucas of Illinois and Senate Whip Francis J. Myers of Pennsylvania, were defeated. Moreover, many severe Truman critics, notably Sen. Robert A. Taft of Ohio, won by record majorities.

Finally, the retirement of so many key senators and governors left the Democrats with a shortage of manpower. Save for President Truman, the year closed with no 1952 presidential prospects on the horizon. There was also a dearth of vice-presidential possibilities, in view of the fact that Vice-President Alben Barkley would be 75 in 1952.

The outcome was a surprise to President Truman and Boyle, who had forecast an easy victory and gains. Boyle showed his concern when, a few days after election, he asked local and state leaders to report formally on why their calculations had misfired. He was especially concerned over the party's poor showing in industrial and rural areas, for it had been the loose alliance of labour and farm groups that accounted for so many past triumphs. In the 1950 contest, however, eight farm states that had contributed surprisingly and heavily to Truman's 1948 win returned to Republicanism.

From the long-range viewpoint, politicians thought the result significant because the election was fought on issues of fundamental importance to Democratic policies and philosophy—national health insurance, the Brannan farm plan, Taft-Hartley repeal, civil rights, etc.

Although a first-term senator, Joseph R. McCarthy (Rep., Wis.) made himself a dramatic and influential campaign figure. Throughout 1950 he peppered the administration with charges that it had "coddled Communists" in the state department, to the detriment of a strong anti-Russian stand. Truman's characterization of this indictment as a "red herring," combined with conviction of Alger Hiss, former state department official, of perjury for denying that he had passed official secrets to Moscow agents, gave colour to McCarthy's allegations. They admittedly hurt the Democrats in many states, notably New York, Maryland, Ohio and California.

President Truman said he was not disappointed with the election results, and declared he would resubmit his Fair Deal program to the 82d congress, opening in Jan. 1952. But even as he spoke, military reverses in Korea and the threat of World War III made it clear that, as in 1941, social and economic reforms would be laid aside on Capitol Hill for an indefinite period.

Truman had originally planned an active campaign, but official pressures forced him to confine his activity to a 16-state, 6,400-mi. tour across the northern tier in May, and a single speech on the Saturday night before election. In his spring swing, he defended his Fair Deal and demanded defeat of "obstructionists and isolationists" of both parties. As in his 1948 "give 'em hell" effort, he denounced Republican opponents as "old fogies, reactionaries and captives of Wall street." In his only election speech at St. Louis, Mo., he predicted a great Democratic victory, also declaring that any workingman or farmer who did not vote Democratic ought to have his head examined.

The congressional line-up resulting from the November contest forecast party difficulties on Capitol Hill. The coalition of Republicans and conservative southern Democrats, which had blocked enactment of Truman's major legislative proposals for



five years, had been strengthened. Only on demands for rearming the United States and overseas allies against the Russian menace could the president be sure of support. Indeed, on this question the congress had long been more forehanded than the executive branch.

The breakup of several once dominant city machines was another 1950 setback for the Democrats. The 1949 dethronement of Boss Frank Hague of New Jersey was made more permanent. Tammany's mayoralty candidate, Judge Ferdinand Pecora, was beaten by an independent entry, Vincent Impellitteri. The Chicago machine gave Senator Lucas the low majority of 138,082. Senator Taft carried almost every industrial centre in Ohio.

Southern Democrats continued to harass the Truman-Boyle "regulars," with James F. Byrnes of South Carolina as spokesman. Although Byrnes was once Truman's close personal friend and secretary of state, they broke after Byrnes made a speech in 1949 in which he said that, unless Fair Deal legislation were checked, every citizen would become an "economic slave pulling an oar in the galley of the state."

Truman was unusually unfortunate in his relations with prominent southerners. After the "economic galley slave" remark, he wrote Byrnes to suggest that his was another "*et tu, Brute*" act. The South Carolinian replied, characteristically, that he did not consider himself a Brutus, nor Truman "a Caesar."

Although a septuagenarian and a veteran of 40 years of Democratic service, Byrnes then ran for governor and won without opposition. He indicated that he might use his office and prestige to organize a southern faction antagonistic to President Truman's renomination and re-election. Two other southerners who indicated dissatisfaction with the administration's domestic program, although supporting the White House on foreign policy, were Sen. Harry F. Byrd of Virginia and Jesse H. Jones of Texas, secretary of commerce under Roosevelt.

An anti-Truman movement headed by men of this type, Democratic politicians feared, might mobilize a far more powerful

revolt in 1952 than the Dixiecrat rebellion of 1948 which cost Truman the four states of South Carolina, Louisiana, Alabama and Mississippi.

James A. Farley, former Roosevelt postmaster general and national chairman, also joined the Truman critics. He supported Acting Mayor Impellitteri against the Tammany-White House nominee in New York city and gave no help to the national organization in the campaign. In a November address before the Florida chamber of commerce he indicated for the first time in public that the administration's general domestic program was too radical for him. (See also ELECTIONS; UNITED STATES.)(R. Tu.)

**Denmark.** A monarchy of north central Europe, Denmark has an area of 16,569 sq.mi.; pop. (1945 census): 4,045,232 (mid-1949 est., 4,230,000). Capital: Copenhagen (731,707, or including Frederiksberg and Gentofte 927,404; 1948 est., 979,880). Other principal cities (1945 census): Aarhus (107,393); Odense (92,436); Aalborg (60,880). Religion: Lutheran Christian. Ruler in 1950: King Frederick IX; prime minister: Hans Hedtoft, to Oct. 26; Erik Eriksen after Oct. 28.

**History.**—The Social Democrats had held the reins of government since the autumn of 1947, but they were a minority government. The weakness of their position was accentuated by the growing tensions of the economic problem, and at the end of Oct. 1950 they gave way, and a new ministry was formed by a combination of the Liberals and the Conservatives.

In the municipal elections of March 1950 a trend to the right was evident. In 20 cities the Communists retained only 9 of their former 25 posts, the Social Democrats 148 of 150, the Liberals 36 of 45, while the Conservatives increased their places from 51 to 54 and the Justice party (followers of Henry George) from no seats at all gained 7. Special lists, formerly with 17 seats, placed 28. Such straws in the wind boded ill for the Social Democrats, and a national test seemed sure to come.

The methods of taxation for defense purposes caused a government crisis in August. The appropriation asked for was voted without serious question, but the austerity measures demanded by the government caused dissatisfaction. Hence on Sept. 5 the nation went to the polls. Results were far from satisfactory to a government seeking popular approval:

	Seats after 1947 election	Seats after 1950 election
Social Democrats . . . . .	57	59
Liberals (Venstre) . . . . .	46	32
Conservatives . . . . .	17	27
Radical Liberals . . . . .	10	12
Justice Union (single tax) . . . . .	6	12
Communists . . . . .	9	7
Others . . . . .	4	..

Lack of enthusiasm for the Social Democrats was obvious, yet no other party had so many representatives. Attempts to form a coalition cabinet under Social Democratic leadership produced no results, and Premier Hans Hedtoft was prevailed upon by the king to carry on with his minority rule. For a few weeks it appeared that general submission would enable this regime to continue, but at the end of October the other parties revolted on the issue of butter rationing—which the opposition wished to abandon.

By a four-vote majority the ministry was defeated and resigned on Oct. 26.

King Frederick IX called upon Erik Eriksen, leader of the Liberal (Venstre) party, to form a new government, built of a coalition representing a real majority. Eriksen was able to create a ministry, however, of only Liberals and Conservatives. These two parties held 59 seats, exactly the same as the Social Democrats, and were therefore in a precarious position. Nevertheless, the king on October 28 accepted the new coalition group. Erik Erikson was prime minister, with Ole Björn Kraft of the Con-



"SHUCKS, OUT OF PEPPER!" cartoon comment by Werner of the *Indianapolis Star* on the failure of Claude Pepper to win the Democratic senatorial nomination in the Florida primaries of 1950





'ANALYZING SAMPLES of Danish soil collected in a search for oil by the Danish American Prospecting company during 1950. Axel Nörvang, scientific leader of the project, is shown at the microscope

servative party as vice-premier and minister of foreign affairs. A lawyer, Helga Pedersen, became the first woman minister of justice.

Economic difficulties threatened Denmark's high standard of living. The devaluation of Sept. 1949 had hit Denmark particularly hard, for that country normally sold its agricultural export to Great Britain and got payment in sterling, now depreciated. But Denmark bought its machinery and "colonial" products in the dollar market, with prices suddenly higher. It could not increase or redirect its exports enough to close this gap.

Foreign observers became increasingly critical of Denmark as a country which was receiving considerable amounts of Marshall plan aid (\$87,000,000 in 1949-50), was maintaining and even expanding its social welfare program, and at the same time was using up reserves.

Even the Danes agreed that belt-tightening was in order, but the prospect was painful and the methods for new taxation were debatable.

The Danes increased their budget for defense from 305,000,000 Kr. to 353,000,000 Kr. (about \$51,000,000). This was only 2% of national income, as compared with similar expenses in Britain of 7.6%, the Netherlands 7.7%, Norway 4.5% and the U.S. 6.4%—all for estimates prior to the Korean war. In the general rearming that followed the challenge in the far east, Denmark almost doubled its appropriations. The country also furnished a hospital ship for the use of the United Nations (the "Jutlandia") and a merchant vessel of 6,000 tons as well (the "Bella Dan"). Denmark wanted definitely to play its part, but it was hard when most of the people felt that nothing they could do would prevent the country from being overrun in a general war.

Denmark's direct external troubles centred in the Baltic, where several Danish fishing boats were captured by the Soviets and held for a few weeks. When a U.S. plane disappeared over the Baltic in April, the U.S. was allowed to use air bases in Denmark for its searching planes. Denmark and Sweden stood firmly together against the Russian demand for a 12-mi. limit off her shores.

Denmark continued to press for adjustment of the refugee problem in neighbouring south Schleswig where the Danish minority struggled to maintain its rights.

The Danes also had problems in the more distant Faeroes, and in Greenland (q.v.).

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**Education.**—Schools (1948-49): elementary, middle and secondary 4,143, pupils 486,863; technical 340, pupils 53,000; commercial 198, pupils 34,000; agricultural 25, pupils 2,400; adult 55, pupils 7,300; teachers' training colleges 18, students 2,500; universities 2, professors and lecturers 230, students 7,300; institutions of higher education 7, professors and lecturers 152, students 5,193. No illiteracy.

**Finance and Banking.**—Budget: (1950-51 actual) revenue 2,040,000,000 Kr., expenditure 2,033,000,000 Kr.; (1951-52 est.) revenue 2,163,000,000 Kr., expenditure 2,151,000,000 Kr. Net foreign debt (Dec. 31, 1949) 2,378,000,000 Kr. Currency circulation (Aug. 1950): 1,439,000,000 Kr. Bank deposits (Aug. 1950): 4,914,000,000 Kr. Gold and foreign exchange (Sept. 1950): U.S. \$79,000,000. Monetary unit: krone (pl. kroner) with an exchange rate of 6.9 Kr. to the U.S. dollar.

**Foreign Trade.**—(1949) Imports 4,205,000,000 Kr.; exports 3,564,000,000 Kr. Main sources of imports (1949): United Kingdom 32%; U.S. 16%; Sweden 7%. Main destinations of exports: United Kingdom 44%; Germany 7%; Norway 5%.

**Transport and Communications.**—Roads (1949): 34,564 mi. Licensed motor vehicles (Dec. 1949): cars 111,417; commercial 57,777. Railways (1949): 2,110 mi.; freight net ton-miles 693,000,000. Shipping (July 1949): number of merchant vessels over 100 gross tons 698; total tonnage 1,170,373. Air transport: passenger-miles (1949) 36,031,000. Telephone subscribers (1948): 470,292. Radio receiving sets (1949): 1,201,600.

**Agriculture.**—Main crops (metric tons, 1949): wheat 299,000; barley 1,571,000; oats 982,000; rye 469,000; potatoes 1,794,000; sugar, raw value 246,000. Livestock: cattle (July 1950) 3,044,000, of which cows in milk 1,572,000; sheep (July 1949) 67,000; horses (March 1950) 482,000; pigs (Jan. 1950) 3,208,000; chickens (March 1950) 18,532,000. Dairy production (metric tons, 1949): milk 4,884,000; butter 156,000; cheese 63,600; eggs 118,000. Meat production (metric tons, 1949): total 400,000, of which beef and veal were 131,000 and pork 266,000. Fisheries (1949): total catch 227,289 metric tons valued at 177,500,000 Kr.

**Industry.**—Industrial establishments (June 1948): 109,288; persons employed 641,379. Fuel and power (1949): coal distributed 7,368,000 metric tons; manufactured gas 369,600,000 cu.m.; electricity 1,636,000,000 kw.hr. Manufactures (1949): cement 834,000 metric tons; new dwelling units 244,800.

**Dentistry.** During 1950 U.S. dentistry was engaged in appraising the advances which it had made in the first half of the 20th century. At the turn of the century one year of high school training was the educational requirement for admission to a dental school. The dental course leading to the dental degree was three years. By 1950, two years of training in a college of arts or science and four years of training in the dental school were the minimum educational program. The proprietary dental schools conducted for private profit were extinct. Of the 41 schools in operation at the close of 1950, 38 were integral units of universities. Of these, 14 were in state universities and 24 in privately incorporated universities.

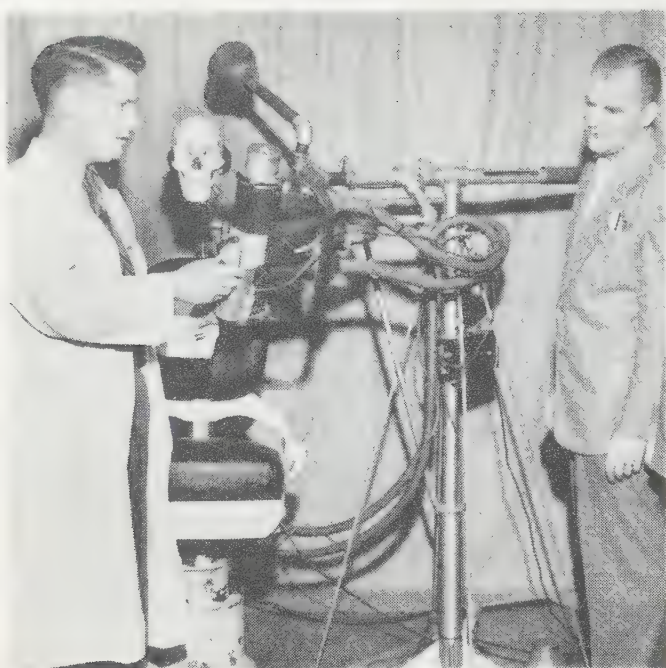
There were more than 11,000 students enrolled in the accredited dental schools of the United States of which more than 3,000 had offered a bachelor's degree in arts or science for admission.

The dental schools offered postgraduate and graduate instruction and in the past few years more than 650 advanced degrees had been awarded.

One of the principal objectives of dentistry in 1950 was the attainment of more and more prevention of dental disease. This involved a knowledge of the causes of disease. An increasing amount of research in learning the causes of dental caries and the various diseases of the gums had resulted in the recognition of the value of the fluorinization of public drinking water supplies, the use of the ammonium ion in dentifrice preparations and the cleaning of the mouth immediately after partaking of food. All these activities were contributing to a reduction of the incidence of dental caries.

The importance of dental research in promoting the public





DENTAL X-RAY MACHINE for picturing all upper or lower teeth on one film being demonstrated at the University of Washington School of Dentistry in 1950. The patient remains in a fixed position in the dental chair while the machine and chair slowly revolve

health was recognized by the federal government by the passage of a dental research bill authorizing \$2,000,000 for a dental research building and \$750,000 annually for research work. The bill was signed by the president June 24, 1948. Improvements in techniques and in materials kept pace with education and research.

Advances in the literature of dentistry also made notable gains. Proprietary dental journals no longer occupied any prominent place. Dentistry had developed its own journals and textbooks, which kept pace with the rest of dentistry's achievements.

But most significant of all was the development of an appreciation of dentistry's social responsibilities. Its recognition of its share of responsibility for the dental health of all the people; its strong emphasis on dental health education programs; its interest in providing dental care for all the people without undue government regulation or control; its efforts to control dental disease through expansion of community dental programs integrated in the general health program; its adoption of measures to make dental practice in smaller cities and rural communities more attractive and rewarding; and its development of auxiliary personnel particularly through encouragement of the education of the dental hygienist were all aimed at better dental health for the American people.

FILMS OF 1950.—*Teeth Are to Keep* (Encyclopædia Britannica Films Inc.).

**Dermatology.** Cortisone and ACTH (adrenocorticotrophic hormone) were used for treatment of a number of cutaneous diseases during 1950, including acute lupus erythematosus, dermatomyositis, scleroderma, panarteritis nodosa, psoriasis, pemphigus, hypersensitivity states such as drug eruption, exfoliative dermatitis, severe urticaria, eczema-dermatitis and the group of lymphoblastic diseases—leukemia, Hodgkin's disease and mycosis fungoides.

The most impressive results were obtained in the treatment of acute systemic lupus erythematosus, a disease that in many instances is fatal. In a number of cases, even when patients were moribund, the clinical symptoms were suppressed quickly and dramatically and remissions resulted, while formerly remis-

sions had occurred only rarely in acute lupus erythematosus.

In some cases of severe penicillin reactions, ACTH and cortisone produced striking results when all of the usual treatments failed.

Adverse and, in general, unimportant cutaneous side effects from treatment were noted not infrequently. Oedema, mild cutaneous haemorrhages, delayed wound healing, acne, hirsutism of the face, linear scars on the abdomen and breasts, hyperpigmentation, thinning of the scalp hair, a rounding of the face and abnormal deposit of fat on the neck and buttocks were observed. Fortunately, except for the linear scars, the changes were reversible and it was later determined that they could be prevented by proper dosage.

Studies were being conducted to determine an optimum dosage technique, the effect of small maintenance doses by prolonged administration, the use of slowly absorbed vehicles, methods of administration other than by injection and the mode of action of the drugs.

One of the drawbacks to penicillin G, the form of penicillin that usually is employed in treatment, is that it stimulates the development of allergic reactions in a rather high percentage of cases. These disturbing reactions were prevented successfully by a new synthetic crystalline preparation designated penicillin O, allylmercotomethyl penicillin. Its use by inhalation, oral troches and parenterally in 57 patients sensitive to penicillin G produced no untoward reactions, and it proved as effective therapeutically as penicillin G. Fourteen of the patients were deliberately treated with penicillin G again later without the recurrence of the untoward reactions they had experienced before they had received penicillin O—which indicated that penicillin O may not only prevent reactions but may act also as a desensitizing agent.

Banthine, a synthetic drug which acts upon the parasympathetic nerve endings, was found to be effective for reducing bothersome excessive perspiration. It is an anticholinergic drug originally introduced for the treatment of peptic ulcer. It was noted that within 45 min. after 100 mg. of the drug were swallowed cold moist palms became warm and dry. After its effect upon several patients was studied, the optimum dosage was found to be 50 to 70 mg. every four hours and 100 mg. before activities associated with stress. The drug caused dilation of the pupils of the eyes, dry mouth, a tendency to constipation and some blurring of vision. It should not be used by anyone suffering from glaucoma.

Eurax, N-ethyl-o-Crotono-tobide, was originally introduced as a parasiticide for the treatment of scabies. Not only was it an effective miticide, but it was subsequently found to be fairly effective as an antipruritic agent to relieve the itching of a number of other diseases besides scabies—diseases such as varicose eczema, senile pruritus, neurodermatitis, etc. After it was applied there was at first a sensation of warmth, then relief from the itching which was effective for from 4 to 18 hr. The ointment was aesthetically and cosmetically acceptable, easy to apply and to remove, and it did not stain. Approximately 1 in 400 persons was irritated by it. The drug had no curative effect upon the lesions of the diseases but it did afford relief from itching—except when the eruptions were acutely inflamed.

It seemed possible that a new usefulness other than as an anti-urticarial agent might be found for some of the antihistaminic drugs. Prompted by the observation that ringworm infection of the feet responded dramatically to applications of a cream containing 2% pyribenzamine, studies were undertaken to determine whether the effect noted was solely against the allergic manifestations incited by the infecting organisms or whether the antihistaminic compounds possessed fungistatic or fungicidal



properties as well. Three compounds were studied—antistine, pyribenzamine and diphenylpyraline. The results obtained indicated that the latter two compounds possessed properties that were inhibitory to pathogenic fungi. (See also MEDICINE.)

(H. RA.)

**Detergents:** see CHEMISTRY.

**Detroit.** Wayne county seat and hub of the southeastern Michigan industrial area, Detroit is a city of varied manufactures, with steel increasing as a major product. While often regarded as primarily an automotive city, actually more than half of its production workers are in nonautomotive industries.

The 1950 census, preliminary report, gave Detroit a 1,838,517 population. Previously fourth city of the United States, it dropped to fifth rank with Los Angeles surpassing it. The area is 137.9 sq.mi.

Detroit's so-called metropolitan area, embracing numerous adjacent communities including two completely encompassed by Detroit, had a 2,973,019 population according to the 1950 census, preliminary figures. These many suburbs, while some are highly industrialized, furnish much of the living space for those employed in Detroit proper.

Their role in this capacity is indicated by the fact that late in 1950 three times as many new homes were being built in them as within Detroit itself. The predominance of single dwellings was reflected in the estimate that more than 70% of Detroit's homes were owner-occupied.

Municipal government is nonpartisan and the nine-man common council is elected at large. Administrative and aldermanic terms are two years, with regular municipal elections held in the odd-numbered years. Municipal courts have jurisdiction over all criminal cases originating within the city, though prosecution is conducted by the county prosecutor's office. Civil processes are conducted in county courts.

The transportation system of streetcars, buses and trackless trolleys is city-owned, but not tax-supported. A municipal university, Wayne, is included in the school system.

The end of the 1950 fiscal year, June 30, showed municipal income exceeding expenditures, a reversal of the two preceding fiscal years. On that date the principal municipal financial statistics were as follows:

Assessed value, \$3,953,197,530; gross bonded debt (notes included), \$314,344,702; net bonded debt (notes included), \$281,487,010; net tax-supported debt, \$188,083,659; gross appropriations (including school, library and utility), \$300,362,853; tax levy (including school and library), \$131,706,861; tax rate (including school and library), \$33.094.

The principal civic accomplishment of 1950 was the United Foundation Torch drive. With a goal of \$10,300,000 for nearly 150 relief and service agencies, the drive was oversubscribed by \$100,000. This was the second year Detroit had succeeded with a unified fund-raising campaign, and its methods had become a subject of study by relief agencies over the nation.

In 1951 Detroit was to celebrate the 250th anniversary of its founding by French voyageurs. Its rule had been under three flags—French, English and U.S. Names of the older streets continued to commemorate the city's French origin. A geographical peculiarity exists in the fact that Detroit lies due north of Canadian territory from which it is separated by the Detroit river.

(R. Ho.)

**Devaluation:** see EXCHANGE CONTROL AND EXCHANGE RATES.

**Diabetes.** The effort to discover the undiagnosed diabetics in the United States reached greater intensity during

1950 than in the two preceding years. A new feature was a two-day Diabetes fair held in Boston, Mass., in which the interest of the public in the problem was extraordinary. The all-day exhibits were crowded; the attendance was estimated at 10,000; 2,000 urine tests and 1,350 blood-sugar determinations were performed. Doctors, nurses, dietitians, technicians and volunteers shared in demonstrating the exhibits. Throughout the country the press, the radio, the druggists and the pharmaceutical manufacturers combined with the doctors to make the public conscious of diabetes, its symptoms and the significance of heredity and obesity in its aetiology.

NPH insulin, long used in Denmark, was recognized by the Insulin Committee of Toronto and put on sale on Oct. 16, 1950. It acts more slowly than regular and crystalline insulin, longer than globin but for a shorter period than protamine zinc insulin. One of its advantages is the possibility of its intensification and prompter action by the addition of regular insulin to it in the same syringe without conversion to protamine insulin.

Evidence showed that adrenocortical hormones act on carbohydrate metabolism by decreasing peripheral utilization of glucose and by enhancing gluconeogenesis, thereby increasing glycogen deposition in the liver. This results in a diabetic glucose tolerance curve at first, then in frank hyperglycaemia and glycosuria. Action in this respect can be considered as antagonistic to insulin. Whereas prolonged and intensive administration is necessary to produce an even mildly diabetic symptomatology in normal persons, short courses of relatively small doses result in a profound exacerbation of symptoms in patients with diabetes, even though this is mild.

This was interpreted as representing a lack of insulin reserve, and might in time be applied to the detection of as yet asymptomatic, preclinical diabetes. Thus far the diabetic symptoms produced had nearly always proven reversible after the discontinuation of these drugs.

H. Malmros in Sweden reported upon arteriosclerosis and diabetes in wartimes. Arteriosclerosis, the major complication in diabetes, arises relatively early in obese individuals, but is remarkably uncommon in the autopsies of those who have had long, wasting illnesses. It was less in those subjected to famine in World Wars I and II and reappeared with return of more food. Malmros pointed out that the qualitative composition of the diet, its content of cholesterol foods such as eggs, butter, cream, pork and animal fats was important. Thus these foods were less used in China where arteriosclerosis, coronary disease and hypertension were less frequent. He contrasted the high (141 per 10,000) and the low (42 per 10,000) incidence of these diseases in Sweden and in Italy with the consumption of butter, which was ten times as high in the former country. So too, in Stockholm, when in 1942-43 less cholesterol food was available, there was less arteriosclerosis; and myocarditis and diabetes decreased in 22 of the largest clinics during World War II and increased when food commenced to be plentiful. The contrast between the frequency of vascular disease and the diets of Finland and the United States supported the same idea. An individual in the United States consumed 130 g. of cholesterol per year and an individual in Finland 24 g. when the diet was low. Arteriosclerotic conditions in Norway showed a fall in the lean years, and in fact the mortality from myocardial disease and arteriosclerosis was 87 per 100,000 compared with 256 in the United States. Malmros concluded that there was much reason to reject the former belief that arteriosclerosis was caused only by age.

The prescription of a low cholesterol diet for diabetes was still debatable, because so much of the cholesterol is formed in the body.

(See also ENDOCRINOLOGY; EYE, DISEASES OF.)



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**Diamonds.** World diamond production increased 36% in 1949 to a level only 5% under the record high of 1945. The data are indicated in Table I, as reported by the U.S. bureau of mines.

Table I.—World Production of Diamonds  
(Thousands of carats)

	1943	1944	1945	1946	1947	1948	1949
Angola . . . .	795	799	804	808*	799	796	770
Belgian Congo .	4,881	7,533	10,386	6,033	5,474	5,825	9,650
French Africa .	92	130	163	139	161	197	218
Gold Coast . .	1,317	1,166	812	653	852	850*	433
Sierra Leone .	834	609	504	559	606	466	494
South Africa . .	302	934	1,141	1,282	1,205	1,200*	1,254
S.W. Africa . .	94	154	153	164	179	201	280
Tanganyika . .	53	91	116	119*	92	148	192
Brazil . . . .	275*	301*	275*	325*	275*	250*	250*
Others . . . .	48*	48*	30*	53*	90*	115*	94*
Total . . . .	8,694	11,764	14,384	10,135	9,734	10,047	13,635

\*Estimated.

The sales agreement of the Diamond Producers' association was extended six years from Jan. 1, 1950. The Diamond Purchasing and Trading company would handle gem stones, and the Association and Industrial Distributors Ltd. would handle industrial stones.

**United States Imports.**—In 1942-44 and again in 1948 the diamonds imported into the United States amounted to more than the world output for the year. The accumulated stocks that made this possible were depleted to such an extent that production was expanded in 1949. Imports declined sharply in 1949, allowing a substantial replenishing of stocks.

Table II.—U.S. Diamond Imports  
(Carats)

	Rough	Cut	Industrial	Total
1939 . . . . .	153,982	488,154	3,570,111	4,212,247
1940 . . . . .	227,886	321,471	3,809,856	4,359,213
1941 . . . . .	215,026	229,582	6,882,750	7,327,358
1942 . . . . .	278,437	126,004	11,204,754	11,609,195
1943 . . . . .	751,674	193,701	12,173,918	13,119,293
1944 . . . . .	896,547	169,097	12,656,823	13,722,467
1945 . . . . .	893,761	377,243	10,792,186	12,063,190
1946 . . . . .	1,044,517	604,638	4,705,118	6,354,273
1947 . . . . .	926,514	347,810	4,112,189	5,456,513
1948 . . . . .	909,871	388,499	10,648,250	11,946,620
1949 . . . . .	651,150	335,487	6,364,049	7,350,686

The values assigned to imports in 1949 were \$28,299,799 for rough stones, \$41,427,718 for cut stones and \$17,666,479 for industrial stones; total value \$87,396,996 in 1949, compared with \$133,914,089 in 1948. (G. A. Ro.)

**Diels, Otto** (1876— ), German chemist, was born at Ham-burg, Ger., Jan. 23. He was the son of Hermann Diels of Berlin, a well-known classical scholar. Educated at the Royal Joachimsthal gymnasium and at the University of Berlin, he graduated as a doctor of philosophy in 1899 and became an assistant in the Chemical institute in the same year. He was appointed a recognized teacher of chemistry in 1904 titular professor in 1906 and extraordinary professor in 1914. After 1916 he was professor of chemistry and chemical technology and director of the Chemical institute at the University of Kiel. In 1950 the Nobel prize for chemistry was awarded jointly to Diels and his former pupil, Kurt Alder (*q.v.*), for their work on diene synthesis. The formation of organic chemical compounds by diene synthesis (the Diels-Alder reaction) had been recorded by earlier workers, but Diels and Alder provided the first experimental proof of the nature of the reaction and demonstrated its

wide application to the synthesis of ring compounds of many types. Study of the reaction contributed greatly to knowledge of the processes by which plastic materials of great practical value were obtained. Diels was also noted for his work on other aspects of organic chemistry and in particular for his studies on cholesterol. He was the author of textbooks on both organic and inorganic chemistry and of numerous papers. (W. J. Bp.)

**Dietetics:** see NUTRITION, EXPERIMENTAL.

**Diplomatic Services:** see AMBASSADORS AND ENVOYS.

**Disabled American Veterans:** see VETERANS' ORGANIZATIONS.

**DiSalle, Michael V.** (1908— ), U.S. public official and lawyer, was born in New York, N.Y., Jan. 6. He attended school in Toledo, O., and was graduated in law from Georgetown university, Washington, D.C., in 1931. He began his legal career as assistant district counsel of the Home Owners Loan corporation in 1933. He served in the Ohio legislature in 1937 and 1938, and was assistant city law director of Toledo from 1939 to 1941. DiSalle was a member of the Toledo city council from 1942 and served two terms as the city's vice-mayor before being elected mayor in 1947 and again in 1949. He served as chairman of the advisory board of the U.S. Conference of Mayors. He was also chairman of the Toledo Labor-Management Citizens committee which attracted national attention for keeping industrial peace during World War II. Pres. Harry S. Truman named him director of price stabilization Nov. 30, 1950.

**Disasters.** During 1950 loss of life and property in disasters included the following:

#### Aviation

- Jan. 27 Yukon territory, Canada. Forty-four persons aboard a U.S. air force C-54 plane were lost when the craft disappeared on a flight to the U.S.
- March 7 Minneapolis, Minn. Fifteen persons died when a civilian transport plane struck a flagpole while attempting a landing, plunged into a residence and exploded.
- March 12 Near Cardiff, Wales. Eighty persons aboard a chartered air liner, returning to Wales after attending the international Rugby championships in Belfast, Northern Ireland, died when the plane crashed near its port of destination. Three persons aboard survived the worst air disaster in world aviation history.
- April 21 Southwest of Tokyo, Japan. Thirty-five U.S. occupation personnel, including 5 high officials of Gen. Douglas MacArthur's headquarters, were killed when a U.S.A.F. transport crashed in mountainous territory.
- May 24 Southern Colombia. Twenty-eight persons aboard a transport plane died when the craft struck a volcano.
- June 5 Atlantic ocean, 330 mi. northeast of Miami, Fla. An unscheduled passenger transport plane carrying migratory workers from Puerto Rico to New Jersey crash-landed in the water. Of the 65 persons aboard, 45 were later saved by surface craft.
- June 9 Near Maracaibo, Venezuela. Fifteen persons, including 12 members of a U.S. missionary party and 3 crewmen, died when their plane crashed. The wreckage was discovered three weeks later.
- June 12 Persian gulf near Bahrein. Forty-one persons were known dead and 6 additional passengers of the 52 aboard were missing and presumed dead when an Air France DC-4 passenger plane crashed in its approach to land at Bahrein.
- June 14 Persian gulf near Bahrein. Forty persons aboard a second Air France plane were killed and 13 were saved when the craft crashed in circumstances identical with the one above.
- June 24 Lake Michigan, off South Haven, Mich. Fifty-eight persons were killed when a commercial air liner crashed into the lake. Reason for the disaster was never fully ascertained, and only fragments of the plane and bodies of those aboard were found.
- July 9 Casablanca, French Morocco. Twenty-one of 30 persons aboard were killed when a French passenger plane crashed shortly after taking off. Witnesses said an engine caught fire during the take-off.
- July 17 Punjab, India. All 22 persons aboard an Indian transport aeroplane died when the craft crashed in the Himalayan foothills. Among the victims were U.S. and Canadian members of a U.N. team policing the India-Kashmir truce area.
- July 23 Near Myrtle Beach, S.C. Thirty-nine members of the air national guard were killed when their plane developed engine trouble, crashed and exploded. There were no survivors.
- July 27 Near Oshima Island, Japan. Twenty-five persons, including 4 war correspondents, were missing and given up for lost after a U.S. transport plane plunged into the sea en route from Tokyo to Kyushu. There was 1 survivor.



- July 28 Near Porto Alegre, Brazil. Forty-three passengers and 6 crew members of a Brazilian Constellation plane were killed when the craft crashed and caught fire.
- July 29 Sahara desert. A French air liner crashed with 26 persons aboard, and all were presumed dead.
- Aug. 5 Fairfield-Suisun Air base, Calif. A bomb-laden B-29 bomber crashed and its bomb load exploded, with the result that 12 military personnel aboard died and 8 were injured, while 6 firemen died in rescue attempts and 60 residents of a nearby trailer camp were also injured.
- Aug. 31 Northwest of Cairo, Egypt. A U.S. air liner crashed and burned, killing 55 persons, including 23 from the U.S.
- Oct. 17 London airport, Heathrow, Middlesex. A British air liner plunged into a yard in a London suburb, killing 28 of the 29 persons aboard.
- Oct. 31 London. A fog-bound British air liner, attempting to land by the ground control approach system, overshot the runway and crashed into a stack of iron pipes; 28 of the 30 persons aboard died in the ensuing fire.
- Nov. 3 Mont Blanc, France. Forty-eight persons aboard an Air India Constellation plane died when the craft crashed on western Europe's highest peak.
- Nov. 7 Near Butte, Mont. Twenty-two persons were killed when a Northwest Airlines plane crashed just below the continental divide at Homestake pass.
- Nov. 13 Near Grenoble, France. A Canadian plane carrying 51 passengers, most of them Canadian pilgrims returning from a Holy Year visit to Rome, and a crew of 7 crashed, killing all aboard.
- Nov. 21 Mt. Moran, northwest Wyoming. A twin-engined transport plane carrying members of the New Tribes mission, a religious sect, crashed, killing 21 aboard.
- Dec. 9 Near Bangui, French Equatorial Africa. A French transport plane carrying Senegalese soldiers crashed. Of 58 persons aboard, 38 were killed, 4 missing and 3 injured.
- Dec. 13 Near Coimbatore, Madras, India. A total of 20 persons, passengers and crewmen, died when an Air India plane crashed.
- Dec. 15 Southwestern Venezuela. A chartered air liner carrying 31 persons, including 28 students bound home for the Christmas holidays, crashed, with loss of all aboard.
- Dec. 18 Near Tourane, Viet-Nam. Two French transport planes collided in mid-air, killing 30 persons, of whom most were reported to be French army officers.
- Dec. 19 Near Baguio, Phil. Thirty-seven persons aboard a U.S. air force transport plane were presumed lost in the wreck of that plane, which crashed into Mount Pulog.

### Fires and Explosions

- Jan. 7 Davenport, Ia. Forty-one women, virtually all mental patients, were burned to death when fire destroyed a unit of Mercy hospital; a woman mental patient admitted setting the blaze.
- Jan. 11 Kowloon, Hong Kong. Fire that destroyed thousands of shack dwellings left 20,000 homeless and an uncounted number dead.
- March 8 Albuquerque, N.M. Fourteen military prisoners in a guardhouse at the Sandia Special Weapons base died when a 10-min. fire consumed the building.
- April 13 Atami, Japan. Fire that destroyed 1,500 buildings in this resort town caused damage estimated at \$8,000,000.
- May 1 Patiala, India. Explosion of an ammunition dump in a fort killed 32 persons and injured 40.
- May 6-8 Rimouski, Que., Canada. More than 2,500 persons in a population of 15,000 were left homeless when a \$20,000,000 fire destroyed a large portion of the town.
- May 11 Near Charleroi, Belgium. Thirty-eight persons were killed in the explosion of gas in a coal mine.
- May 19 South Amboy, N.J. At least 29 persons were killed and about 400 were injured when munitions on four barges exploded. The city suffered widespread property damage.
- May 20 Near Rotthausen, Germany. Explosion and fire in a Ruhr coal mine killed or fatally injured at least 75 miners out of 96 who were in the mine.
- June 27 Near Homs, Syria. Sixty persons were killed and 93 injured in an explosion at a fuel depot.
- Sept. 26 Creswell, England. A flash fire 1,000 ft. down in the Creswell coal shaft killed 80 coal miners, as the flames exhausted oxygen and generated poisonous fumes. An additional 120 were rescued.
- Oct. 4 Near Slezská Ostrava, Czechoslovakia. An explosion in a coal mine killed 36 miners.
- Oct. 5 Lota, Concepción province, Chile. Thirty-two coal miners were killed in a gas explosion in a mine that extends from the oceanside out beneath the Pacific.
- Dec. 22 Near Amarillo, Tex. Ten aged persons in a convalescent home were burned to death in a flash fire.

### Marine

- Jan. 12 Thames estuary, England. Sixty-four men died in the sinking of the British submarine "Truculent," after it was rammed by a Swedish oil tanker.
- Feb. 28 Off western Iceland. Twenty-seven members of the 50-man crew of the British tanker "Clam" died when the ship, being towed by a tug to Wales for repairs, parted her towline and broke up on rocks off the Iceland coast.
- April 5 Oporto, Portugal. An estimated 60 persons were missing or dead after a ferry capsized on striking a submerged quay.
- April 20 Near Dairen, Manchuria. The U.S. vessel "California Bear" collided in a fog with a ship registered under the Chinese Communist flag, sinking it with an estimated loss of 70 lives.

- May 1 Near Calcutta, India. Fifty policemen were drowned when three police boats capsized.
- June 19 Red sea, south of Suez. The cargo ship "Indian Enterprise," with a load of explosives, blew up, with only 1 known survivor among the 74 persons aboard.
- July 27 Inland sea of Japan, off Hiroshima prefecture. A live torpedo, caught in the net of a fishing boat, exploded as it was drawn aboard, killing 30 fishermen and injuring 10 others.
- Aug. 25 Off San Francisco, Calif. Navy hospital ship "Benevolence" with about 526 aboard was rammed and sunk by a freighter; 504 persons were rescued.
- Aug. 29 Northwest coast of Ceylon. A reported 500 fishermen were either lost or missing as a result of storms that dispersed a fishing fleet.
- Sept. 16 Off St. Malo, France. A French weather ship sank after striking a drifting World War II mine; 51 persons aboard the ship were lost; 42 were saved.
- Sept. 21 Off Honshu, Japan. Fifty-three crewmen of a Japanese fishing vessel were presumed dead when the ship was lost after radioing for help.
- Nov. 15 Near Orasje, Yugoslavia. Ninety-four persons were drowned when a crowded ferryboat overturned on the Sava river.

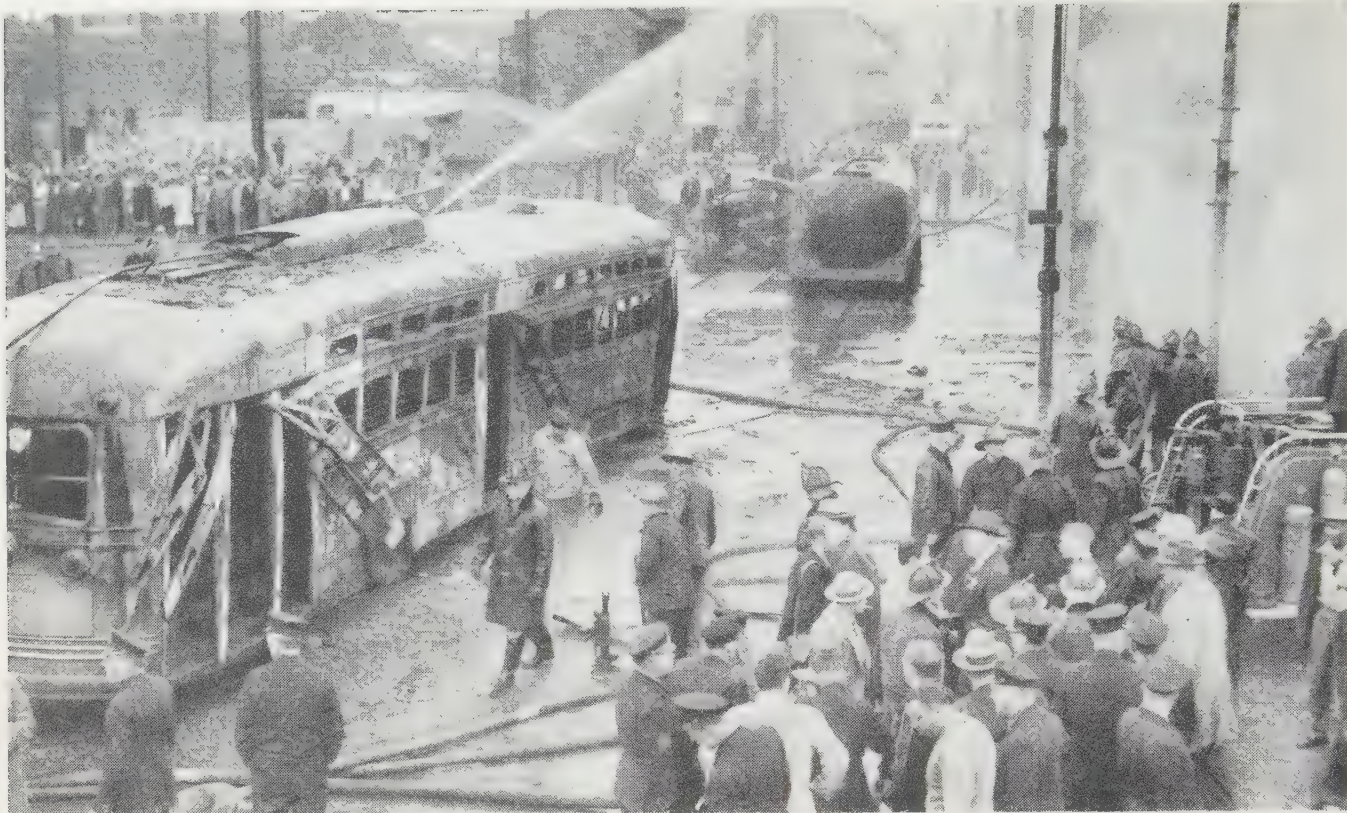
### Miscellaneous

- March 24-26 Clarinda, Ia. Fourteen patients in an Iowa state mental hospital died within three days at the climax of a two-month siege of influenza, which claimed a total of 48 lives, mostly among aged patients.
- April 13 Hardwar, India. Thirty persons were trampled to death as an estimated 2,000,000 pilgrims rushed to immerse themselves during a sacred period in the "pool of immortality" on the Ganges river.
- May 21 Cavarzere, Italy. Fifteen children were drowned in the collapse of a footbridge over a canal while a religious procession was crossing it.
- June 6 Northern Sudan. Hundreds of persons were reported dead and thousands more stricken by an epidemic of cerebrospinal meningitis.
- June-September Lucknow and Allahabad, India. Over a period of four months 45 persons, many of them children, were killed by bands of wolves, hyenas and jackals that slipped by night into the homes of residents of these and other cities.
- Sept. 7 New Cumnock, Scotland. Thirteen miners were lost but 116 were rescued after a rain-soaked surface area caved into a coal mine.
- Nov. 24 Poza Rica, eastern Mexico. Twenty-two persons were killed, 60 more were seriously poisoned and more than 200 others were affected by an unidentified poison smog that swept over this oil refinery town.

### Natural

- Jan. 15 Pacific northwest, U.S. At least 30 persons died in the U.S. and 4 more were dead in Canada as a result of violent storms.
- Feb. 11-12 Louisiana, Texas, Arkansas. Tornadoes killed 38 persons, injured 200 others and caused extensive property damage.
- April 2-7 Southern Ecuador. Floods of the Tomebamba river left at least 50 persons dead or missing and caused property damage estimated at \$1,500,000.
- May 9-20 Winnipeg, Man., Canada. About 110,000 persons fled from Winnipeg as the flooding Red river threatened the city; the refugees were given temporary housing in provinces to the east in the greatest flood evacuation in Canadian history. Property damage ran into many millions of dollars.
- May 21 Cuzco, Peru. At least 83 persons died and more than 200 were injured, while an estimated 30,000 were rendered homeless, when this 900-year-old city was rocked by an earthquake.
- June 1 Khorassan province, eastern Iran. Thirty-six persons were drowned and 16 others were missing in floods that washed away 932 houses in an area around Meshed, provincial capital.
- June 9-11 Near Tokyo, Japan. Floods and landslides caused widespread damage, with 30 known dead and 20 missing among 70 railway workers buried in one slide, and hundreds of houses swept away by high waters.
- June 10-16 Darjeeling area, India. Heavy rains caused floods and landslides which resulted in the death of more than 100 persons.
- June 25 North-central West Virginia. Flash floods sent streams over an area nearly 100 mi. wide roaring out of their beds, leaving 33 known dead and property damage of several million dollars.
- July 9-11 Northeastern Colombia. An estimated 150 persons died in a series of violent earthquakes that wrecked numerous mountain villages.
- Aug. 3 El Tocuyo, state of Lara, Venezuela. Severe earth tremors virtually demolished this community of 7,000, causing a reported 100 deaths.
- Aug. 6 Eastern Japan. At least 40 persons were missing in severe floods in Ibanki prefecture. Nineteen were killed, 58 were missing and 106 were injured in all eastern Japan, according to one government survey.
- Aug. 14 Anhwei province, China. Nearly 10,000,000 persons were reported affected by floods of the Hwai river, which had killed a reported 480 persons, damaged or destroyed 890,000 houses and ruined crops on 3,700,000 ac. of farm land.
- Aug. 15-27 Assam province, India. A severe earthquake, followed by lesser tremors and by floods, devastated large areas of northeast India; caused 574 deaths; left possibly 5,000,000 homeless; destroyed crops and other property and threatened permanent damage to agricultural lands and other natural resources.
- Sept. 4 Japan. The worst typhoon in almost 20 years swept Japan's four home islands, leaving, according to various reports, between 200





SCENE OF THE DISASTER which took 34 lives and injured 30 others when a crowded streetcar and a gasoline truck collided and burned in Chicago, Ill., May 25, 1950

- and 250 persons dead, 236 missing, 5,648 injured and tens of thousands homeless.
- Sept. 15 Camiguin Island, off northern Mindanao, Phil. A sudden eruption of the volcano Hibok Hibok left 84 persons dead of burns or suffocation from hot ashes and gases.
- Oct. 14 Rosso, Senegal river basin, French West Africa. Ten thousand persons were reported homeless as the result of floods.
- Oct. 21 Santa river, Peru. Thirty persons were killed, at least 100 were unaccounted for and 28 were injured in a landslide of mud and water that resulted when the Pisococha lagoon collapsed.
- Nov. 25-28 Snowstorms that blanketed the northeastern quarter of the United States caused damage estimated by insurance experts at about \$400,000,000, and resulted directly or indirectly in the deaths of 295 persons; Canadian damage was estimated at \$3,000,000 and deaths at 10.

#### Railway

- Feb. 17 Rockville Centre, N.Y. Thirty-two persons were killed and more than 100 were injured when two Long Island railroad passenger trains collided head-on.
- April 6 Near Tanguá, Brazil. At least 110 persons were reported dead or missing after several cars of a train plunged into the Indios river from a bridge whose foundations were weakened by flood waters.
- May 7 Near Jasidih, Bihar state, India. Eighty-one persons were killed and more than 60 were injured when the Punjab mail train was derailed in a tragedy officially termed sabotage.
- Sept. 6 Near Pantojo, São Paulo state, Brazil. Thirty persons were killed and more than 50 were injured in a train wreck.
- Sept. 12 Coshocton, O. A Pennsylvania railroad passenger train crashed at high speed into the rear of a troop train carrying members of the Pennsylvania national guard en route to camp, with the result that 33 guardsmen were killed and 67 were injured.
- Nov. 21 Near Jasper, Alta., Canada. A total of 21 persons died and about 40 were injured when a troop train and a passenger express collided head-on.
- Nov. 22 Richmond Hill, N.Y. Seventy-eight persons were killed and 203 were injured when an eastbound Long Island railroad express crashed into the rear of a standing Long Island railroad train.

#### Traffic

- Dec. 31-Jan. 2 United States. Traffic accidents accounted for 247 deaths over the New Year's day week end.
- May 25 Chicago, Ill. Thirty-four persons were burned to death when a streetcar collided with a gasoline truck; many of those who died were unable to get out of jammed streetcar doors.
- May 26-30 United States. A total of 571 persons died violently over the Memorial day week end, of whom 347 were victims of traffic accidents during the 102-hr. period considered in computing the holiday toll.

- June 30-July 4 United States. A total of 793 persons died violently over the Independence day week end, of whom 491 died in automobile accidents.
- Sept. 1-4 United States. A total of 389 persons died in traffic accidents over the Labor day week end.
- Nov. 22-23 United States. Ninety-four persons died in traffic accidents between 6 P.M. of the Wednesday preceding Thanksgiving and midnight of Thanksgiving day.
- Dec. 22-25 United States. A total of 545 persons were killed in traffic accidents over the three-day Christmas holiday.

**Disciples of Christ.** Originated in western Pennsylvania in 1809 under the leadership of Thomas and Alexander Campbell, Seceder Presbyterian ministers from Scotland, this Christian movement had in 1950 a total membership in the United States of 1,776,490, and in the world, 1,913,192. The Disciples celebrated their 101st convention at Oklahoma City, Okla., Oct. 9-15, 1950, using the theme "Co-operation and Beyond To Brotherhood in Christ." Registrations reached a total of 7,729 with an estimated attendance of considerably more than 10,000. John A. Tate of Richmond, Va., served as president. His successor, elected for 1951, was Marvin O. Sansbury, minister at the University Christian church, Des Moines, Ia. Eight young men were ordained to the Christian ministry at the International convention and recognition was given to all who had been ordained during the past 12 months.

This was the final year of the Disciples' "Crusade for a Christian World." Efforts toward service and financial goals would be continued into the early months of 1951. A long-range program for the Disciples of Christ was to be launched July 1, 1951, constituting an effort to conserve and stabilize the gains of the "Crusade for a Christian World." New missionaries would continue to be recruited, trained and sent out. Especial attention would be given to work at student centres and to the enlargement of the church school program.

During 1950 the Disciples of Christ were engaged in two major projects looking toward Christian union. One was through the Baptist-Disciple commission in which closer fellowship was being planned with the American Baptists, and the other was participation in the Protestant Conference on Church Union. Rep-



representatives were appointed for the continuation of plans and conferences in this movement.

At the close of the year there were 206 missionaries and 2,439 nationals serving in ten mission fields. These were serving under the United Christian Missionary society, a board of missions and education located in Indianapolis, Ind. A total of approximately \$50,000,000 was received for all purposes including local church support, missions and benevolence. Headquarters: 516 K. of P. Building, Indianapolis, Ind.; Marvin O. Sansbury, president; Gaines M. Cook, executive secretary. (See also CHURCH MEMBERSHIP.) (G. M. Ck.)

**Displaced Persons:** see CHILD WELFARE; DOMINICAN REPUBLIC; IMMIGRATION AND EMIGRATION; REFUGEES.

**District of Columbia:** see WASHINGTON, D.C.

**Divorce:** see MARRIAGE AND DIVORCE.

**Dodecanese:** see GREECE.

**Dog Shows:** see SHOWS.

**Dominica:** see WINDWARD ISLANDS.

**Dominican Republic.** Slightly less than two-thirds of the area of the island of Hispaniola constitutes the Dominican Republic. Its area, 19,129 sq.mi., like that of its neighbour to the west, Haiti, comprises rugged mountains, with fertile valleys, torrential rivers and few level stretches. The population is predominantly Afro-American. Population (est. 1950), 2,400,000; that of the capital, Ciudad Trujillo (known as Santo Domingo from the time of Columbus, whence the name of the nation), about 165,000 (1949), and that of the three leading provincial cities, respectively, 56,000 for Santiago de los Caballeros (1946), 23,000 for San Pedro de Macoris and 16,000 for San Felipe de Puerto Plata. The president in 1950 was Gen. Rafael Leónidas Trujillo y Molina.

**History.**—The foreign demand for sugar, cacao and coffee continued firm throughout 1950. The bulk of Dominican sugar moved to Great Britain as before; most of it had been contracted for by the time the events in Korea sharply stimulated the demand for, and price of, sugar and related products. During the first nine months of 1950, exports aggregated in value \$68,000,000 or \$9,000,000 more than in the same months of 1949, and, in volume, were slightly greater. But domestic commercial movement was somewhat slower than in 1949.

The year 1950 witnessed considerable expansion in public works undertaken as well as the completion of others begun earlier. Almost every part of the republic was linked to the capital by dependable roads. The addition of more than 11,600 ac. under irrigation, through the completion of a large dam, brought to nearly 200,000 ac. the area reclaimed since 1930. Hospitals, schools and other essential buildings were finished in increasing numbers in 1950. Water systems and sewage plants, small electric plants and harbour facilities were completed in a number of places, everywhere stimulating private construction in turn.

No noteworthy unemployment existed during 1950. The immigration of European displaced persons continued on a small scale. The trend of prices was upward, with as yet no appreciable effect on wages. Tax increases sufficed to restrain inflationary consequences of the price trend. The government reduced both domestic and foreign public debt, and built up its cash resources.

The foreign relations of the Dominican Republic were uneventful during 1950. The Dominican government maintained a discreet silence with respect to the Puerto Rican nationalist outbreak, in contrast with leftist demonstrations in Cuba.

(C. ME.)

cluding 1,172 emergency schools), all of which were maintained by the state except 53 semiofficial (state-aided) and 136 private schools. The total number of pupils was 242,545. University education was available at the University of Santo Domingo.

**Finance.**—The monetary unit is the peso, officially pegged at par with the U.S. dollar. There was no external funded debt in 1950. Short- and long-term internal obligations totalled \$23,465,308 on June 30, 1949. Notes in circulation on Oct. 31, 1950, amounted to \$23,880,000; gold reserve \$4,000,000; checking deposits in commercial banks \$35,310,000 (including government deposits); time deposits \$11,730,000.

**Trade and Communications.**—Exports in the year 1949 were valued at \$73,700,000; imports were \$46,000,000. Chief exports were sugar (53%), cacao (12%), coffee (10%) and leaf tobacco (8%). Leading customers were the United Kingdom (42%), the U.S. (28%), Canada (4.2%) and Spain (3.9%). Leading suppliers were the U.S. (75%), the Netherlands Antilles (6%), Canada (5%) and the United Kingdom (4.6%). Almost all the sugar exports went to the United Kingdom. Principal imports included machinery (17%), foodstuffs (12%), cotton textiles (11%) and automobiles and other vehicles (6%).

There were 170 mi. of public railway, all owned and operated by the government. In addition there were about 650 mi. of industrial railway, operated mainly by the sugar companies. In 1949 the mileage of surfaced highway was about 509; that of all roads was about 3,000. In 1948 there were 3,124 automobiles and 2,390 trucks. Domestic air service was supplied in 1950 by Compania Dominicana de Aviacion; international service was supplied by Pan American World Airways, K.L.M., British West Indian Airways, Caribair and a Brazilian line. In 1948 there were 2,408 telephone subscribers and about 20,000 radios.

**Agriculture.**—The country is predominantly agricultural and sugar cane is the most important crop. In the 1949-50 season (September-August) 523,951 short tons of raw and refined sugar were produced; sugar exports amounted to 487,100 short tons in the calendar year 1949. Production of molasses totalled 23,947,420 gal. in 1948. Other important crops were cacao (1949-50: 36,500 short tons), coffee (1948-49: 347,550 bags of 132 lb. each), maize, tobacco, bananas and rice. In 1946 there were 597,000 cattle, 547,000 pigs, 346,000 goats and sheep and 1,988,000 poultry.

**Manufactures.**—Manufacturing is limited chiefly to the processing of agricultural commodities and the production of light consumer goods. On Dec. 31, 1947, there were more than 4,200 industrial establishments representing a total investment of \$98,000,000, of which the sugar industry accounted for more than two-thirds. Important manufacturing enterprises in 1950 included 15 sugar mills, a large chocolate plant, an industrial alcohol plant (completed in 1949), 2 breweries and a cement plant. The cost-of-living index in Ciudad Trujillo, as reported by the International Labour office, stood at 218 in Oct. 1950 (1941=100).

**Mineral Production.**—Activity is limited principally to the exploitation of salt and gypsum deposits and rock quarrying. (J. W. Mw.)

**Donaldson, Jesse M.** (1885— ), U.S. postmaster general, was born on Aug. 17 near Shelbyville, Ill. He studied at the Shelbyville Normal school and in 1908 he became a mail carrier. In succeeding years he held various positions of increasing importance in the postal service, becoming, by 1945, first assistant postmaster general. Traditionally the cabinet position of postmaster general had gone to the political leader of the party in office, but when Postmaster Gen. Robert E. Hannegan resigned in Nov. 1947, Pres. Harry S. Truman appointed Donaldson to the post. Donaldson's policies in 1950 aroused sharp criticism in some quarters, when he sought to stem the department's mounting deficits by stern economy moves, including the reduction of deliveries in residential areas and the reduction (announced Aug. 23) by 16,000 of the post office department pay roll to 517,690 persons.

**Donations and Bequests.** Neither disturbed world affairs nor a continuing inflationary movement appeared to have checked philanthropy in the United States in 1950. Preliminary figures, based on available indexes, led to the conclusion that total philanthropy in 1950 was well above the \$4,109,416,000 estimated for 1948 on the basis of official income tax returns for that year, the most recent for which official tax figures were available.

While the total philanthropy apparently increased in 1950, it must be borne in mind that the value of the dollar dropped and many institutions, particularly educational institutions and hospitals, reported operations hampered by stringent financial conditions.

The yearly study of publicly announced gifts and bequests in eight large cities, made by John Price Jones Company, Inc., showed for 1950 a total of \$399,611,803. In 1949 this total was \$285,451,152. The cities included in the study were Baltimore, Md.; Boston, Mass.; Chicago, Ill.; Los Angeles, Calif.; New

**Education.**—On Dec. 31, 1948, there was a total of 2,576 schools (in-



York, N.Y.; Philadelphia, Pa.; St. Louis, Mo., and Washington, D.C.

Of the total benefactions tabulated in this study, \$266,324,346 was in gifts and \$133,287,457 in bequests. The increase in gifts over 1949 was 10.61% and the increase in bequests was 198.37%. The largest total of gifts and bequests publicly announced was recorded in New York city, with a total of \$270,178,778.

In the eight cities, the total announced giving for organized social work was \$104,455,732. This sum in direct gifts was greater than those in any other classification, although giving to religion, which is not generally publicized, undoubtedly exceeds all other philanthropy. Gifts to education in the eight cities rated second with a total of \$58,495,965.

During the year there was a trend toward federated giving in 60 to 70 cities, where there were community chests, and a single appeal made for both local and national causes. With the creation of the United Defense fund and the Associated Services for the Armed Forces, it was anticipated that a further trend in federated appeals and giving might be noticed in 1951.

(J. P. J.)

**Great Britain.**—The continued high rate of death duties prevented any large bequests and in many cases large estates were broken up in order to pay death duties. In January the prime minister appointed a committee with the following terms of reference: "To consider and report on the changes in the law and practice (except as regards taxation) relating to charitable trusts in England and Wales which would be necessary to enable the maximum benefit to the community to be derived from them."

The lord mayor of London, Sir Frederick Rowland, launched on March 21 a National Thanksgiving fund to express the United Kingdom's gratitude for the gifts of food parcels and bulk food supplies received during and after World War II from the peoples of the British Commonwealth and the United States. The fund would provide accommodation in London for commonwealth and U.S. students. The target for the fund was fixed at £2,000,000 and by Nov. 1 about £720,000 had been donated.

Among the grants to Oxford university was one of £100,000 from the Nuffield foundation for two additional fellowships of Nuffield college. Viscount Nuffield said in July that he would not make any more gifts for some time. It had been estimated that he had given away nearly £30,000,000.

**Canada.**—W. L. Mackenzie King, former prime minister, left about \$750,000. The greater part of his estate was dedicated to public purposes. His home in Ottawa was bequeathed to the Canadian government in the hope that history students would be allowed to use it. The lands and houses at Kingsmere, his country estate, were bequeathed to the government as a public park. The will of Joseph E. Atkinson, publisher of the *Toronto Star*, provided for a charitable trust, the Atkinson Charitable foundation. A sum of \$3,000,000 was passed to the trust from his estate in July 1950. (See also COMMUNITY CHEST; SOCIETIES AND ASSOCIATIONS.)

**Draft:** see SELECTIVE SERVICE.

**Drama:** see RADIO; TELEVISION; THEATRE.

**Dress:** see FASHION AND DRESS.

**Drew, George Alexander** (1894— ), Canadian political leader, was born May 7 at Guelph, Ont. He was educated at Guelph Collegiate institute, Upper Canada college and the University of Toronto.

He became leader of the Ontario Conservative party in 1938, member of the Ontario legislature in 1939 and premier of Ontario and minister of education in 1943. On Oct. 2, 1948, he was

chosen leader of the national Progressive Conservative party, and elected to parliament on Dec. 20 of that year.

During the February–June 1950 session of parliament, Drew's efforts to set up a parliamentary committee on defense estimates were rejected. However, he succeeded in getting the public accounts committee to function and repeatedly urged strict parliamentary control of government expenditures. He also moved for a royal commission to effect increased efficiency in government services and substantial reductions in costs, for action on old-age pension legislation, abolition of the means test and the creation of an over-all contributory social security plan.

During the special autumn session of parliament, Drew supported the government's measure for immediate resumption of work by railways and workers, but was against compulsory arbitration. He took the stand that Canada was bound to honour its commitments to United Nations and under the North Atlantic treaty, but expressed dissatisfaction with Canada's unpreparedness. (C. Cy.)

**Drought:** see METEOROLOGY.

**Drug Administration, U.S.** The Federal Security agency's Food and Drug administration brought 83 criminal prosecution actions in the fiscal year 1950 against druggists who sold without prescription drugs labelled with prescription restrictions when they were shipped in interstate commerce, or who refilled prescriptions for dangerous drugs without the authorization of the physician who issued the original order. One of the most extreme cases involved 61 refills of a barbiturate prescription without the physician's knowledge, 3 of them after the patient's death from "barbiturates and alcoholism."

The two most extensive recalls of dangerous drugs in 1950 involved 17,000,000 doses of a sedative tablet and about 15,000,000 doses of an anaesthetic injection, both improperly compounded. In each case, as soon as the manufacturers found that the products were capable of causing injury, they voluntarily recalled shipments that had been distributed throughout the United States and in foreign countries. Eight other lots of dangerous drugs were voluntarily recalled by manufacturers and seven at the urging of the Food and Drug administration.

The search for a "magic cure" still persisted among the gullible, hypochondriacs and sufferers of chronic ailments. Remedies seized in 1950 for false claims of cures for nervous upsets were greatest in number, followed by preparations for stomach disorders, arthritis and rheumatism, skin and scalp afflictions, glandular disturbances and respiratory ailments, and general nostrums. In most cases, the unwarranted claims were made in accompanying literature or by various promotion schemes, rather than on the label itself.

The federal Food, Drug, and Cosmetic act also covers therapeutic devices which frequently are promoted with more blatant claims than those used for modern medicines. Two that brought jail sentences to their promoters in 1950 were a "magic spike" and a "plastic dumbbell," each making false claims of radioactive emanations that would cure "any disease known to mankind."

Among the significant therapeutic agents for which new-drug applications were permitted to become effective in 1950 were cortisone and ACTH (adrenocorticotrophic hormone) for the treatment of arthritic conditions, and the antibiotic terramycin. A large number of the 478 new-drug applications approved were for various antihistamine preparations for symptomatic relief of colds and hay fever and veterinary preparations used in the control of fowl coccidiosis. For each application the criterion



for approval was safety if used as directed in the labelling. Under the law, proof of safety must be established before the new drug is put on the market. Labelling claims of efficacy, if unfounded, are subject to the misbranding provisions of the act after the article enters interstate commerce.

During the fiscal year, 331 batches of drugs composed wholly or partly of insulin and 17,165 batches of antibiotics were certified after passing tests for purity, potency and stability. The antibiotics included under the certification provisions were penicillin (except penicillin G sodium and potassium which were exempted from certification on April 1, 1950), streptomycin, dihydrostreptomycin, aureomycin, chloramphenicol, bacitracin and preparations containing them. Also certified were 4,404 batches of coal-tar colours, representing more than 4,500,000 lb., for use in foods, drugs or cosmetics.

More than 2,100 factory inspections and the examination of 6,728 samples of interstate shipments of drugs and devices resulted in 223 seizures and the institution of 117 criminal prosecutions and 8 injunctions in the federal courts. Examination of 6,928 import shipments resulted in the detention of 2,249 drugs and devices that did not comply with the requirements of the United States. (See also FEDERAL SECURITY AGENCY; NARCOTICS AND NARCOTIC TRAFFIC.)

FILMS OF 1950.—*The Unadulterated Truth* (National Film Board of Canada). (P. B. D.)

**Drugs:** see AGRICULTURAL RESEARCH ADMINISTRATION; ALIMENTARY SYSTEM, DISORDERS OF; ALLERGY; ANAESTHESIOLOGY; BIOCHEMISTRY; CHEMISTRY; CHEMOTHERAPY; DERMATOLOGY; DRUG ADMINISTRATION, U.S.; ENDOCRINOLOGY; HORTICULTURE; MEDICINE; NARCOTICS AND NARCOTIC TRAFFIC; UROLOGY; VETERINARY MEDICINE. See also articles on specific diseases, such as ANAEMIA; DIABETES; LEPROSY; etc.

**Drug Traffic:** see NARCOTICS AND NARCOTIC TRAFFIC.

**Drunkenness:** see INTOXICATION, ALCOHOLIC.

**Dry Point:** see ETCHING.

**Duke Endowment:** see SOCIETIES AND ASSOCIATIONS.

**Dutch Overseas Territories:** see NETHERLANDS ANTILLES; NETHERLANDS NEW GUINEA; SURINAM.

**Dyestuffs.** The augmented industrial activity of all colour-consuming industries during the year 1950 was reflected in a marked step-up in the production and sale of dyes. The rise started in the latter part of 1949 and continued strong throughout 1950. The brief period during which a fairly high proportion of anticipatory buying was current served to deplete inventories of many lines of dyed textiles, which stimulated a demand for dyes to meet consuming industry requirements. The national preparedness program resulted in heavy consumption of certain types of fast dyes for colouring fabrics for the armed services. The necessity of allocating some of the more important raw materials to ensure an adequate supply of these colours was considered, but no actual steps were taken to put it into effect.

The export situation showed a marked falling off in the consumption of U.S. dyes. This was attributed to the increased activity in foreign markets from other dye-exporting countries, and the loss of considerable business in the far east on low-priced tonnage products.

Other aspects of the U.S. dye industry showed little change. Research continued along the lines considered most advantageous to manufacturer, processor and consumer. It brought forth many new and improved products that possessed superior dyeing characteristics and better fastness, including a range of dyes designed specifically to produce the highest possible light fastness on nylon. Research also developed new or simplified application techniques for the coloration of the different hydrophobic and

other types of synthetic fibres being manufactured. Sales of the fast vat colours continued to increase, and through special dyeing methods their use was extended to wool.

The United States tariff commission reported that the U.S. production of all types of dyes in 1949 amounted to 139,389,000 lb., a decrease of 31% or 61,987,000 lb. from 1948. The general decline in demand for most dyes in domestic and foreign markets and increased competition abroad from foreign dye-producers were responsible for this decrease. Sales of all dyes in 1949 totalled 136,244,000 lb. valued at \$142,513,000, compared with 186,782,000 lb. valued at \$163,833,000 in 1948. The unit value of all dyes sold increased to \$1.05 per pound from 88 cents in 1948, because of reduced production of the cheaper dyes. The vat colour group still maintained its leading position in both production and sales and accounted for 32.1% of the 1949 total, an increase of 2.4% over 1948. The direct dyes represented 22%, acid dyes 13% and sulphur dyes 13%.

Production of azo dyes declined by 35%, indigoid and thio-indigoid dyes 44% and sulphur dyes 14%, while anthraquinone vat dyes only declined 824,000 lb. or 3% which was particularly significant. A few dyes increased in output in 1949 compared with 1948. The more important were: sulphur green, 90% higher; sulphur brown, up 35%; vat jade green, 32% higher; and vat olive, up 13%. Production of synthetic indigo was 13,400,000 lb. or 40% less than reported in 1948.

Sales of vat dyes other than indigo were valued at \$40,812,000, direct dyes at \$29,598,000, acid dyes at \$18,983,000 and sulphur colours at \$5,892,000, the latter being exceeded in total value by the acetate, azoic and basic dyes. Figures for 1950 production and sales were not available at the end of the year (A. G. Br.)

**Europe.**—Production of dyestuffs generally continued at a high level in 1950; and shortages, except for occasional delays in the delivery of specific items, had largely become a thing of the past. During the year the Organization for European Economic Cooperation published two reports on exportable surpluses of chemicals in western Europe; from the tables in these it could be seen that ample quantities were available. Producers both in Switzerland and in Great Britain reported keener competition in export markets and severe difficulties in trading with eastern Europe and parts of Asia. On the other hand sales increased in some markets, particularly of the high-quality fast colours.

The directors of the German Badische Anilin A. G. took advantage of the company's 85th anniversary to issue a progress report. This firm had been one of the units of I. G. Farbenindustrie, the chemical combine dissolved by Allied order. Badische once again became an independent company, although managerial functions and administration were in the hands of a French sequestrator. Reconstruction work (war damage was estimated at 400,000,000 reichsmark) was stated to have proceeded slowly; but about 300,000 cu.m. of waste had been disposed of. In spite of these difficulties, Badische re-employed all members of the staff returning from the forces, and about 500 patents were taken out between the end of World War II and the end of 1950.

Perhaps the most talked-of development in the application of dyes during 1950 was the Standfast continuous dyeing machine for vat dyes, in which the impregnation and fixation of the dye-stuff was brought about by passage of the cloth through molten metal of a type that melts at a temperature under the boiling point of water. (L. E. Ms.)

**Ear, Nose and Throat, Diseases of.** **Allergy.**—Solomon Slepian reported that the best results can be obtained when the allergist and otolaryngologist (ear, nose and throat specialist) work together. Scratch tests, 15 to 20 at a time, or more sensitive



intradermal tests are made, a careful history is taken, and treatment is instituted. Offending foods should be avoided, pets discarded, pillows and mattresses covered with nonallergic materials and dust-laden drapes and rugs removed.

Treatment can be started with stock dust or stock vaccines, and if ineffective, then with autogenous vaccines and autogenous dust. Small, carefully graduated doses of all hyposensitizing materials are advisable. Large polyps should be removed surgically; small polyps and polypoid degeneration may clear up under allergy treatment. The antihistamines and nasal decongestants are of value in the acute cases and aid in making the patient comfortable while finding the real offender.

**Deafness in Children.**—The amount of deafness is diagnosed by a combination of methods: (1) careful history; (2) spontaneous response (blinking, jumping, turning and locating); (3) learned or conditioned response (gross sound, voice and audiometer); (4) observations of the child's basic language ability; (5) psychometric evaluation; (6) vestibular function tests; and (7) the galvanic skin resistance method. Donald K. Lewis concluded that of these, the most important are: history, conditioned response and psychometric evaluation.

The treatment consists of: (1) lip reading; (2) special teachers at good centres, with much training by the parents at home; (3) the over-all supervision by an otologist, interested in the work. Each of these is absolutely essential.

**Chemical Burns of the Oral Cavity and Oesophagus.**—At the Sofia clinic in Bulgaria there were 1,221 cases of chemical burns over a period of 20 years (1928-47). Lye was responsible for most of the chemical burns of the oral cavity and oesophagus, or 979 cases, according to a study by Angel V. Stumboff.

The other chemicals causing burns were: hydrochloric acid, 39 cases; nitric acid, 62 cases; sulphuric acid, 107 cases; ammonia, 6 cases; tincture of iodine, 2 cases; phenol (carbolic acid), 1 case; potassium permanganate (potash), 2 cases; kerosene, 1 case; spirits of camphor, 1 case; various mixtures, 13 cases. There were three types of burns caused: first degree, 10%; second degree, 63%; and third degree, 27%. The third degree cases eventually died. The second degree cases needed a great deal of treatment. There were four stages in most cases: (1) oedema and swelling; (2) ulceration; (3) granulation tissue; (4) stricture and fibrous tissue. The strictures may be single at one level or multiple at two or more levels. Later strictures of the oesophagus as a result of corrosion from caustics are most frequently found at the level of the anatomic or physiological narrowings of the oesophagus.

Sometimes there is total narrowing of the oesophagus and retention and regurgitation of all food ingested by mouth. The patient drools, loses weight rapidly, becomes acidotic and dehydrated, and if gastrostomy is not done, death follows as a result of starvation.

During the second and third stages, because of the presence of ulcerations and granulations, oesophagoscopy is not advisable.

The complications of corrosive oesophagitis are numerous: mediastinitis 20%, perforation of the oesophagus 15%, perforation of the stomach 10%, peritonitis 15%, oedema of the larynx 6%, bronchopneumonia 14%, ulceration into the aorta or into the trachea 20%. If the oesophagus is perforated, the patient experiences back pain and has difficulty in breathing, a high temperature and septic symptoms, such as chills, a rapid pulse rate and weakness. After each perforation there is inflammation of the perioesophageal tissue. Mediastinitis is not always fatal. If adequate treatment is used the infection can be cleared. Food or liquids should not be given by mouth, and penicillin and the sulfonamides should be given.

One of the best methods of treatment for stricture of the

oesophagus is the continuous string method. Gastrostomy should be done with due consideration of its type and location for future retrograde bougienage. When the gastrostomy wound has healed, that is, after 15 to 20 days, an attempt is made to have the patient swallow a silk string. The string should not be very long, so that it may not pass down to the intestines. Swallowing water helps the string to go down. After 24 to 48 hours, the free end of the string is fished from the stomach through the gastrostomy opening. A urethral bougie is attached to the string, and by the upper end of the string being pulled, the bougie enters the stricture. To the other end of the bougie another string is attached, which remains outside the gastrostomy opening. The stricture is under constant dilation by the bougie, which stays in the oesophagus for months and years. When the stricture is narrow the patient can be fed through the gastrostomy opening. Later the patient can be fed by mouth. The food passes down either side of the bougie or through its lumen. When food passes with difficulty the patient is instructed to pull the bougie down into the stomach during meals, and after meals he pulls it up again.

For satisfactory dilation bougies no. 28 and 30 are used. Such dilation can be attained in one year or one and a half years, but the desirable period of dilation is two years; six months after that the gastrostomy opening may be closed.

In cases of complete atresia (closing off) in which dilation is impossible, gastrostomy is done and the patient is fed through the gastrostomy opening for the rest of his life. Such patients can live for many years and can return to gainful occupations. In other cases oesophagoplasty is performed. The basis of this operation is the utilization of a cervical skin flap inverted on itself, into tubular form, with the skin inward. In other cases a part of the small intestine is taken and implanted under the skin of the chest; this can satisfactorily substitute for the oesophagus, with peristaltic movements.

**Evaluation of Irradiation of Pharyngeal and Nasopharyngeal Lymphoid Tissue.**—Francis R. Lederer expressed disapproval of the radium application, for children, in the treatment of deafness, asserting that irradiation can better be done with X-ray. Considering all the available evidence, irradiation of the nasopharynx by the standardized techniques is without danger. It should, however, be used with restraint and in technically knowledgeable hands. Its use is not a substitute for surgery and should be confined to those cases of conduction deafness associated with the proven presence of lymphoid hyperplasia, in and about the eustachian tube orifices. The syndrome of transitory hearing loss, allergic reactions and infection in the nose, sinuses or nasopharynx or both, must be recognized and treated accordingly, in addition to irradiation. The importance of history-taking in relation to previous irradiation is stressed because of the possibility that a repeated series of treatments may produce untoward tissue changes. The warning of the danger to the careless technician himself must be respected. The use of irradiation in permanent hearing loss is to be deplored and discouraged.

Even in competent hands, no great advantage is to be had from over-irradiation. As a matter of fact, the simplicity of obtaining and carrying out the first form of therapy may eventually lead to the harm which it is desired to avoid. The increasing prevalence of the routine postoperative irradiation of the nasopharynx is purely an admission on the part of the otolaryngologist that this operation is technically inadequate. Histologically, all stages of degeneration in the lymphoid tissue may be demonstrated following irradiation. This is then followed by varying degrees of reparative change from granulation tissue, to localized areas of ossification in occasional cases. No further metaplastic change was noted nor was there any al-



teration of the surface epithelium.

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**FILMS OF 1950.**—*Ears and Hearing* (Encyclopædia Britannica Films Inc.). (G. E. L.; G. M. C.)

**Earnings, Company:** see BUSINESS REVIEW.

**Earthquakes:** see DISASTERS; SEISMOLOGY.

**East Africa, British:** see BRITISH EAST AFRICA.

**East Indies, Dutch:** see INDONESIA; NETHERLANDS NEW GUINEA.

**Eclipses of the Sun and Moon, 1951:** see ASTRONOMY; CALENDAR, 1951 (page xxxii).

**Economic Cooperation Administration:** see EUROPEAN RECOVERY PROGRAM.

**Economics.** The Korean war not only dominated the international scene during the last half of 1950, but also exerted a compulsive influence on internal economic developments in the United States. It touched off a consumer buying spree which shot specific prices to unprecedentedly high levels and created considerable scepticism as to whether postwar inflation had after all really spent itself. It appeared that defense and military production would of necessity result in a larger-than-anticipated federal deficit further to strengthen inflationary tendencies. The restoration of controls of materials allocations, new construction, prices and manpower became imminent. The gross national product accelerated to an unprecedented annual rate of nearly \$300,000,000,000 at the year's end. It became clear that serious military preparation would present the very disturbing alternative of guns or butter rather than the comparatively pleasing prospect of guns and less unemployment which the United States faced in 1940; that the necessity of retooling for war or defense would make serious inroads on the standard of living to which the U.S. consumer had grown accustomed. It seemed obvious also that the whole pattern of economic collaboration between the United States and the Marshall plan nations, for the containment of communism, would have to undergo careful re-examination and probably extensive revision.

Economists were forced to direct attention to the mundane considerations suggested by these international developments. Purely domestic issues, such as those related to housing, medical care and agriculture, combined with them to force on the science an institutional, problem, and policy orientation. At the annual December meeting of the American Economic association at Chicago, papers with a problem slant outnumbered those with a theoretical slant by the ratio of approximately five to one. It appeared that theoretical hairsplitting was a job delegated almost completely to the econometrists who themselves were, to some extent, enmeshed in the problem orientation.

Aggregative income-flow analysis held continued sway over economics whether the latter is thought of as a field of investigation or as an academic discipline. Price theorists came to justify their special interest not for its own sake but with the somewhat valid argument that since income flows take place through markets they can be understood thoroughly only if price patterns are themselves understood. Price determination was seen, however, to be less a matter of the resolution of blind market forces and more a matter of arbitrary individual and collusive firm decisions. During the year one prominent economist suggested an entirely new analytical approach starting with an examination of firm and industrial assets and balance sheets. How significant or original this point of view is was not immedi-

ately determinable. The most ambitious book-length treatment yet to appear of the largely conjectural economics of atomic power came off the press at about the end of the year. (G. J. C.)

**Economic Stabilization Agency.** The Economic Stabilization agency was created by Pres. Harry S. Truman's executive order 10161 on Sept. 9, 1950, under authority of the Defense Production Act of 1950, to stabilize the economy through price and wage controls during the period of the economic strain of the rearmament program.

The executive order directed the agency to develop both short- and long-range price and wage stabilization policies and to establish price ceilings and fix wages and salaries where necessary. It set up, under the administrator of the agency, a director of price stabilization and a nine-man Wage Stabilization board, with a chairman to be designated by the president. Three members of the board were to be representative of the public, three members were to speak for business and industry and three members for labour.

In early October President Truman named Alan Valentine president of the University of Rochester, Rochester, N.Y., from 1935 until early 1950, as administrator, and Cyrus S. Ching (*q.v.*) director of the Federal Mediation and Conciliation service, as chairman of the Wage Stabilization board. Shortly thereafter the White House announced appointment of Clark Kerr, director of the Institute of Industrial Relations of the University of California, Berkeley, Calif., and John Dunlop, professor of economics of the graduate school of public administration of Harvard university, as the other public members of the board. The labour members selected were Emil Rieve, president of the Textile Workers union, C.I.O.; Harry C. Bates, president of the Bricklayers, Masons and Plasterers International union, A.F. of L.; and Elmer E. Walker, vice-president of the International Association of Machinists, which was at the time an independent union. The industry members named were J. Ward Keener, of the B. F. Goodrich Company of Akron, O.; Reuben B. Robertson, Jr., of the Champion Paper and Fibre company, Hamilton, O.; and Henry B. Arthur, of Swift and Company, Chicago, Ill.

These appointments were followed by the selection of Michael V. DiSalle (*q.v.*) who was then serving his second term as mayor of Toledo, O., as director of price stabilization.

The first mandatory controls invoked by the Economic Stabilization agency were over the manufacturers' price of new automobiles, which were frozen at Dec. 1 levels until March 1, 1951, to allow the agency time to determine "whether cost increases actually incurred justify price increases in the industry." Several days later, on recommendation of the Wage Stabilization board, Administrator Valentine froze wages in the automobile passenger-car manufacturing industry until March 1, 1951, pointing out that the Defense Production act provided that when ceiling prices had been established the administrator "shall stabilize wages, salaries and other compensation in the industry or business producing the material or performing the service."

After invoking controls over the automobile industry, the ESA announced "voluntary pricing standards" for business and industry generally, requesting nation-wide compliance to avoid the necessity of further mandatory price controls. In general these standards asked business to hold prices to Dec. 1, and set forth various conditions under which it would be permissible to raise prices after that date.

Administrator Valentine also sent telegrams to 250 major business firms, asking them to notify the ESA seven days before announcing any contemplated price increases in large volume items. (W. W. Mc.)



**Ecuador.** A republic on the west coast of South America, Ecuador straddles the equator, after which it was named. It is bounded on the north and east by Colombia; on the south and east by Peru and on the west by the Pacific ocean. Its area, including the Galápagos Islands, a 3,029 sq.mi. dependency, is estimated as 104,510 sq.mi. The population totals 3,404,000 (1949 est. by the United Nations). An estimated 60% of the people are Indians, 30% mixed blood, 9% white and 1% Negroes. Quito (pop., 1947 census 200,185) is the capital; other major cities (with pop. estimates) are Guayaquil, the principal Pacific port (235,000), Cuenca (53,500), Riobamba (28,500), Jipijapa (23,000), Vinces (22,500), Chone (22,300), Ambato (22,300), Loja (21,560). The preponderant religion is Roman Catholic. The president in 1950 was Galo Plaza Lasso.

**History.**—Under the new constitution effected Dec. 31, 1946, the government continued impressive social advances during the year 1950, including the sale and authorized homestead of public lands to citizens, resettlement projects, irrigation developments, the extension of national credit to farmers, the provision and enforcement of compulsory primary education and the compulsory military training of male youths of 19 to 22 years of age.

During 1950 the Lasso government reported a national resources survey indicating that Ecuador held a unique position as a nation best capable of supporting additional population and development. The report showed that known resources were capable of supporting at least three times the 1950 population. About 46,000 sq.mi. of Ecuadorian lands remained subject to homestead, and approximately 10,000 sq.mi. were at public sale. Barely half of the renowned Quito valley, termed the garden lands of the American tropics, had been settled. Comparable areas totalling at least 29,000 sq.mi. included Los Alpes and San Domingo de los Colorado lands, which despite medium altitudes and fertile soils remained virtually unsettled.

(C. M. Wt.)

**Education.**—Primary education is gratuitous and compulsory. In the school year 1948-49 there were 3,029 public primary schools with 208,155 pupils and 396 private schools (mostly Roman Catholic) with 56,116 pupils. There were 57 public secondary schools with 11,321 pupils, 68 private schools with 5,502 pupils and 2 municipal schools with 1,192 pupils. There were four public universities—Quito (2,383 students matriculated), Guayaquil (1,472), Cuenca (541) and Loja (144)—and one private university—the Catholic university of Quito (60 students). Education was scheduled to receive 19% of the 1950 budget.

**Finance.**—The monetary unit is the sucre, valued at \$0.0741 U.S. currency, official rate, and \$0.0517, free rate, on Sept. 15, 1950. The national budget for 1950 balanced revenue and expenditure at 388,000,000 sucres; capital expenditures were budgeted at 138,000,000 sucres. The foreign debt on Dec. 31, 1949, was \$39,306,000; the internal debt was 111,453,000 sucres. Notes in circulation on Sept. 30, 1950, totalled 440,000,000 sucres; gold reserves \$18,700,000; commercial banking deposits 443,000,000 sucres; time deposits 114,000,000 sucres and government deposits 69,000,000 sucres.

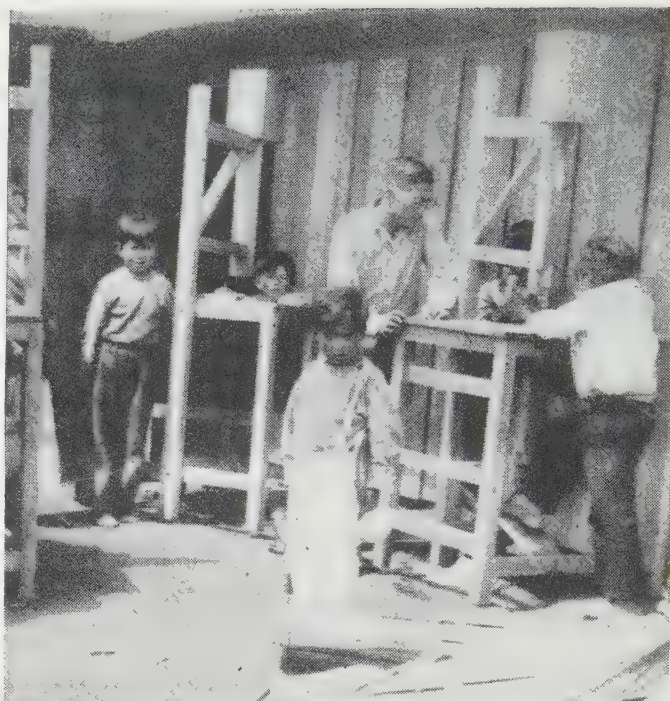
**Trade and Communications.**—Foreign trade through the port of Guayaquil in 1949 included exports (excluding gold) valued at 439,000,000 sucres and imports valued at 602,000,000 sucres. Chief exports were cacao (26%), coffee (17%), rice (16%) and bananas (15%). Principal customers were the U.S. (55%), the Philippines (8%) and Italy (8%). Leading suppliers were the U.S. (70%) and the United Kingdom (7%).

The length of the nine nationalized railroad lines in operation in 1949 was 698 mi. Highways (1947) included 1,591 mi. of main roads, and 1,121 mi. of branch roads. In 1948 there were 2,921 automobiles, 4,245 trucks and 945 buses. Air service in 1950 was furnished principally by two Ecuadorian companies—Transandina and Ateca—and by three international lines—Panagra, Avianca and Braniff Airways. On Dec. 31, 1949, there were 50 commercial and 3 cultural radio broadcasting stations.

**Agriculture.**—Ecuador's economy is basically dependent upon its export crops. Production of the principal export crops in the crop year 1949-50 was estimated as follows: cacao 22,000 short tons; coffee 19,300 short tons; rice (1948-49) 119,000 short tons. Other crops included sugar cane, bananas, citrus fruits, castor beans, tobacco and cotton. In 1945 there were about 1,200,000 cattle, 1,443,000 sheep and 346,000 goats.

Important forest exports in 1949 included tagua nuts (9,800 short tons) and balsa wood (2,250 short tons). Other products were hardwood logs and lumber and cinchona bark. Rubber collection was negligible. The 1949 kapok crop was virtually a failure.

**Manufactures.**—The most important manufacturing activity was the textile industry, which produced cotton (principally), woollen, silk and rayon textiles. The manufacture of *toquilla* (Panamá) hats was also important; 3,445,000 units were produced in 1949. Numerous factories produced consumer goods for domestic consumption.



SCHOOL CHILDREN OF AMBATO, ECUADOR, carrying on with improvised equipment in 1950, at the school of the Josephine fathers which was destroyed during the previous year's earthquake

**Mineral Production.**—Production in 1949 included gold 80,982 fine ounces (excluding placer production); silver 277,047 fine ounces; and copper 1,552,550 lb. Production of petroleum, concentrated on the Santa Elena peninsula in Guayas province, was 2,535,233 bbl., of which 915,721 bbl. were exported, the remainder being refined in Ecuador. (J. W. Mw.)

**Education.** The outstanding events in education in the United States during 1950 were (1) the bogging down of the effort to pass federal legislation to equalize educational opportunity in the several states; (2) the growing financial plight of the colleges as income decreased, costs rose, veteran enrolment declined and students were drafted; (3) two decisions by the United States supreme court and judgments by other courts ruling that Negroes could not lawfully be prevented from attending graduate schools in the south, and the consequent admission of Negroes to these institutions; (4) the declaration by educators that they would support with all their resources the prosecution of the Korean war; (5) the continued shortage of elementary school teachers and inadequate school facilities, which served to hamper educational service to the nation; (6) the effort to impose a special loyalty oath upon the faculty of the University of California, Berkeley; (7) the renewed enthusiasm in behalf of international educational co-operation by the United Nations Educational, Scientific and Cultural organization (U.N.E.S.C.O.) after the revoked resignation of Director-General Jaime Torres Bodet; (8) the passing of federal laws to aid students of the sciences and communities lacking sufficient educational facilities to care for the expanded enrolments arising from the influx of war workers; (9) the continuation of international study and travel by large numbers of U.S. and foreign students and faculty members; and (10) the deliberations on child and adolescent psychology and sociology by the Mid-Century White House Conference on Children and Youth.

The office of education of the Federal Security agency released in September the following figures on enrolment in the public and private schools: 23,686,000, elementary; 6,142,000, secondary; 2,700,000, all forms of colleges; and 375,000, private commercial and nurse training institutions. The total for 1950-51 was placed at 32,903,000, with an increase of 920,000 elementary pupils and decrease of 98,000 secondary and 50,000 colleg-



iate students as compared with the previous year. In all, the survey indicated that there was a shortage of 90,000 teachers.

As usual, there were variant statistics on enrolment in higher education. According to the United States office of education, in its report in November, attendance in 1,838 institutions dropped from 2,456,000 in 1945 to 2,295,000 in 1950, a reduction of 6.6%, while the number of veteran students was reduced from 856,000 in 1949 to 575,000 in 1950. The November survey by the *New York Times* indicated a total of 2,344,509 college students, or a 7.4% decline from 1949. The 31st annual census of college students by Raymond Walters, president of the University of Cincinnati, revealed 1,414,000 full-time and 433,759 part-time attendance in 770 accredited institutions, or 1,848,187 in all. These statistics show a decrease of 9.4% in full-time enrolment and a drop of 7.1% in total collegiate attendance (*School and Society*, Dec. 23, 1950). (See also VETERANS' ADMINISTRATION, U.S.)

**Federal Aid.**—Following his customary procedure, Pres. Harry S. Truman pointed up in January in his message on the state of the union, as well as in his economic and budget messages, the urgent need of federal financial aid to improve the educational status of the several states. He also emphasized the values of education during the current crisis in his address in December to the Mid-Century White House Conference on Children and Youth. The first important bill regarding federal aid was introduced on Feb. 6 by Rep. Graham A. Barden of North Carolina. Like its predecessor of the previous year, H.R. 7160 proposed the allocation of \$300,000,000 annually to the states for the exclusive use of the public schools. Again, history seemed to repeat itself, since the new Barden bill aroused bitter sentiment along religious lines. Francis Cardinal Spellman of New York city, feeling that the parochial schools were discriminated against, characterized this bill as "un-American" after Barden had referred to the cardinal in public as a "cruel authoritarian." Fortunately, these exchanges were neither so sharp nor so protracted as in 1949. After consideration, the house of representatives' committee on education and labour voted down the Barden bill, 13-12. Federal aid to parochial schools was opposed by the American Association of School Administrators, the National Council of Chief State School Officers, the National Education association and numerous other educational and nonprofessional groups. Among the bodies which favoured some form of public aid to religious schools was the Lutheran Church-Missouri Synod, which stated in June that it approved federal aid for social services to parochial institutions.

A bill designed to create a department of health, education and security of cabinet status to replace the Federal Security agency was rejected, in spite of President Truman's special request for its passage. In this way, congress sustained its action of 1949. Another bill urged by President Truman, a five-year program of federal support of medical, dental and nursing education, was turned down. Among the laws passed by congress, however, were the provision of money to construct, maintain and operate school buildings in areas where the increase in defense activities required additional educational facilities (Bailey law); the establishment of a national science foundation "to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences" by the award of "scholarships and graduate fellowships in the mathematical, physical, medical, biological, engineering, and other sciences" (public law 507); the tightening of some of the regulations involving the education of veterans (public law 610); the authorization of loans to institutions of higher education for the purpose of constructing housing facilities for students and faculty (public law 475); and the extension of the coverage of the Social Security act to the faculties and other personnel in colleges and universities. Another significant development indi-

cating federal interest in education was the creation of a council of education, a group of 25 educational leaders, to help the commissioner of education formulate policies concerning the program of the United States office of education.

**Elementary and Secondary Education.**—Early in January the *New York Times* reported a nation-wide survey which showed that more than 3,000,000 children in the public schools in the United States were exposed to defective educational programs arising out of inadequate classroom facilities, overcrowded school buildings and ill-trained teachers. Another survey by the *New York Times* in January disclosed that most elementary and high schools did not set aside sufficient time for instruction in current events. A report by the Educational Policies commission of the National Education association, entitled "Education of the Gifted," stressed the need for the earlier recognition and improved education of children of high intelligence. Several investigations of the free time of school children revealed that they spent too much time before television sets with the result that their school work suffered. The introduction of sex education into the curricula of some school systems led to a protest by the Roman Catholic bishops. The Commission on Life Adjustment Education for Youth issued a report suggesting that the high school curriculum be reorganized to satisfy the needs of all types of pupils. A number of school systems and educational organizations devoted much attention to the premature leaving of high school by many pupils. An outgrowth of the international situation was the controversy that raged in many communities about the exhibiting of the United Nations flag along with the United States flag in schools.

**Higher Education.**—The problem of properly financing colleges and universities was carried over from 1949, but it was aggravated by the reduction in enrolment arising out of the graduation of veterans, smaller freshman classes resulting from the draft for the armed forces, and increases in operating costs. As 1950 came to a close, the fiscal plight of higher educational institutions was growing even worse. With the increasing complexity of the international situation, it became evident that college attendance would decline still further. The outlook appeared especially bleak when the Association of American Universities passed a resolution in December in favour of universal military service at the age of 18. Much controversy ensued after an advisory body to the Selective Service system recommended that superior college students be deferred from the draft. There was no doubt that the colleges and universities would need some assistance if they were to continue their service effectively.

There were several developments of interest in the college curriculum. Preprofessional and professional schools paid more attention than previously to the humanities and the social sciences. A crisis in the training of engineers loomed when the American Society for Engineering Education revealed in November that decreased enrolments in technical institutions would result in a serious shortage of qualified engineers. The *New York Times* undertook two nation-wide surveys concerning the teaching of the social sciences in colleges. In April the first survey revealed that 34% of all institutions, about twice as many as in 1942, required U.S. history of all undergraduate students. The second study, issued in December, pointed out that less than 1% of U.S. undergraduate students were enrolled in a course in U.S. geography and that less than 5% of all college students were studying any kind of geography course. Evidence in favour of some kind of internationalist tendency in higher education could be found in the establishment of the Institute of Contemporary Russian Studies at Fordham university, New York city, the Center for Israeli Studies at Columbia university and the Institute for the Study of African Affairs at Lincoln uni-



versity, Pennsylvania.

Other significant events in higher education in the U.S. were as follows: the growth of the newly constituted State University of New York into an over-all institution of 33 units located throughout the state, with a full-time enrolment of 27,253 and a general registration of 34,451; the initiation by 11 western states, together with Alaska and Hawaii, of a program that would control the regional interchange of graduate students in medicine, dentistry and public health; the donation of \$5,250,000 by the Alfred P. Sloan Foundation, Inc., to the Massachusetts Institute of Technology, Cambridge, for the establishment of a new school for industrial management; the matching by the graduate school of business administration, Harvard university, of a \$5,000,000 gift by John D. Rockefeller, Jr.; the resignation of Chancellor Robert Maynard Hutchins (*q.v.*) of The University of Chicago; and the leave of absence taken by Pres. Dwight D. Eisenhower (*q.v.*) of Columbia university to command the combined army of western Europe.

**The Teacher Situation.**—According to a report by Ray C. Maul for the National Commission on Teacher Education and Professional Standards of the National Education association, only 22,460 teachers would graduate from colleges and teacher-training institutions during 1950, whereas the need was for as many as 100,000. Although the number of new teachers in 1950 represented an increase of 15.92% over that for the previous year, the constantly rising elementary school population more than wiped out this gain. The situation in the high schools was different, however; there was a total of 84,730 new instructors available for only 30,000 vacancies.

The purchasing power of the teacher's salary was far below the pre-World War II standard, even though salary increases were prevalent between 1940 and 1950. There were signs of restlessness in many areas. In New York city, the high school teachers refused to conduct extracurricular activities without extra remuneration, a fact which led to a strike and demonstration by thousands of pupils in April in behalf of salary increases for teachers. By the end of the year, however, the teachers had not received any additional compensation.

The question of raising the standards of the teaching profession received much attention during the year. In February the American Association of Colleges for Teacher Education, which was composed of 250 institutions, approved plans for the adoption of nation-wide principles and standards for colleges engaged in the preparation of teachers. These standards would correspond to those in force in the professions of medicine, dentistry and law. Schools failing to meet these standards would not be accredited and might be compelled to close. A court decision which gave promise of encouraging teachers to enrol in summer courses was delivered in May by the United States court of appeals in Richmond, Va. According to the terms of this judgment, a teacher was allowed to deduct from his income tax return "ordinary and necessary expenses" incurred while in attendance at a summer session of a university. The federal judges ruled that such expenses were comparable with those incurred in a trade or business and were not to be regarded as personal.

**Adult Education.**—In spite of widespread activity in behalf of improving facilities for the education of adults, it was evident that a large percentage of the population failed to be reached. In July the Public Library inquiry, which was conducted for three years under the direction of the American Library association, reported that no fewer than 35,000,000 persons lacked public library facilities. As was expected, library service was poorest in rural areas. Toward the end of the year protests began to mount against the policy of some leading radio networks which curtailed the broadcasting of symphonic music.

Again, as in 1949, Paul L. Essert of Teachers college, Columbia university, claimed that 30,000,000 people in the U.S. were benefiting from some form of adult education, an increase of 8,000,000 students in the past 15 years. Exemplifying the efforts to advance the cause of adult education was the intensification by the government of Puerto Rico of its project involving vocational training, community co-operation and precollege studies.

**Race and Religion.**—The most significant occurrence in U.S. higher education in 1950 took place on June 5, when the United States supreme court handed down two unanimous decisions concerning discriminatory practices against Negro students in southern colleges. In the case of *McLaurin v. University of Oklahoma*, the court disapproved the segregation of the Negro graduate student during instruction and other occasions because he was thereby deprived of equal protection of the law under the 14th amendment. According to Chief Justice Frederick M. Vinson, who wrote the opinion for the entire court, the result of setting McLaurin apart from the other students was that he became "handicapped in his pursuit of effective graduate instruction." Moreover, "Such restrictions impair and inhibit his ability to study, to engage in discussions and exchange views with other students, and, in general, to learn his profession." Accordingly, "State-imposed restrictions which produce such inequalities cannot be sustained," and G. W. McLaurin, "having been admitted to a state-supported graduate school, must receive the same treatment at the hands of the state as students of other races."

In the second case, the court ordered the University of Texas, Austin, to admit Heman Marion Sweatt, a Negro, to its law school, in view of the fact that the state law school for Negroes was not equal in any way to the state law school for white students. Again, the court based its action on the equal protection clause of the 14th amendment. After showing that the physical facilities were not comparable, Chief Justice Vinson, who once more expressed the opinion of a united court, pointed out that, even were these equal, the University of Texas law school would still be a more desirable institution for legal study because it "possesses to a far greater degree those qualities which are incapable of objective measurement but which make for greatness in a law school," as, for example, "reputation of the faculty, experience of the administration, position and influence of the alumni, standing in the community, traditions and prestige." Consequently, since such an education was not available in a separate law school for Negroes, Sweatt was authorized to claim his full constitutional right and to obtain "legal education equivalent to that offered by the State to students of other races." Neither decision had any bearing on the larger issue of segregation in the public schools or the "separate but equal" doctrine in general practice throughout the south, since the court emphasized the application of the law to these specific instances. Nevertheless, there was widespread feeling that these decisions were instrumental not only in correcting the situations at the University of Oklahoma and the University of Texas, but also in permitting the enrolment of Negroes in institutions from which they had been formerly excluded. It was clear that the pattern of southern education in the colleges, if not elsewhere, was undergoing an important transformation. Court decisions and other types of local action favourable to the cause of Negro education occurred during 1950 in Delaware, Arkansas, Maryland, Kentucky, Virginia, Missouri and Louisiana.

Not all developments, however, tended to favour the Negroes. A federal suit by Negroes to abolish segregation in the public school system of Atlanta, Ga., evoked a threat to set up a private school system for white pupils. The trustees of the University of Tennessee, Knoxville, rejected in December the applications of five Negro students for entrance into the graduate and law schools, thus defying the two antisegregation decisions





Above: UNIVERSITY OF CALIFORNIA faculty committee members meeting in March 1950 to discuss the signing of a loyalty oath required of all university employees by the university's board of regents



Above: DENVER HIGH SCHOOL STUDENTS at a class in family living, one of the courses which aroused controversy in the Denver community during 1950, as parents questioned the value of a number of curriculum changes designed to fit young people for present-day living



Left: NIGHT CLASS in session in 1950 at the Peking Pedagogical institute, one of the schools set up in Communist China to decrease illiteracy among adults

Below: PRINCESS ALICE, countess of Athlone, being installed as the first chancellor of the University College of the West Indies, Kingston, Jam., at its official inauguration in Feb. 1950





of the United States supreme court. This action was taken despite the advice of the attorney general of Tennessee that the university could not legally deny the applications. The middle district federal court in North Carolina ruled in October that the law school of the North Carolina College at Durham (for Negroes) offered facilities equal to those of the state's law school at the University of North Carolina, Chapel Hill, and that, in consequence, the court would not compel the university to admit four Negro applicants. In this case, it should be noted that the American Bar association accredited the law school of the North Carolina College at Durham after the beginning of the suit, while Dean Erwin Griswold of the Harvard law school testified that it was inferior in every respect to the law school of the University of North Carolina.

The attempt to involve religion with public education yielded a number of incidents which revealed tension among the denominations. In New York state, Catholics, supported by a ruling from the state department of education, opposed vainly an inter-faith baccalaureate service for high school seniors in one local community, but successfully in another. The inhabitants of a very small town in New Mexico, divided over the question of prayer in the classroom, carried their conflict to the state supreme court. Citizens of the Jewish faith in White Plains, N.Y., protested fruitlessly against the presentation of Nativity plays in the public schools.

Many interesting events concerning religion in education transpired during 1950. In October the New Jersey state supreme court sustained the law which required the daily reading without comment of at least five verses from the Old Testament, on the ground that Catholics, Jews and Protestants accept this part of the Bible. In the view of the court, Old Testament readings were religious rather than sectarian. The supreme court of New York state upheld in June the constitutionality of the released time program of religious instruction introduced by the board of education of New York city. According to Justice Anthony J. DiGiovanna, the principle of separation of church and state signified freedom of religion, not freedom from religion. For the third academic year in succession, the New York city board of education retained the ban on the *Nation*, a weekly magazine, from the libraries of the high schools because of alleged anti-Catholic bias in some of its articles. In December the attorney general of New York state ruled that there was no constitutional objection to the use of noninstructional facilities of parochial schools for publicly supported recreational projects open to all children and youth. Also in New York state, the legislature passed a law in March permitting the board of regents to excuse children of Christian Scientists from attending in their high schools any courses in health and hygiene which conflicted with the beliefs of their parents. In June the Lutheran Church-Missouri synod, the second largest Lutheran group in the country, unanimously passed a resolution for the encouragement of religious instruction on released time.

**Communism.**—The imposition of a special non-Communist oath upon the faculty of the University of California by the board of regents caused a controversy which reverberated all over the nation. After considerable debate among the regents and the professors, and between both groups, regarding the question of the abridgment of academic freedom, a compromise was agreed upon. In the meantime, 26 faculty members resigned or were dismissed for refusing to sign the oath, and most of them joined in a suit against the regents in the state court of appeal, but there was no decision as the year closed. On Dec. 16 the regents adopted the requirement of a state loyalty oath, in addition to the university's loyalty statement, of all employees of the university. This state oath made no specific mention of communism.

Support for the position of the faculty of the University of California came from groups of professors at various other universities and from such professional organizations as the American Psychological association, the American Anthropological association and the Modern Language association. On the other hand, an incident at the San Francisco State college received little publicity. At that institution, in November, seven professors and two nonfaculty employees were dismissed for refusing to subscribe to the state's new special loyalty oath.

In New York state the appellate division of the supreme court declared in March that the Feinberg law, which barred Communists from teaching in the public schools, was constitutional. This decision reversed the 1949 opinion of a lower court, which had found that the law conflicted with the due process provisions of both the state and federal constitutions. The board of regents, which was directed by the Feinberg law to draw up a list of subversive organizations, membership in which would constitute grounds for the dismissal of a teacher, had not yet prepared such a compilation by the end of the year. Late in November, after another challenge of the Feinberg law, the court of appeals, the highest tribunal of the state, found unanimously that the legislature did not exceed its constitutional power in passing the law.

Another important event having bearing on the problem of employment of teachers who are members of the Communist party took place in March in New York city when William Jansen, superintendent of schools, suspended eight public school teachers for refusing to say whether they were Communists. These teachers, all of whom were members of Local 555, Teachers union, United Public Workers, were charged with "insubordination and conduct unbecoming a teacher." For the first time in the history of the public school system of New York city the question of fitness of alleged Communists to teach was taken up at a trial. After several weeks of hearings, the special trial examiner recommended in December that all eight teachers should be dismissed for their refusal to answer questions about their alleged party membership. Moreover, he also ruled that the city's counsel had proved that the Communist party advocated the violent overthrow of the United States government and that one of the teachers had been a member of the party and was hence ineligible to teach in the public schools of New York city. The board of education, which was to pass upon these findings, was not expected to act before the middle of Jan. 1951, at the earliest. In the interim, the teachers, whose suspension was thus upheld, had the opportunity of preparing additional arguments.

**International Educational Relations.**—More students of U.S. colleges and universities travelled to Europe during the summer of 1950 than during any preceding year. Estimates of the total varied from 10,000 to 20,000, whereas the number for 1949 was 8,000. In March the Institute of International Education released a publication, *Education for One World*, which contained its annual census of the number of foreign students enrolled in U.S. institutions of higher learning. According to this report, there were 26,433 such students during the academic year of 1949-50 in approximately 1,210 colleges. This total, a decline of 300 from that of 1949, included students from 125 separate geographical units all over the world, with most of them coming from Canada, China, Cuba, India and Mexico, in that order. For the most part, the foreign visitors derived their aid from private sources. However, the United States government, through its Fulbright program, participated in the exchange of students and faculty members with other nations. A group of 114 British and French exchange teachers were brought to the United States in August under the terms of an agreement by the office of education and the English Speaking union.

The fifth annual conference of the United Nations Education-



al, Scientific and Cultural organization (U.N.E.S.C.O.), May 22 to June 17, at Florence, It., proved to be the most turbulent in its history. The major reason for this was the unexpected resignation of Director-General Jaime Torres Bodet because the \$8,200,000 budget was inadequate to tackle the tremendous task facing the organization and because the delegates undertook no action to advance the cause of peace. Subsequently, however, in response to urgent requests by the delegates and promises of more meaningful action, he withdrew his resignation. The critical international situation was also reflected in the dramatic departure of the delegates of Hungary and Czechoslovakia when the conference permitted the delegates from nationalist China to take their places among the other representatives. The actions approved at the U.N.E.S.C.O. conference included a drive against the dissemination of information contributing to intolerance, the endorsement of the director-general's plan for intensified campaigns in behalf of peace, the stepping up of the program of democratic reorientation in Germany, the adoption of Spanish as a working language in all future conferences, and an international agreement to discontinue customs duties on books, artistic and musical compositions, instruments used for scientific research and other cultural implements. During the closing session, the delegates representing the 59 nations resolved to make the program for 1951 a "more direct and important contribution to the cause of peace than the programs of previous years."

Among the other activities of U.N.E.S.C.O. were the following: the inauguration in July of a major world drive to fight the evils of discrimination; an adult education seminar, June and July, at Salzburg, Aus.; a seminar on the teaching of geography, July and August, at Montreal, Que., Can.; a seminar on the role of libraries in adult education, June and July, at Malmö, Swed.; the 13th International Conference on Public Education, with the cosponsorship of the International Bureau of Education, July, at Geneva, Switz.; the condemnation by the executive committee in August of the North Korean aggression and the subsequent effort to re-establish the school system of Korea; the first regional conference of 16 national commissions for U.N.E.S.C.O. in the western hemisphere, in December, at Havana, Cu.; the organization in December of an international association of universities to set up standards for determining the comparative academic status of institutions throughout the world and to facilitate the exchange of faculty members; and the launching of the first phase of the \$2,300,000 technical aid program for underdeveloped areas by helping 13 countries in programs of fundamental education to promote literacy.

**World Trends.**—Reports from Germany indicated that the awareness of that country's constantly growing significance in the international scene helped to harden the Germans' attitudes against efforts at democratic re-education. According to a survey in September, many Germans still believed that national socialism was "a good idea, boldly carried out." Anti-Semitic acts continued to recur. German officials were actually resisting democratic school reforms, according to testimony by the director of the education and cultural relations division, U.S. high commissioner's office, in January.

U.S. authorities in October ordered the dismissal of the large number of nazis who had recovered their teaching posts in Württemberg-Baden.

Positive plans of re-education included the sending of 700 Germans to study in the United States. In the soviet zone, it was clear that the spirit of communism was quickly permeating the entire school system.

Difficulty in reorienting the Japanese was revealed in May when students protested the occupation policy of banning Communist professors. In June, however, the Japanese government

declared itself ready to curb Communist activity in the schools. The second U.S. Education mission, which visited Japan in August and September, reported that the schools were improving along democratic lines.

The success of the programs of indoctrinating the soviet ideology was very much in evidence in such satellite nations as Poland, Hungary, Czechoslovakia and China. In August the Czech government assumed control of all theological schools, introduced throughout 1950 new elementary textbooks reflecting the ideology of the "people's democracy," dismissed professors at the University of Prague for having an "aristocratic spirit," and forced the closing in April of the U.S. information service libraries at Prague and Bratislava. The Hungarians made more use of soviet methods and texts than ever before and, without precedent, appointed a Protestant as minister of religion and education. In China, the ministry of cultural affairs sponsored the translation of soviet literature and the annotation of Chinese classics in the spirit of Marx as interpreted by Lenin, the Chinese People's university at Peking named 35 Russians to special university posts, while in October the government took control of the Catholic Fukien university in Peking and announced that foreign missions would no longer be in charge of their own schools.

The Yugoslav government began in January a campaign to rid the school system of soviet and capitalist ideology. The College of Europe, Bruges, Belg., opened in October with 30 students from 14 nations. This institution aimed to promote the movement for European unity. In Spain, the Falange party discouraged visits to the Casa Americana of the U.S. information service in Barcelona, while in October university students went on strike and protested with little success the government's order equalizing diplomas of Catholic and state technical schools. The question of state aid to Catholic parochial schools was a paramount issue in France and a matter causing concern among British Catholics regarding the survival of their schools. Major strikes, said by newspapers to be Communist-inspired, were organized in May by Mexican students and teachers. In the spring, Egypt approved a plan for free universal education and urged the Arab states to follow suit. A compromise on the religious education of Orthodox children in immigrant camps averted a serious political crisis in Israel. After the religious-bloc ministers boycotted cabinet sessions because of reports that these children were given a nonreligious education, an agreement was reached in February between the Orthodox and the Mapai (Labour) parties that religion was to be taught in the immigrant camps, but under government, rather than rabbinical supervision. (See also BLIND, EDUCATION OF THE; CHILD WELFARE; LAW; LIBRARIES; MOTION PICTURES; NEGROES, AMERICAN. For statistics of institutions see UNIVERSITIES AND COLLEGES; see also under various states and countries.) (W. W. BN.)

**Canada.**—The dominion bureau of statistics reported in 1950 that average annual salary rates for teachers in the publicly controlled schools of eight provinces (Quebec and Newfoundland excepted) showed an average increase of \$243 between 1947 and 1948, or \$835 between 1939 and 1948. In 1944 there were 49,022 teachers in the eight provinces of the survey, of which 20% were men; in 1948 there were 53,572 teachers with 27% men (peak of 30% men in 1940). In 1939, 17% of Canada's teachers were university graduates; in 1948, 19% were.

In Ontario, the Hope royal commission on education, appointed in 1945, made its report in Dec. 1950. Majority findings recommended the establishment of a three-level (elementary, secondary and junior college) public school system, enlarged technical education, more power for local authorities and 300 other improvements. The provincial government of Québec, which in 1946 had assumed the \$110,000,000 debts of 1,014



school boards, had by 1950 paid off \$50,000,000. The government of Nova Scotia established a ministry of education during 1950, and appointed H. D. Hicks as the province's first minister of education. A university of Newfoundland was founded.

The dominion bureau of statistics reported that throughout Canada 70,000 students had enrolled for the 1949-50 university term, a drop of 15,000 from the peak 1947-48 term.

A total of \$7,321,850 was contributed by the federal government to the provinces in the 1949-50 fiscal year for vocational training. Gross enrolment during the year was 22,043, making a total gross enrolment of 940,783 since the inception of the Dominion-Provincial Training act in 1937 to March 31, 1950.

(C. Cy.)

**Great Britain.**—In Nov. 1950 the Burnham committee announced a new agreement whereby the basic rates for qualified male assistant teachers were increased by £75 at both the minimum, £375 (old rate £300), and the maximum, £630 (£555); for unqualified male teachers by £45 at the minimum, £225 (£180), and £75 at the maximum, £375 (£300); and for temporary male teachers by £45 at the minimum, £225 (£180) and £57 at the maximum, £285 (£228). In all grades women, as previously, received 90% of men's salaries at the minimum and 80% at the maximum. The addition to the basic rates for graduate qualification was increased from £30 to £60 for men and from £24 to £48 for women.

In January the first report of the local Government Manpower committee recommended delegation of more responsibility to local authorities and recognized primary duties of the minister of education determining the points at which he must exercise control. The government accepted the committee's recommendations.

The ministry of education's report on 1949, published in June 1950, included sample judgments by inspectors on educational methods and standards in the schools. Infant schools were warmly praised. In primary schools was noted "a slow and slight but widespread change" from formal to more personal methods. Secondary modern schools had "much to offer to the social and spiritual side of their pupils' development" but were less successful in meeting intellectual needs. Some grammar secondary schools were making excellent efforts to reconcile "purely academic training with the broader aims and ideals" of contemporary educational philosophy. Secondary schools had suffered more from war than primary schools; they showed a lowering of standards in formal subjects, "notably science and mathematics, and to some extent in English."

**FILMS OF 1950.**—*Accent on Learning* (Ohio State University); *The Benefits of Looking Ahead, Earning Money While Going to School, Learning from Class, Understanding Your Ideals* (Coronet Instructional Films); *The Difference* (Cathedral Films); *Counseling—Its Tools and Techniques* (Carl F. Mahnke Productions, Vocational Guidance Films, Inc.); *Dangerous Stranger* (Sid David Productions); *Design for Tomorrow* (Association Films, Inc.); *Family Circles, Frustrated Student, Importance of Goals, Motivating the Class, "Stay-In"* (McGraw-Hill Book Co.); *Fight for Better Schools, Man in the 20th Century* (March of Time Forum Films); *Schoolhouse in the Red* (Encyclopædia Britannica Films Inc.); *This is Their Story* (Film Program Services); *Why Can't Jimmy Read* (Audio-Visual Center, Syracuse University). (H. C. D.)

**Education, Religious:** see RELIGIOUS EDUCATION.

**Education, U.S. Office of:** see EDUCATION; FEDERAL SECURITY AGENCY.

**Eggs.** Eggs in amounts 29% greater than the pre-World War II production rate were included in the food supply of the U.S. in 1950. Production on farms was estimated at 60,000,000,000 eggs for the year; in 1949, 56,382,000,000 eggs were produced, compared with 39,695,000,000 in 1940. Civilian consumption was an estimated 384 eggs per capita, compared with 379 eggs per capita in 1949, and a record of 397 eggs per person in 1945.

The number of potential layers, hens and pullets, on farms on Jan. 1 was 442,000,000 head, compared with 413,000,000 head a year earlier. The average rate of lay per hen for the first 11

months was 156.5 eggs, compared with 154.5 for 1949. The egg-feed price ratio was less favourable than a year earlier.

In Dec. 1950, the average price to farmers was 57.7 cents per dozen, compared with 40.5 cents a year earlier. In spite of the fact that during much of the year prices were lower than in 1949, in November and early December there were radical price increases because of low storage stocks and bad weather which delayed the usual seasonably rapid increase in production and movement to the market. Wholesale prices reached a 30-year high in Chicago of 72 cents for no. 2 Extras; retail prices approximated \$1.00 per dozen, after which supply increased, buyer resistance developed, and prices declined rapidly. The egg price-support level for 1950, at 75% of parity, was a national average farm price of approximately 37 cents per dozen. The method of support was that of purchasing dried eggs; net purchases during Jan. through Oct. 1950 were 81,400,000 lb. valued at \$78,100,000. The Commodity Credit corporation (CCC) inventories at the end of Oct. 1950 included 108,648,358 lb. of dried eggs which cost \$114,986,624. It was announced by the department of agriculture that there would be no such support program in 1951.

Export of eggs in 1949-50, largely of dried eggs, increased sharply to 210,000,000 lb. from 89,000,000 lb. (shell equivalent) in 1948-49. About three-fourths of the 1949-50 total went to the United Kingdom. Storage stocks of shell eggs late in 1950 were the smallest on record, and frozen eggs were near a record low. Dried egg stocks, on the other hand, were very plentiful.

World egg production in 1950 was estimated to have exceeded moderately that of 1949. Feeds were more abundant and flocks were expanded, particularly in Europe. (J. K. R.)

**Egypt.** An independent kingdom of northeast Africa, Egypt is bounded north by the Mediterranean, south by the Anglo-Egyptian Sudan, east by Israel and the Red sea, west by Cyrenaica and the Sahara. Area: 383,000 sq.mi. Pop. (mid-1949 est.): 20,045,000. Language: mainly Arabic (97%). Religion: Moslem (mainly Sunnites) 91.4%; Christian (mainly Copts) 8.19%; Jewish 0.4%. Chief towns (pop., 1947 census): Cairo (cap., 2,100,506); Alexandria (925,081); Port Said (178,432); Tanta (139,965); Mahalla el Kubra (115,509); Suez (108,250); Mansura (102,709). Ruler: King Farouk I; prime ministers in 1950: Hussein Sirry Pasha and (from Jan. 12) Mustafa el Nahas Pasha.

**History.**—The year 1950 began with a general election and a change of government. The chamber of deputies (*maglis el nouab*) had been dissolved on Nov. 7, 1949, and the business of the state, together with the task of preparing for the elections, was entrusted to the caretaker government of Hussein Sirry Pasha. The number of seats in the new chamber was increased, and elections were held on Jan. 3 for 319 seats compared with the previous 260. These were the first elections to be contested by all parties except the Wafd and those of 1945 by the Wafd. The results showed a big swing toward the Wafd. The final state of the parties was revealed as follows: Wafd 225, Saadists 28, Liberals 26, Independents 33, Nationalists 6 and Socialists 1. The Kotla, the dissident Wafdist party of Makram Pasha Ebeid, was left without representation in the chamber.

The caretaker cabinet resigned on Jan. 12, and the retiring prime minister took over a new post as chief of the royal cabinet. Mustafa el Nahas Pasha, as leader of the Wafd, became prime minister, and his cabinet was sworn in on the same day. One of the first acts of the new government was to abolish the press censorship which had been in force since the outbreak of war in Palestine. Martial law was ended on Feb. 5. King Farouk, accompanied by the prime minister, drove through the streets of Cairo to open the Egyptian parliament on Jan. 16. In his



speech from the throne the king reiterated the Egyptian claims to the "unity of the valley of the Nile" and affirmed the country's loyalty to the aims of the United Nations and to those of the Arab peoples. The armed forces, he said, would be reorganized, and attention would be concentrated upon social conditions and employment. Some measures of social insurance would be introduced, and education—primary, secondary and technical—would be free from that day.

On June 17 and 18 royal decrees ordered drastic changes in the composition of the senate (*maglis el chouyoukh*). Hussein Heikel Pasha, its president and a Liberal, was replaced by a Wafdist minister, Zaki Ali el Orabi Pasha; 29 senators were dismissed and replaced by government supporters, while it was announced that the senate would be enlarged from 149 to 179 members. It was officially stated that the dismissed senators owed their deprivation to the illegality of their decree of appointment, but the opposition charged the government with attempting to pack the senate with its supporters, claiming that it feared inquiry into certain alleged scandals connected with army supplies and with operations on the Alexandria cotton exchange. A manifesto signed by the dismissed president and by the leaders of the Saadist, Nationalist and Independent Wafdist groups accused the government of attempting to silence all opposition, to prevent freedom of speech and to set up a virtual dictatorship.

In foreign affairs the past continued to throw long shadows. Differences among member states of the Arab league were blamed for the defeat in Palestine in the king's speech to the new parliament. Later Egypt, a member of the United Nations Security council, refused to support the United Nations action in Korea, although declaredly sympathetic to its objects. This was stated to be in protest against what was described as the failure of the United Nations to take equally effective action against "aggression" in Palestine.

So far as Anglo-Egyptian relations were concerned, the year began with good omens. The British foreign secretary visited Cairo on his way back from the Colombo conference of British Commonwealth foreign ministers in January, and was the guest at a state banquet. King Farouk paid a visit to units of the royal navy at Alexandria, and was himself visited by the duke of Edinburgh. But, as the internal situation deteriorated, the chances of an agreed settlement of Anglo-Egyptian differences appeared to grow more remote, a project for a joint Anglo-Egyptian command in the event of war was rejected and, in the autumn, Egyptian leaders were demanding the immediate evacuation of the British troops from the Suez canal zone and the unconditional unity of Egypt and the Sudan, in terms which emphasized the continued significance of long-standing differences between the two powers. By the end of the year the atmosphere was quieter. The Egyptian foreign minister paid a visit to London, and Egypt was active, with other middle eastern and Asian powers, in attempts to bring about a peaceful settlement of the Korean war. (H. S. D.)

**Education.**—Government schools (1948-49): kindergarten 57, primary 327, pupils 100,000; elementary 5,000, pupils 1,000,000; technical 70, pupils 17,136; commercial 17, pupils 5,481; agricultural 13, pupils 2,725; domestic science 15, pupils 1,763. Nongovernment schools: primary 452; secondary 76. Teachers training colleges 53, pupils 8,382. Universities 3, students 20,259. Other institutions of higher education 8.

**Finance and Banking.**—Budget: (1949-50 actual) revenue £E157,800,000, expenditure £E187,400,000; (1950-51 est.) revenue £E180,900,000, expenditure £E206,000,000. National debt (April 1948) £E125,000,000. Currency circulation (Aug. 1950) £E150,000,000. Gold and foreign exchange (June 1950) U.S. \$673,000,000. Bank deposits (Dec. 1949) £E180,000,000. Monetary unit, Egyptian pound with an exchange rate of £E0.975 to the pound and 0.349 to the U.S. dollar.

**Foreign Trade.**—(1949) Imports £E161,600,000, exports £E137,800,000. Main sources of imports (1949): U.K. 21.5%; Italy 8.5%; U.S. 8.2%; France 5.8%. Main destinations of exports: India 20%; U.K. 18.4%; Italy 7.4%; France 7.3%. Main imports: wheat 9.5%; fertilizers 5.9%; iron and steel products 5.8%; petroleum products 5.8%. Main exports: cotton 75.8%; rice 10.3%.

**Transport and Communications.**—Roads (1947): 8,874 mi. Licensed motor vehicles (Dec. 1949): cars 48,000; commercial 13,600. Egyptian state railways (1949): 5,318 mi. Shipping (July 1949): number of merchant vessels of 100 gross tons and more 57; total tonnage 105,462. Telephones (1947): subscribers 99,814. Radio receiving sets (1949): 183,000.

**Agriculture.**—Main crops (metric tons, 1949): ginned cotton 369,000; maize 1,250,000; wheat 1,167,000; barley 138,000; onions 281,000; sugar, raw value, 210,000; broad beans 321,000. Livestock (March 1947): cattle 1,321,000; sheep 1,875,000; goats 1,474,000; asses 1,125,000; horses 28,000; mules 12,000; camels 197,000; buffaloes 1,240,000; pigs 50,000; chickens 16,312,000. Fisheries (1946): total catch 33,935 metric tons.

**Industry.**—Crude oil production (1949) 2,280,000 metric tons. Raw materials (metric tons, 1949): phosphate rock 350,000; manganese ore 138,000; salt 350,000. Manufactured goods: cotton yarn (1949) 33,720 metric tons; cotton piece goods (1949) 151,000,000 sq.m.; cement (1948) 768,000 metric tons.

**FILMS OF 1950.**—*Nile River Valley and the People of the Lower River* (Academy Films).

**Fire:** see IRELAND, REPUBLIC OF.

**Eisenhower, Dwight D.** (1890— ), U.S. army officer, was born Oct. 14 in Denison, Tex., "David Dwight" but the given name was switched to "Dwight David" during his boyhood. He was graduated from the U.S. Military academy at West Point, N.Y., in 1915. During World War I he served as an instructor, camp commander and commander of tank troops. He was graduated later from the Army War college and the Army Industrial college, served in the office of the chief of staff at Washington, D.C., and in 1935 saw duty in the Philippines as chief of staff to Gen. Douglas MacArthur.

During World War II, he was commanding general of the Allied armies that conquered North Africa and Sicily (1943), invaded Italy (1943), landed in France (1944) and completed the conquest of Germany from the west in 1945. He was made commander of U.S. occupation forces in Germany in 1945 and chief of staff, Nov. 20, 1945, retiring from that post on Feb. 7, 1948, to become president of Columbia university.

In Feb. 1950 Eisenhower warned against the increasing power of the federal government as being a greater peril to freedom than the atomic bomb. On March 23 he said that the U.S. had disarmed itself too rapidly, and later that month he told a senate appropriations subcommittee that U.S. rearmament should concentrate on strengthening Alaska, modernizing all services and emphasizing intelligence work and industrial mobilization. He backed Sen. William Benton (Dem., Conn.) in the latter's proposal for a "Marshall Plan of Ideas" to combat communism, and himself launched the "Crusade for Freedom" movement to enlist private propaganda agencies against communism. On Dec. 19 the North Atlantic Treaty Nations' council and Pres. Harry S. Truman simultaneously announced Eisenhower's appointment as supreme commander of a 12-nation force, to be mobilized for the defense of Europe, and Eisenhower promptly flew to Europe to confer on the rearmament program.

**Elections, U.S.** The Republican party was re-established as a strong and confident opposition in the off-year elections of Nov. 7, 1950, in which the Republicans made substantial gains in the U.S. senate and house of representatives and captured a majority of the governorships. In certain respects, although not numerically, it was a most remarkable and significant comeback since five successive Democratic presidential triumphs seemed to have relegated the Republicans to the role of a permanent minority party.

The G.O.P. scored a net gain of 5 seats in the senate and 30 in the house. The senate alignment for the 82nd session was 49 Democrats and 47 Republicans, as against a 54-42 line-up in the 81st. In the lower body it was 234 Democrats, 199 Republicans, 1 Democrat-Liberal (Franklin D. Roosevelt, Jr.) and 1 Independent, a former Democrat with Republican leanings. In the 81st session it had been 259 Democrats, 169 Republicans, 1 American





WILLIAM BENTON (left) in the helicopter from which he waged part of his successful campaign for election as senator from Connecticut in 1950

Labor party member and 6 vacancies. The G.O.P. captured six governorships from the Democrats, losing none. The resulting line-up at state capitals was 25 Republican governors, 23 Democratic, whereas it had been 29 Democrats and 19 Republicans.

The Republicans picked up senate seats in Pennsylvania, Maryland, Illinois, Utah, Idaho and California, losing one in Missouri. They ousted Democratic governors in Connecticut, Maryland, Nevada, New Mexico, Arizona and Colorado.

However, these numerical increases hardly reflected the extent of Republican recovery, or, to put it more accurately, Democratic losses. Rarely, in a single day of political battle, had so many leaders of a major party been defeated at the polls. Since they supported many of the administration's major policies, the outcome was generally interpreted as a decisive repudiation of Pres. Harry S. Truman's domestic and foreign programs. He refused to accept this interpretation, blaming reverses on "local issues."

In postelection interviews, Republican victors attributed success to such questions as the administration's alleged "coddling of Communists," the collapse of the postwar foreign policy, especially in the far east, the Korean "police action," "socialistic trends" at home, higher taxes and price inflation, based on projected foreign aid and rearmament costs.

The total popular vote was 42,324,232, based on the highest figure in each state, whether cast for governor, senator, representative or a constitutional amendment. It was a record for a nonpresidential year, constituting 61.5% of the estimated eligible voters. The total vote in the house contests was only 40,351,862. The G.O.P. percentage was 49.03, the Democrats' 48.95, and 815,403, or 2.02%, were cast for "other" candidates. The total house vote was 5,019,852 more than the previous off-year record in 1938, the year of Franklin Roosevelt's famous "purge."

Included in the roll of defeated Democrats were Scott W. Lucas of Illinois, former senate majority leader; Francis J.

Myers of Pennsylvania, former senate whip; Millard E. Tydings of Maryland, former chairman of the senate armed services committee; Elbert D. Thomas of Utah, former chairman of the senate labour and public welfare committee; James Roosevelt, who vainly sought the California governorship; Rep. Helen Gahagan Douglas from the same state, who was defeated for the senate; and Chester W. Bowles, loser in his re-election try for governor of Connecticut.

In two prophetic contests earlier in the year, President Truman lost such stalwart supporters as former Sen. Frank P. Graham of North Carolina and Claude Pepper of Florida. They were defeated in the primaries by Willis Smith, former head of the American Bar association, and former Rep. George A. Smathers, respectively, who ran as southern, anti-Truman conservatives.

Eight farm states that figured prominently in the 1948 Democratic triumph returned to Republican allegiance. Although Sen. Robert A. Taft's re-election by more than 430,000 in Ohio was the most spectacular demonstration, many other results indicated that workingmen were again splitting their tickets between the two parties. Negro wards, save in a few instances, showed a sharp decline in Democratic totals.

Events in Korea undoubtedly gave the Republicans an assist in the last few days before the voting. A few weeks before the election, Gen. Douglas MacArthur's Korean victories encouraged the White House. In fact, President Truman made a pre-election trip to Wake Island to consult with MacArthur, a mission assailed by the Republicans as "political." But on the week end before election day, Chinese Communist troops streamed across the Yalu river to check the U.N. advance and to arouse fears that the U.N. "police action" might develop into a bitter winter war, with heavy U.S. casualties, which had totalled about 27,000 before Nov. 7.

Perhaps the most striking Republican victory was Senator Taft's. "Mister Republican," as he was dubbed for his leadership of Republican opposition to President Truman's policies, had incurred organized labour's wrath by his sponsorship of the Taft-Hartley act. Four national labour organizations—the American Federation of Labor, the Congress of Industrial Organizations, the United Mine Workers of America and the Railway brotherhoods—united to defeat him, even supplanting local and national Democratic committees. It was admittedly labour's bid for even more dominant influence at the White House and on Capitol Hill.

Senator Taft carried such industrial centres as Cleveland, Toledo, Akron, Dayton and Youngstown. His remarkable run was interpreted by Republican leaders as a sign that professional labour leaders at Washington could not deliver the workman's vote, that the workers themselves did not regard the Taft-Hartley act as a "slave labour law," which was President Truman's characterization, and that many voters resented labour's growing power in politics.

Sen. Joseph R. McCarthy's charges that fellow travellers had influenced state department policy, especially in the far east, undoubtedly helped the Republicans. Senator Tydings, a congressional veteran of acknowledged ability, was defeated by a lawyer, John Marshall Butler, who was seeking his first public office. The determining issue seemed to be whether or not Senator Tydings, as chairman of a senate committee to investigate the McCarthy indictment, had "whitewashed" the administration, especially Secretary of State Dean Acheson. It was considered significant that Acheson's own Maryland county of Montgomery, although a Democratic stronghold, went Republican by 4,500 votes.

The Communist question was raised in acute form in California. There, former Rep. Richard M. Nixon was opposed for the





"THE MINIATURE MANDATE 'Lo, I am here again, my master—say, What task awaits my giant strength to-day?'" a cartoon by Illingworth published in *Punch* during 1950

U.S. senate by Mrs. Douglas, a supporter of the Fair Deal. She had once voted to abolish the house committee on un-American activities. As a member of that committee, Nixon was concerned with the investigation leading to the perjury conviction of Alger Hiss, on charges that he lied when he told a congressional committee that he had not given official secrets to soviet agents. Nixon, perhaps significantly, was the third member of the house un-American activities committee to reach the senate. The others were Karl E. Mundt and Francis Case, both of South Dakota.

New York, as usual, furnished some surprises. Gov. Thomas E. Dewey, resorting to television interviews in which he answered street-corner questions for a stretch of 18 hours, was re-elected by 564,844 votes. Rep. Franklin D. Roosevelt, Jr., was re-elected to the house, and was immediately mentioned as a 1952 vice-presidential prospect. Vito Marcantonio, the lone American Labor party member of the house, who usually followed the Communist "party line" in his votes, was defeated by a coalition candidate.

Running as an independent, Acting Mayor Vincent Impellitteri smashed Tammany hall, defeating its candidate, former Justice Ferdinand Pecora, who also had President Truman's support, and the Republican candidate, Edward Corsi. Impellitteri was backed by James A. Farley, former Democratic national chairman.

In South Carolina, James F. Byrnes, former senator, supreme court justice and secretary of state, was elected governor without opposition. His break with President Truman, as well as his caustic criticism of the Fair Deal, led to speculation that he might head an anti-Truman movement in 1952, if the president sought renomination.

From the standpoint of loss of political manpower, the Democrats emerged from the election in a bad position. They seemed to have been left with no presidential prospects save President Truman, who would be 68 years and 6 months old in Nov. 1952. Vice-Pres. Alben W. Barkley would be 75 in the same month. Al-

most every senator or governor available for the national ticket in 1952 was defeated in the elections of Nov. 7, 1950.

The Republicans, on the other hand, might be embarrassed by too many claimants of divergent political ideas and ideals. In selecting their 1952 nominee, they might choose from such demonstrated vote-getters as Senator Taft, Gov. Earl Warren of California, Sen. James H. Duff of Pennsylvania, Sen. Everett McKinley Dirksen of Illinois, Governor Dewey and, perhaps, Gen. Dwight D. Eisenhower, a resident of New York.

President Truman had planned to campaign actively, but the Korean struggle led him to cancel these plans. Vice-President Barkley stumped more than 20 states as a White House representative. The president made one avowedly political speech at St. Louis, Mo. He forecast a "smashing Democratic victory," adding that farmers and workingmen who did not vote Democratic should "have their heads examined."

He attributed party reverses to "local issues" entirely, and not to any widespread dissatisfaction with his domestic or foreign policies. He said he would resubmit his Fair Deal to the 82nd congress, opening in Jan. 1951. (See also COMMUNISM; DEMOCRACY; DEMOCRATIC PARTY; REPUBLICAN PARTY; UNITED STATES; and under various states and various countries of the world.)

(R. Tu.)

**Electrical Industries.** Evidence of a speed-up in industrial activity in the United States was seen in the records of the U.S. electrical industry for 1950. Energy produced for the public supply in that year climbed to an estimated 329,028,000,000 kw.hr., an increase of 13% over the 291,099,000,000 kw.hr. generated in 1949, and the largest increase ever recorded in the industry's history. This increase of 37,924,000,000 kw.hr. may be compared with the previous year's increase of 8,401,000,000 kw.hr. To generate this output in 1950, the average kilowatt of hydro capacity produced at name plate rating for 64.5 hr. out of every 100, surpassing any year on record. Fuel capacity produced at name plate rating for about 55 hr. out of every 100.

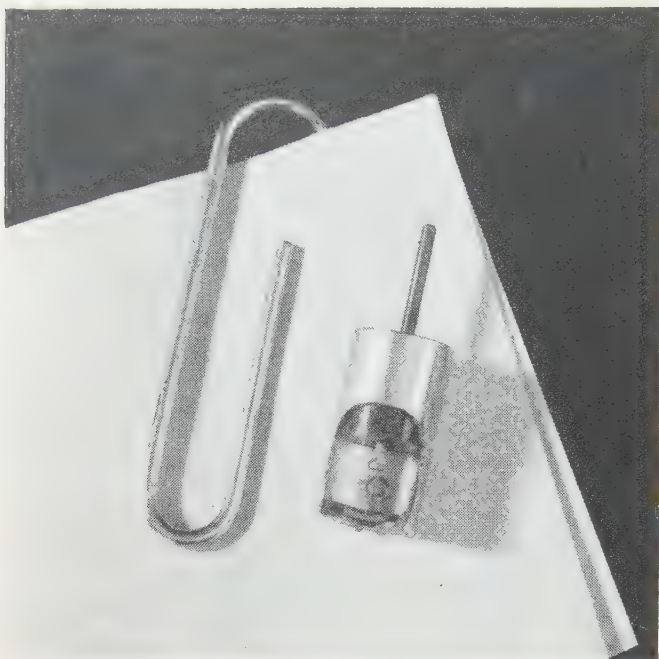
Fuel-burning power plants furnished 32,245,000,000 kw.hr. of the total increase of 37,924,000,000 kw.hr., raising the proportion of fuel power generation from 69% in 1949 to 71% in 1950, the hydro plant share in output thus dropping from 31% to 29%. In the 12 months ended Oct. 31, 1950, the consumption of coal, oil and gas was 137,610,000 tons of coal equivalent, as compared with 127,060,000 tons of coal equivalent consumed in 1949. Actual coal consumption in the 12 months ended Oct. 31, 1950, was 87,940,000 tons, as against 83,960,000 in 1949. Consumption of oil in the same 12-month period rose to 78,100,000 bbl. from 66,300,000 bbl. in 1949, while use of gas increased from 550,120,000,000 cu.ft. in 1949 to 622,570,000,000 cu.ft. in 1950.

Of the total output in 1950, private power companies generated 81.3% as against 80.3% in 1949, with plants owned by Rural Electrification administration co-operatives, municipal utilities, public utility districts, state projects and the federal government providing the remainder.

**Power Plant Capacity.**—The net increase in generating capacity in 1950 up to Nov. 1 was 4,409,000 kw., bringing the total as of that date to 67,509,000 kw. The actual increase in 1950 was somewhat more than this, with some new capacity scheduled for operation in November and December. The reported new capacity installed in 1950, not all representing net increase, was 5,785,814 kw. Preliminary figures set the noncoincident peak load at about 62,000,000 kw. and indicated that reserve capacity would be about 9% or about 3% less than the 1949 reserve.

Ratios of fuel and hydro generating capacity remained little changed in 1950 from 1949. In the earlier year, fuel power was





**PHOTOTRANSISTOR** (right), a highly simplified type of photoelectric cell which performs most functions of the ordinary vacuum tube (note relative size compared with paper clip). Invented at the Bell Telephone laboratories, New York city, it was in the experimental stage in 1950

73.5% and water power 26.5% of the total; in 1950 the ratios were 74% and 26%. In 1950, power companies owned 79.8% of the generating capacity as against 79.9% in 1949. Ownership of the remaining capacity was divided among REA co-operatives, municipal utilities, public utility districts, state projects and the federal government.

**Electricity Sales.**—Electric utility customers bought an estimated 278,800,000,000 kw.hr. of energy in 1950, an increase of 30,258,000,000 kw.hr. over 1949. This increase was almost four times as large as the increase in 1949 over 1948—7,802,000,000 kw.hr. Industrial usage was responsible for more than 58% of the increase in 1950. In 1949, large industrial customers bought 120,766,000,000 kw.hr., but in 1950 their usage climbed to 138,350,000,000 kw.hr. This increase in industrial usage reversed the situation existing in 1949, when industrials bought 3,322,000,000 kw.hr. less than in 1948.

Sales to residential and rural customers continued to increase. In 1950, sales to these customers were 73,900,000,000 kw.hr., almost 8,400,000,000 kw.hr. more than sales in 1949, which, in turn, were 8,218,000,000 kw.hr. more than in 1948. The average annual residential use of electricity rose from 1,684 kw.hr. in 1949 to 1,825 kw.hr. in 1950, an increase of 141 kw.hr.

**Revenues.**—Customers paid the electric utilities \$5,040,000,000 in 1950, about \$426,000,000 more than in 1949, a 9.2% increase. This was associated with a 12.2% increase in sales and reflected a greater usage of energy at lower steps in rate, mostly because of the increased industrial usage. The average revenue from all customers in 1950 dropped to 1.81 cents per kilowatt hour from 1.85 cents per kilowatt hour in 1949.

Residential customers continued to enjoy a decrease in the unit price they paid for electrical energy, 2.88 cents in 1950, as against 2.95 cents in 1949 and 3.01 cents in 1948. Because of their greater use of electricity, these customers paid an average annual bill of \$52.60, \$1.92 more than in 1949. The 1950 increase of 141 kw.hr. in usage cost the average customer only 1.36 cents per kilowatt hour.

**Users.**—The number of customers served in 1950 grew to a total of 45,122,800, an increase of about 2,272,000 over 1949. The largest increase was again in the residential class, which

added 2,050,019 new customers for a total of 39,229,800. Industrial and commercial customers increased moderately from 5,522,893 in 1949 to about 5,735,000 in 1950.

The number of people in homes served by electricity in 1950 was about 141,500,000 or approximately 94% of the total population.

**Financial.**—Securities issued by electric companies in 1950 approached the record amount sold in 1949. New capital entering the business in 1950 was \$1,300,000,000 as compared with \$1,445,000,000 in 1949. Refunding operations rose to \$408,000,000 in 1950, an increase of \$60,000,000 over 1949. The total financing in 1950 was thus \$1,708,000,000, or \$85,000,000 less than in 1949.

The share of the revenue dollar available for dividends and surplus decreased in 1950 because of increased operating expenses and higher taxes. In 1949 the proportion was 18.1 cents; in 1950 it was 17.8 cents. The gross operating revenue of power companies rose from \$4,113,000,000 in 1949 to \$4,475,000,000 in 1950. Money left for net income in 1950 was \$820,000,000, which amount was \$55,000,000 greater than the net income reported in 1949.

**Electrical Manufacturing.**—In 1950, the federal reserve board estimated index of general industrial production was set at 212, 19 points above 1949 and 1 point above 1948, the record postwar year. The electrical manufacturing industry production index climbed to 493, 64 points above 1949 and 16 points above 1948. Appliances for domestic use broke the 1948 record high of 1,040 by going to 1,156 in 1950, 275 points above 1949. The electrical material index rose from 310 in 1949 to 399 in 1950, 60 points above 1948. Following a drop to 373 in 1949, electrical goods for industrial installation went to 469, only 13 points below 1948. Apparatus for electricity supply systems continued to decline, dropping from 374 in 1949 to 352 in 1950. (See also PUBLIC UTILITIES; RURAL ELECTRIFICATION; TENNESSEE VALLEY AUTHORITY.) (F. J. K.)

**Canada.**—The 1950 annual survey of the water-power division of the federal department of resources and development said that by the end of 1949 21% of Canada's recorded water-power resources were developing 11,613,333 h.p.

During the year 1950 a 200,000-h.p., \$30,000,000 hydroelectric development on the Péribonka river in Quebec was authorized. Canada and the U.S. signed a Niagara river water diversion treaty, Canada handed over to the province of Ontario the Canadian water rights and Ontario began construction of plants to produce 900,000 h.p. of new energy. The Saskatchewan provincial power corporation increased its output 22% in the first seven months of 1950, and the power commission of British Columbia raised production to 157,946,075 kw.hr. for the year ending March 31, 1950, an increase of 28,481,797 kw.hr. over the previous year.

The output of electrical apparatus was greater in 1950 than at the height of World War II. The Canadian electrical manufacturers association urged the federal government to halt further tariff reductions on imports of electrical apparatus (reduced by between 10% and 33½% at the 1949 Geneva agreements).

(C. Cy.)

**Europe.—Generating Plant.**—The second British Electrical Power convention held at Harrogate, Yorkshire, in June 1950 had as its main theme power-station design and operation. The largest size of generating unit in Great Britain was 100 megawatts. To hasten power-station construction the British Electricity authority encouraged the production of boiler plant and ancillary equipment by manufacturers who did not formerly undertake it. Advances were being made by the design, on nonstandard lines, of some of the authority's new stations, turbine conditions of 1,500 lb. per square inch, and 1,050° F. being adopted as well



as hydrogen cooling for the alternators.

Attention was given to the possibilities of feeding power into the public supply network from relatively small generating sets driven by industrial process steam and by other less conventional means. One of these sets, actually installed, had a 1,390-kw. induction generator and was operated in conjunction with a water-gas producer at Beckton gas works. Another unusual type of alternator, being built in sizes up to 150 kilovolt-amperes, had a construction similar to that of an induction motor but had an amplifying exciter giving close voltage regulation without the use of a voltage regulator. It could also withstand accidental short circuits or out-of-phase synchronizing.

**Transmission and Distribution Equipment.**—The construction of the British supergrid, at 275 kv., on which a start had been made, focused attention by manufacturers on circuit breakers, transformers and other transmission equipment for use up to 300 kv. It became clear that air-blast switchgear was likely to be satisfactory for very high voltages and high breaking capacities and several new designs emerged. At the d'Harcourt substation of Electricité de France 220-kv. Alsthom breakers with a rupturing capacity of 350 megavolt-amperes were installed. Another type built by Brown Boveri of Baden, Switz., was to be supplied to Sweden for the new 380-kv. system. This three-phase breaker had a rupturing capacity of 8,600 megavolt-amperes at a maximum of 400 kv. Designs for air-blast circuit breakers by British manufacturers also covered the range of voltages up to 400 kv. with rupturing capacities up to 10,000 megavolt-amperes while oil circuit breakers with similar performance characteristics were also built and tested.

Details were given during the year of the Fontenay testing station inaugurated in 1949 by Electricité de France. This was the only direct short-circuit testing station in Europe and the tests were carried out there in direct connection with the French 220-kv. system. This had the advantage of making a large amount of testing energy available without the expense of providing high-capacity alternators and transformers for a self-contained testing station. For switchgear testing the maximum symmetrical three-phase short-circuit power was 2,800 megavolt-amperes at 220 kv. but arrangements were being made for 3,900 megavolt-amperes to be available and also for 400-kv. tests.

**Utilization.**—In Great Britain fluorescent lighting for streets and public places made headway and costs of about £3,300 a mile were quoted for street lighting with concrete poles and complying with the requirements of ministry of transport group A standards. Fluorescent lamps having tungsten filament ballast lamps as a resistance to avoid using an expensive choke were introduced. Another new lamp with an average efficiency of 45 lumens per watt was a 1,000-w. mercury-vapour lamp for use in spacious and lofty buildings.

**Research and New Developments.**—Research and development work on new sources of energy was described at the World Power conference held in London in July 1950. This included research on wind power for large scale generation of electric power, fed directly into supply networks, which was proceeding in Great Britain, France, Denmark, the Netherlands, western Germany and Italy and for which an international co-operative research and development group was established by the Organization for European Economic Cooperation early in the year. Other developments concerned heat pumps, the industrial utilization of the temperature differences between water at the top and bottom of the sea (a French scheme) and the generation of power from volcanic sources at Lardarello, It. A new generating station under construction at Lardarello was to have four sets each of 26 megawatts.

**Trade.**—The value of all electrical goods exported from Great Britain attained a monthly average of about £11,000,000. As an

example, in September, a rather poor month, the total was £10,159,538 which compares with £10,953,792 and £8,738,944 for the same month in 1949 and 1948 respectively. Imports rose from £290,069 in Sept. 1948 to £497,482 in 1950. (E. W. G.)

**Electric Transportation.** Developments of the year 1950 demonstrated again the predominant position occupied by electric transportation service in cities of more than 500,000 population in the United States. Of the total volume of riding on public transportation lines in these cities, about 65% continued to be handled by electric vehicles and about 35% by motorbuses. This proportion had undergone no marked change in recent years. Three distinctly different types of electric transportation facilities were utilized to render the service: (1) subway and elevated rapid transit lines, (2) electric surface railways and (3) electric trolley coach lines.

**Subway and Elevated Rapid Transit.**—At the beginning of the year the rapid transit lines in New York, N.Y., Chicago, Ill., Philadelphia, Pa., Cleveland, O., and Boston, Mass., were carrying a combined total of about 2,300,000,000 passengers a year. To do this they operated approximately 10,000 cars on 1,250 mi. of track. Chicago, with the delivery of 130 new subway cars, was the only city to add to its rolling stock in 1950. No substantial change occurred in trackage. A slight decline took place in the number of passengers carried, but, statistically speaking, the rapid transit situation remained about the same as it had for the past ten years except for a period of increased riding during World War II.

A trend was in evidence to eliminate gradually the remaining elevated railway lines and replace them by subway lines. Steps to this end were taken in New York and Boston. Extension and improvement was made in the rapid transit facilities serving the east Boston area. As part of this program the Metropoli-

INTERIOR of a ten-car subway train placed in service in New York city in 1950; two lines of fluorescent tubing furnished continuous lighting, and all air in the car was sterilized and cleaned electrically





tan Transit authority ordered 40 new cars of modern design to replace the vehicles that had been in service on this route for many years. A trend toward the use of lighter weight and higher speed equipment was indicated by both the Boston and the Chicago car orders.

New rapid transit facilities were planned at Cleveland where the city was awaiting a loan of \$22,000,000 for this purpose. In the interest of civil defense and municipal economy, New York city's plans for rapid transit expansion were somewhat curtailed. It had been planned to start work early in 1951 on a new subway line along Second Ave. to replace the former elevated railway service on that street and the existing service on Third Ave., and to purchase 350 new subway cars. It was anticipated that these improvements would ultimately be carried out, but the date when they would be undertaken had not been set.

**Electric Surface Railways.**—At the beginning of 1950 the transit industry in the United States had approximately 15,500 electric surface railway cars and about 10,700 mi. of track. Approximately 75% of the vehicles were in cities of more than 500,000 population, but only 36% of the trackage was located in those cities. This difference was accounted for by the existence of many long suburban and interurban electric lines operating only a small number of vehicles. The business handled by these lines in the larger cities amounted to about 3,500,000,000 passengers per annum. Riding declined moderately during the year. This was in part because of the general decline in urban transit business, and in part because of the replacement of surface electric railway service by electric trolley coach service and motorbus service. Fifty new cars were ordered during the year. When they were delivered there would be a total of 4,304 modern cars of the so-called Presidents' Conference committee type in operation in the United States.

Continuing purchases of cars of this type was evidence of the industry's belief in the future of electric surface-rail lines in large cities. While local conditions are the determining factor in selecting the type of service for any particular location, it may be said in a general way that where the peak travel amounts to more than 15,000 people per hour a rapid transit line is probably justified, and where it is between 4,000 and 15,000 the Presidents' Conference committee type car is likely to best serve the purpose. For traffic densities below that which will support rail service, the electric trolley coach furnishes the most efficient type of service except where the traffic is too light to justify the investment in electric facilities.

**Electric Trolley Coaches.**—Expansion of electric trolley coach operations was one of the outstanding features of the year. This was a continuation at a high level of a trend that had been in evidence for some time. Orders were placed for a total of 820 of these vehicles, but only a part of them were built and delivered within the year. From about 6,300 at the beginning of the year, the number of trolley coaches increased to nearly 6,800 in 67 cities in the U.S.

An order for 349, announced by the Chicago Transit authority in September, was the largest single order ever placed for electric trolley coaches. When these vehicles were delivered Chicago would have a total of 710 trolley coaches, making the CTA the leading operator in the country. Next in size was Atlanta, Ga., with 453. At Boston the Metropolitan Transit authority ordered 90 new trolley coaches to bring its total to 430, making it the third largest operator of these vehicles.

At the beginning of 1950 trolley coaches in the United States were carrying passengers at a rate of about 1,700,000,000 annually. By the end of the year this had increased to about 2,200,000,000. With the large increase in trolley bus operations

planned for 1951 this type of service appeared likely to surpass rapid transit in volume of riding.

Although there was wide use of these vehicles in the larger cities, the greatest development occurred in the cities ranging from 250,000 to 500,000 population. In the main, trolley coach service was being operated as a substitute for electric surface railway service, but in numerous instances, because of its economy, it had taken the place of the motorbus on lines of medium heavy travel.

**Heavy Electric Traction.**—No substantial change occurred during 1950 in the scope of electrified trunk-line railroad operation. At the close of the year two 5,000-h.p., 12,000-v. A.C. straight electric locomotives were in production for the Pennsylvania railroad. The use of electric braking would be an innovation in the United States for this type of locomotive.

To add to its fleet of electric locomotives the Chicago, Milwaukee, St. Paul and Pacific railroad purchased 12 units originally built for export to the U.S.S.R. but never shipped. These were designed to develop 5,110 continuous horsepower and were the largest single-cab 3,000-v. D.C. locomotives ever built in the United States. (J. A. Mr.)

**Canada.**—Trolley-bus transportation continued to increase in popularity with management and public. By the end of 1950 Vancouver streetcars were confined almost solely to downtown areas; Winnipeg added 30 new trolley buses, which meant that 26% of the customers were riding on trolley buses, 42% on electric streetcars, and 32% on motorbuses; Hamilton, Ont., introduced trolley buses; in Toronto, however, where 85 trolley buses were in use, transportation officials continued to believe that streetcars were preferable for handling rush-hour traffic; Cornwall, Ont., removed all streetcar tracks since the city was served chiefly by trolley buses; Montreal purchased 40 new trolley buses and extended the trolley-bus network set up in 1949; Ottawa announced that trolley buses would ultimately replace streetcars on downtown streets.

Construction of Toronto's electric subway system continued during the year. Nelson, B.C., and St. Catharines, Niagara Falls and Sudbury, Ont., gave up streetcars in preference to motorbuses. The Quebec provincial government passed a special act creating a Montreal transportation commission to solve Montreal's transit problems, including consideration of a subway.

Electric transportation statistics for Canada for the first seven months of 1950 (compared with same 1949 period) were as follows: urban revenues \$62,922,398 (\$57,803,981); interurban revenues \$24,533,159 (\$24,980,482); urban electric-car mileage 49,320,671 (55,208,844); urban trolley-bus mileage 15,214,096 (10,624,867); interurban electric-car mileage 3,379,083 (3,624,885). (C. Cy.)

**Great Britain.**—Work on the 1,500-v. D.C. electrification of the Manchester-Sheffield-Wath line proceeded. Of the 25- to 50-cycle conversion-schemes, those for the Liverpool-Southport and Euston-Watford lines were completed, and authority was given for a similar change-over on the Southern region's lines in the London area. Traffic on the newly electrified Liverpool Street-Shenfield (Eastern region) line continued to increase.

In 1950 there were only 6,000 modern streetcars still in use in Great Britain, compared with 15,000 in 1927. Trolley buses, despite the lack of generating plant, the coal shortage and the competition of the diesel bus, numbered 5,000.

**Austria.**—On the north-south route from the German frontier at Salzburg to the Italian frontier at Tarvisio (134 mi.) the section between Spittal-Millstätter See and Villach (23 mi.) was electrified in May 1950, leaving only the portion from Villach to Tarvisio (17 mi.) to be electrified. On the 527-mi. east-west route from Hegyesháalom on the Hungarian frontier to Bregenz on Lake Constance electric working was in operation



from Linz to Bregenz; the section Linz-Vienna (117 mi.) was under conversion. The first batch of postwar electric locomotives manufactured by the Wiener Lokomotivfabrik, and electrical equipment by Elin Aktiengesellschaft für Elektrische Industrie were delivered early in 1950.

**France.**—In Oct. 1950 the Paris-Laroche section of the Paris-Lyon main line was opened for electric traction. As regular electrical operation on the Laroche-Dijon section had begun in March, electric locomotives were now hauling all classes of traffic between Paris and Dijon (197 route miles). It was hoped to complete the conversion to Lyon in two years. Altogether 1,125 route miles were planned for electric operation, saving a further 1,600,000 tons of coal a year in addition to the 1,300,000 tons already saved by electrification.

The first of 35 new 2-Do-2 locomotives for fast passenger and freight work on the Paris-Lyon line was delivered. The four traction motors gave a total one-hour rating of 4,880 h.p. or a continuous rating of 4,400 h.p. at 1,350 v. The locomotives could haul trains of 880 tons on the level at 86 m.p.h., or 980 tons on a 1-in-200 gradient at 60 m.p.h.

Work progressed on the experimental supplying of 50-cycle single-phase traction between Aix-les-Bains and La Roche-sur-Foron (48 mi.). The temporary feeding point at Annecy for the trials comprised two Scott-type 45,000/20,000-v. three-phase to two-phase transformers connected so that one output-phase feeds the section to the north and the other the section to the south of Annecy.

**Germany.**—During May the main line Nuernberg-Regensburg (62½ mi.) was converted to electric traction, linking up with the 15-kv., 16⅔-cycle single-phase electrification in that area. Preliminary work was then begun on other Bavarian lines, notably the 119 route miles between Nuernberg, Würzburg and Aschaffenburg with a possible extension of 29 route miles to Frankfurt. In addition, first steps were taken to convert the double-track main line Mannheim-Basle (166 route miles). A large thermal power station was being built in the Bavarian alps near Penzberg with an ultimate annual output of 200,000,000 kw.hr.

A close investigation of the economics of electrification was carried out by the Marshall aid authorities. The German authorities claimed that electrification would reduce working costs and were eager to convert a number of lines in the Ruhr and Rhineland, linking up with the electrification in southern Germany. Under the "Arnold plan," 600 to 800 route miles were to be converted in eight years, including the electrification of the two main lines parallel to the Rhine and other important north-south lines. The U.S. view was that the electrification should be postponed for at least five years, and an Economic Cooperation administration allocation of 58,000,000 deutschemark to the German Federal railways was cancelled.

**Italy.**—Electrification on the Rome-Avezzano line (67 mi.) was extended for 40.75 mi. to Sulmona during May, covering the most difficult part of the 149-mi. single-track Rome-Pescara main line. Further funds were being sought to complete the Rome underground railway begun 12 years previously to link the Central station with the southern suburbs and Ostia. The increasing demand for electric power for traction was being met by the development of two new hydroelectric power stations on the Tanaro, south of Turin and by the enlargement of those near Bressanone on the Brennero line; and also by building two thermoelectric stations in Sicily for the electrification of the Messina-Palermo line under construction.

**Portugal.**—A 1,120-h.p. mixed-traffic locomotive and seven multiple-unit coaches were built in Great Britain for the 5 ft. 6 in. gauge, 1,500-v. D.C. overhead electrified line from Lisbon to Cascais (16 mi.), to haul passenger trains of 240 tons at 50 m.p.h. or freight trains of 600 tons at 30 m.p.h.

**Sweden.**—As it was difficult to accommodate high-voltage single-phase A.C. equipment in small rail cars it was the practice in Sweden to use diesel rail cars for light passenger services on branch lines. But by 1950 a diesel rail car converted to electric working, with 45 seats and weighing 16 tons, was capable of hauling a trailer and, when working independently, had an acceleration of 1.6 m.p.h. and a normal running speed of 55 m.p.h.

Rolling stock for the Stockholm underground (650 v., third rail) was under construction. All cars were to be motored and an average speed of 20 m.p.h. maintained, including 15-sec. station stops, 0.4 mi. apart. Electric equipment of Westinghouse design for the first 200 cars was to be manufactured by the Swedish Allmänna Svenska Elektriska Aktiebolaget company.

**Switzerland.**—The short and steeply graded metre-gauge line between Le Locle and Les Brenets (Neuchâtel canton) was electrified (3 mi. with gradients of 1 in 33). Electric services were also begun in May on the private metre-gauge line between La Chaux-de-Fonds and Ponts-de-Martel (17 mi.).

After World War II the Swiss Federal railways devoted considerable attention to light-weight electric locomotives. Bo-Bo locomotives of the Re 4/4 class delivered during 1950 had an adhesive weight of 57.5 tons, a total one-hour rating of 2,500 h.p. and a maximum speed of 77.5 m.p.h. and could haul trains up to 450 tons. By the use of light-weight electric locomotives and motors the Swiss Federal railways increased scheduled speeds to a remarkable extent.

During the summer 18 daily runs were scheduled at speeds of 60 to 69 m.p.h. from start to stop.

**South Africa.**—Progress toward the entire electrification of the inner Reef area advanced with the completion of the equipment at the change-over point between steam and electric traction at Welverdiend, the western terminus of the Witwatersrand electrified system. The extension to Welverdiend involved the electrification of the lines between Nancefield, Midway and Bank stations and between Randfontein and Welverdiend at a total cost of £900,000. The conversion of the main line between Cape Town and Touws River (160 mi.) proceeded. (See also RAILROADS.)

(J. W. GR.)

**Electrification, Rural:** see RURAL ELECTRIFICATION.

**Electronics.** A method for controlling depth of anaesthesia in surgical operations was an important electronic development of 1950. It was accomplished by Reginald G. Bickford and Albert Faulconer, Jr., of the Mayo Clinic and Foundation at Rochester, Minn. Animal experiments showed that so-called "brain waves"—periodic electrical impulses produced in the brain that may be recorded on an electroencephalograph—undergo a characteristic change as anaesthesia deepens. At the lightest stage the total output of electrical energy from the brain, as measured by the height and duration of the recorded waves, is at a maximum. The energy output then progressively lessens until, at a level coinciding with respiratory paralysis, it becomes almost zero.

In the Mayo clinic device these changes were used to regulate the rate at which anaesthetic is administered to the patient. Electrodes on the scalp pick up the brain waves which are amplified in the electroencephalograph and make the usual record. Also connected to the device is an electronic integrator which stores the amplified energy from the patient's brain until it reaches a predetermined amount, then releases it, and the storage begins anew. The energy discharge at the end of each cycle triggers a relay, which activates a pump giving a definite amount of anaesthetic to the patient. Thus, when the brain is most active under light anaesthesia, the anaesthetic is administered most often. Its rate is reduced as anaesthesia becomes



more profound.

In a report on their work, presented late in the year, it was said that the new electronic method had been used successfully in operations on more than 50 adult patients, and that it was able to anticipate changes in the depth of anaesthesia many seconds before they would be apparent to a skilled anaesthesiologist, who ordinarily has to watch for certain reflexes and other muscular activity to judge the depth. It was pointed out, however, that the device did not replace the expert, who must still supervise its operation, but relieved him of much tedious work. It was said that safety devices were being developed to discontinue the anaesthetic automatically in case of an emergency such as surgical shock or failure of breathing. Another contemplated improvement was a control device by which the surgeon could directly regulate the depth of anaesthesia.

Another electronic control device announced during the year was one for regulating the exposure of low-altitude aerial photographs made from reconnaissance planes travelling at speeds of 600 m.p.h. or more. Because of quickly changing light conditions, very rapid adjustment of exposure is required, particularly when using colour film.

The new device, a development of George Bruck, John Higgins and John Ward, was first applied to a modified U.S. air force model S-7 camera with stereo lenses. This is a type in which the exposure is made by moving the film past a slit. The film is moved at such a rate, determined by the speed of the plane and its altitude, that its motion corresponds to that of the image. The adjustment for light conditions is made by changing the lens aperture. A third lens is used to pick up the light and focus it on a selenium photocell which, through an electronic circuit, adjusts the apertures of the taking lenses. A difference in illumination of as much as 40 to 1 is automatically compensated.

An electronic "umpire," indicating automatically the passage of a baseball through the "strike" zone and also giving its velocity, was developed by the General Electric company's Electronics laboratory and was used at the spring training camp of the Brooklyn Dodgers in 1950. At home plate is a shallow metal box, equipped with mirrors and lenses, from which three phototubes look at the sky through three slots in the top of the box. These make three planes in space, two vertical and one diagonal, forming a letter N and fencing in the strike zone. As the ball passes through these planes it casts on the slots a shadow which is recorded by the electronic circuits. Indication of a "strike" is given on a control box, connected by wires to the equipment at the plate. A light flashes if the baseball passes through the strike zone, and a meter shows the speed. If the light does not flash, a "ball" is indicated. If too high, or too low, the baseball penetrates the diagonal plane before or after it reaches the two vertical planes and the light does not flash, thus indicating a "ball." Similarly, a "ball" is shown by a failure of the light to flash if the baseball passes to the right or left of the planes. An adjustment can be made for the batter's height, making the strike zone correct for a short player as well as for a tall one.

A new type of photoelectric cell, called the phototransistor, eliminating the evacuated glass envelope of the usual type of phototube, was reported by the Bell Telephone laboratories. It represented an outgrowth of the transistor, which accomplishes many of the functions of a three-element electron tube and was announced by the same laboratories in 1949.

In the transistor, which is hardly bigger than the metal tip of a shoelace, two fine wires about two one-thousandths of an inch apart press against a small piece of the semiconducting metal germanium. Small electric currents flowing through one of the wires control the flow of a considerably larger current in the other wire, so the device can amplify faint signals. A change in light intensity can also control the flow of current. The photo-

transistor is about the size of a small-calibre rifle cartridge. It has a single collector wire touching a germanium wafer in the middle of a small dimple ground into the metal. The thickness at its centre is about three one-thousandths of an inch. Light is focused by a lens on the side of the wafer just opposite the tip of the wire to control the current.

Among new devices described at the sixth annual national Electronics conference held at Chicago, Ill., in Sept. 1950 was one which automatically measures water content in snow on mountainous areas, and reports its findings by radio to a central station. These measurements are important in regions such as California where melting snow provides water for power and irrigation. To assess available water it has been the practice to take actual snow samples in selected locations with long cylindrical tubes, then to weigh them to determine the water content. The new system, which was devised by R. W. Gerdel of the U.S. weather bureau, makes use of a small sample of radioactive material buried near the surface of the ground where measurement is to be made. Suspended above is a Geiger-Muller counter which responds to the radiation from the sample. As snow accumulates below the counter tube, the radiation is attenuated in proportion to the water content.

Impulses from the tube are coded into signals which may be transmitted over an automatic FM radio transmitter. To cover a large area, a number of such stations may feed their data into a repeater station. With several such repeaters, each with its outlying data transmitters, and all operating on a time-sharing basis, several hundred readings may be collected daily at the central receiving station, where the counts are all recorded.

An electron beam of the highest energy ever produced in open air, consisting of 70,000,000-v. electrons, was generated in the General Electric Research laboratory by Herbert C. Pollock. This was accomplished with a synchrotron, one of the new types of particle accelerator for atomic research, constructed as part of a project sponsored by the office of naval research. It had previously been used for the generation of 80,000,000-v. X-rays, though it had not before been possible to extract from within the doughnut-shaped vacuum tube the electrons that whirl around inside. Now this was done with two curved metal plates inside the tube, one charged to a high electrical potential. These divert electrons from their orbits and aim them at a thin foil window. They penetrate the air for many feet, and can be detected with photographic film or other devices sensitive to such radiation.

An electron beam, though in a vacuum rather than air, is used in the electron microscope. Like a light beam, it can be focused and used to form images. Because the effective wave length is much shorter than that of light, it shows much finer details, and hence the electron microscope is capable of far higher magnification than are microscopes using light rays.

Corresponding to the glass lenses which focus light waves in the common microscope are electron lenses which make use either of electrostatic or magnetic fields, properly shaped, to do the same thing for electrons. One of the most popular types of electron microscope employs magnetism, produced by electromagnets, which require an accurately controlled supply of power.

In a simplified electron microscope, developed by the RCA Victor division of the Radio Corporation of America and described to the National Electronics conference, permanent magnets are used to energize the magnetic lenses. The microscope is capable of forming an image magnified 6,000 diameters from the original. The electron micrograph can be enlarged further by photographic means, giving total magnification as high as 20,000 diameters.

Several new computing machines utilizing electronic methods were developed during the year. One of these, known as the elec-



tronic statistical machine and made by International Business Machines corporation, was used to analyze much of the data assembled in the 1950 census. The data were recorded on some 270,000,000 punched cards, one for each person, one for every home and at least eight for every farm.

In one operation, the electronic statistical machine classifies, counts, accumulates and edits, then prints the statistical data from groupings of information and balances the totals to check accuracy. If, for example, through some error a card should indicate that an eight-year-old boy was a war veteran, the machine would automatically reject the card.

There are two separate printing mechanisms which print on a single line not only the totals for each of 60 groups but also the grand totals. The group totals are automatically balanced against the grand totals as an accuracy check. The machine can count up to 10,000 units in each of the 60 different classifications, while sorting the cards into predetermined groups at the rate of 450 per minute.

At the national bureau of standards, Washington, D.C., was established a new computation laboratory, well provided with machines capable of solving problems in science, engineering and administration that would require a prohibitive amount of work with desk-machine methods. The principal machine at this laboratory was SEAC (standards eastern automatic computer). In its circuits are 1,050 electron tubes and 15,500 germanium diodes. These, related to the transistor described above, serve as two-element vacuum tubes to act as a one-way street for electrical currents. SEAC can add or subtract pairs of 11-digit numbers at the rate of 1,100 times per second, and can multiply or divide them at the rate of 330 times per second.

At the RCA laboratories near Princeton, N.J., Project "Typhoon" was completed. This was an electronic computer, built by the Radio Corporation of America for the U.S. navy's bureau of aeronautics. It was especially designed, under the direction of Arthur W. Vance, to evaluate performance of guided missiles, aircraft, ships and submarines and to aid in the air protection of U.S. cities. It was said to be capable of solving complex simulated problems of a complete guided missile system, which other computers had been unable to handle. Such solutions, it was stated, would permit the design of equipment with a minimum of experiments that might require the use of actual missiles, ships and aircraft.

The heart of "Typhoon" is a new type of electronic multiplier that blends the techniques of the analogue computer, similar in principle to a slide rule, and the digital apparatus, exemplified by the ordinary adding machine. In the new computer there are 4,000 electron tubes and several miles of intricate wiring. A solution of one typical problem, that of a hypothetical high-speed bomber successfully attacked by a radar-controlled, supersonic, rocket-propelled guided missile, involved 250 additions, 67 multiplications, 30 integrations and 20 aerodynamic functions, all of which were carried on simultaneously with continuously variable factors. Even to give an approximate answer, with a single solution for a minimum number of points, a mathematician and assistant would probably require six months. "Typhoon," in less than 60 sec., gave the continuous solution, for an infinite number of points.

Very high-frequency radio waves were found capable of improving the germination of carrot, beet, onion and tomato seeds by Herbert Jones of the University of California, Berkeley. He exposed the seeds to uniform electrical fields which caused the absorption of energy, some of which is converted into heat, in various points in the seed. The temperature of carrot seeds was raised to 108° F. and of onion seeds to 122° F. Germination of carrots was increased from 59% to 83% and of onions from 63% to 97%. Jones suggested that these methods, involving treat-



**ELECTRONIC PENCIL** for enabling blind persons to read print by translating each letter into a distinct sound heard by the blind person through a hearing aid. The instrument was developed by Vladimir Zworykin of the RCA laboratories and reported on in 1950

ments of only a few seconds for small quantities of seeds, might be adapted to large-scale operations, and that they might become important for agricultural regions with limited growing periods and early frosts during the germination of certain crops.

At Cornell university, Ithaca, N.Y., F. V. Kosikowsky, B. L. Herrington and A. C. Dahlberg found that cheese may be made bacteria-free by pasteurizing it with radio waves after the cheese has aged. Under existing methods, the milk is pasteurized before the cheese is made. They found it simpler to rid 10 lb. of cheese of bacteria by electronic means than to pasteurize the 100 lb. of fresh milk from which it is made. The method also makes it possible to pasteurize the cheese after it has been wrapped, a procedure which assures the consumer an uncontaminated product.

Radio waves, reflected from the trails of broken or ionized atoms left by a meteorite passing through the atmosphere at altitudes of from 56 mi. to 68 mi., make it possible to measure wind velocities at these heights, it was reported by L. A. Manning, O. G. Villard, Jr., and A. M. Peterson of Stanford university, Stanford, Calif. Such altitudes are well above those reached by sounding balloons, and while rockets reach them, they do not stay in one place long enough to get determinations of wind direction and velocity. The meteorite is a small particle of matter which enters the upper atmosphere from outer space and, after its passage through the rarefied air at considerable height, is completely burned and disappears in a flash of light commonly called a shooting star. It leaves behind, lasting for as much as several seconds, a line of ionized atoms, perhaps many miles in length and 1,000 times smaller in diameter. Such a trail acts as a reflector for radio waves sent out from a ground transmitting station.

Even though it is brief, the trail may have been moved appreciably by the winds aloft. Because of its motion, the frequency, in cycles per second, of the radio echo may differ somewhat from the original signal. By measuring this shift, caused by the Doppler effect, the Stanford scientists were able to deter-



mine the wind velocity and direction. One series of observations made in the summer of 1949 showed average velocities of 78 m.p.h., with motions from south-southwest and north the most common. The velocities found ranged from about 25 m.p.h. to 125 m.p.h. (See also STANDARDS, NATIONAL BUREAU OF.)

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**Elementary Education:** see EDUCATION.

**Elizabeth**, PRINCESS, DUCHESS OF EDINBURGH (1926– ), the heiress-presumptive to the British throne, was born in London on April 21. She accompanied the king, queen and Princess Margaret on a state visit to the Union of South Africa in the early months of 1947, and celebrated her 21st birthday in Capetown. She was married to Prince Philip, duke of Edinburgh, on Nov. 20, 1947, and on Nov. 14, 1948, gave birth to a son, Prince Charles Philip Arthur George.



PRINCESS ELIZABETH (left) holding her two-month-old daughter, Princess Anne Elizabeth Alice Louise, after christening ceremonies for the infant princess at Buckingham palace, Oct. 21, 1950. Shown with her are, left to right: Queen Elizabeth, Prince Charles, Queen Mother Mary and the duke of Edinburgh (rear)

On Aug. 15, 1950, at Clarence house, London, Princess Elizabeth was safely delivered of a daughter who was christened Anne Elizabeth Alice Louise at Buckingham palace on Oct. 21. Princess Elizabeth flew to Malta on Nov. 25 to join the duke of Edinburgh, who was stationed there as first lieutenant in the destroyer "Chequers," and in December they paid an informal visit to Greece as guests of the king and queen of the Hellenes.

**Elks, Benevolent and Protective Order of:** see SOCIETIES AND ASSOCIATIONS.

**Ellice Islands:** see PACIFIC ISLANDS, BRITISH.

**El Salvador:** see SALVADOR, EL.

**Embassies, United States:** see AMBASSADORS AND ENVOYS.

**Emigration:** see IMMIGRATION AND EMIGRATION.

**Employment.** **United States.**—The total labour force in Aug. 1950 numbered 66,204,000, the highest figure reached during the year. This was an increase of slightly more than 1,000,000 persons from the Aug. 1949 figure of 65,105,000. Likewise, the civilian labour force (persons not in the armed forces and available for employment) was larger by 1,230,000 persons, numbering 64,867,000. Coupled with this growth in the labour force was a decrease in unemployment; the Aug. 1949 total of 3,689,000 unemployed decreased to 2,500,000 in Aug. 1950.

Table I.—Number of Employees in Nonagricultural Establishments, by Industry Division, United States\*

Industry division	(In thousands)			
	Aug. 1950	July 1950	June 1950	Aug. 1949
Total estimated employment . . . . .	44,939	44,062	43,952	42,994
Mining . . . . .	962	922	947	956
Contract construction . . . . .	2,589	2,524	2,416	2,340
Manufacturing . . . . .	15,385	14,763	14,667	14,114
Transportation and public utilities . . . . .	4,099	4,058	4,023	3,992
Trade . . . . .	9,426	9,374	9,414	9,213
Finance . . . . .	1,837	1,832	1,826	1,780
Service . . . . .	4,843	4,848	4,827	4,836
Government . . . . .	5,798	5,741	5,832	5,763

\*The estimates include all full- and part-time employees in private nonagricultural establishments who worked during, or received pay for, the pay period ending nearest the 15th of the month. Proprietors, self-employed persons, domestic servants and personnel of the armed forces are excluded. These employment series have been adjusted to levels indicated by social-insurance programs data for 1947 and have been carried forward from 1947 bench-mark levels.

Source: United States Bureau of Labor Statistics, *Monthly Labor Review*.

Males in the labour force increased from 46,613,000 in Aug. 1949 to 47,132,000 in Aug. 1950—an increase of approximately 500,000 persons; 45,818,000 of these males were civilians of whom 44,154,000 were employed. The number of unemployed decreased from 2,519,000 in Aug. 1949 to 1,664,000 males in Aug. 1950.

Females in the labour force increased by 580,000 to 19,072,000 from Aug. 1949 to Aug. 1950. Nearly all, 19,049,000, were in the civilian labour force, only 23,000 being members of the armed forces; 836,000 were unemployed as compared with 1,170,000 12 mo. earlier.

In Aug. 1950 there were 44,939,000 employees in nonagricultural establishments, nearly 2,000,000 more than the 42,994,000 employees in Aug. 1949. Every division of nonagricultural employment showed an increase in this period (although some of the changes were rather negligible), reversing the general decline evidenced during the preceding year. The greatest changes occurred in manufacturing, contract construction and trade, where the increases numbered 1,271,000, 249,000 and 213,000,

Table II.—Number of Production Workers in Manufacturing, by Major Industry Group, United States

Industry group	Number of Production Workers Estimated in Thousands			
	Aug. 1950	July 1950	June 1950	Aug. 1949
All manufacturing . . . . .	15,385	14,763	14,667	14,114
Durable goods . . . . .	8,282	7,976	7,968	7,302
Nondurable goods . . . . .	7,103	6,787	6,699	6,812
Ordnance and accessories . . . . .	24.0	23.2	23.5	22.6
Food and kindred products . . . . .	1,699	1,616	1,520	1,718
Tobacco manufactures . . . . .	86	82	82	98
Textile-mill products . . . . .	1,303	1,248	1,263	1,179
Apparel and other finished textile products . . . . .	1,192	1,091	1,090	1,155
Lumber and wood products (except furniture) . . . . .	846	812	804	747
Furniture and fixtures . . . . .	362	348	349	305
Paper and allied products . . . . .	480	466	467	436
Printing, publishing and allied industries . . . . .	737	738	738	719
Chemicals and allied products . . . . .	683	669	671	636
Products of petroleum and coal . . . . .	250	240	239	247
Rubber products . . . . .	259	247	247	227
Leather and leather products . . . . .	414	390	382	397
Stone, clay and glass products . . . . .	531	510	511	480
Primary metal industries . . . . .	1,260	1,224	1,218	1,092
Fabricated metal products (except ordnance machinery and transportation equip.) . . . . .	967	925	921	843
Machinery (except electrical) . . . . .	1,375	1,340	1,342	1,229
Electrical machinery . . . . .	866	820	809	712
Transportation equipment . . . . .	1,337	1,301	1,308	1,224
Instruments and other related products . . . . .	249	233	242	230
Miscellaneous manufacturing industries . . . . .	465	430	440	417

Source: United States Bureau of Labor Statistics, *Monthly Labor Review*.





JOB APPLICANTS at an aircraft plant in San Diego, Calif., where hiring was stepped up in the summer of 1950 after the outbreak of war in Korea

respectively.

In the major manufacturing industries the general decrease in employment witnessed in the Aug. 1948 to Aug. 1949 period was also reversed. For the most part, employment increased in these industries with durable goods industries absorbing most of the additional employment. The primary metal, fabricated metal products, nonelectrical and electrical machinery, and transportation equipment industries were the leading gainers in employment. Among the nondurable goods industries textile-mill products had a sizable increase in employment during this period from Aug. 1949 to Aug. 1950.

The reversal of the 1949 decline in employment and pay rolls is further indicated by the indexes for these two items. For

Table III.—Indexes of Production Worker Employment and Weekly Pay Rolls in Manufacturing Industries\*

(1939 average = 100)

Period	Employment	Weekly Pay Roll
1941 (average)	132.8	164.9
1945	157.0	293.5
1946	147.8	271.1
1947	156.2	326.9
1948	155.2	351.4
1949	141.6	325.3
1950	144.7 (8 mo.)	343.9 (7 mo.)

\*Data have been adjusted to levels indicated by social-insurance programs for 1947 and have been carried forward from 1947 bench-mark levels.

Source: United States Bureau of Labor Statistics, *Monthly Labor Review*.

manufacturing industries the employment index averaged 144.7 for the first eight months of 1950 as compared with the 1949 value of 141.6. The weekly pay roll index for the same industries rose from 325.3 in 1949 to 343.9 for the first seven months of 1950.

The first figures for Sept. 1950 indicate a continuation in the same direction. Unemployment was at a 21-mo. low, numbering 2,300,000, while early September employment was at a record high for the season, reaching 61,300,000. The decline from the August employment figure was caused by the withdrawal of students from the labour force. This withdrawal, however, was not the main factor in reducing the number of persons listed as unemployed; this total declined primarily because of improved labour market conditions.

The major influence affecting employment and wage structures was the defense program, which was greatly expanded after the outbreak of war in Korea. By the close of the year there was already in evidence a noticeable tightening of the labour market.

With the automobile plants setting the pace, new wage increases continued through September and early October. Although such gains cut across all industry, the metal-working, textile, petroleum and maritime employees were the main beneficiaries. Many of the new union contracts had adopted the General Motors' agreement feature of tying changes in wages to the consumers' price index as determined by the bureau of labour statistics.

**Canada.**—The general employment index (1937=100) was 172.9 as of July 1, 1949, as compared with 171.6 for 1948. A preliminary figure as of July 1, 1950, was 175.0, an increase of approximately 2% from the year before. The Canadian index value for employment in manufacturing (1937=100) was 179 in 1949 and for the first seven months of 1950 averaged 176.3.

**Great Britain.**—The total working population of Great Britain (analogous to the labour force in the United States) increased by more than 100,000 persons to 23,325,000 by June 30, 1950, from its mid-1949 value of 23,194,000. This increase was confined to those in civil employment where the increase numbered nearly 200,000, the armed forces and women's services having decreased by 80,000 during the same period.

Table IV.—Total Working Population and General Manpower Position, Great Britain

(In thousands)

	July 31, 1950	June 30, 1950	June 30, 1949	June 30, 1948
<b>Total working population</b>				
Males	16,062	16,055	16,023	16,057
Females	7,272	7,270	7,171	7,089
Total	23,334	23,325	23,194	23,146
<b>His majesty's forces and women's services</b>				
Males	667	666	737	807
Females	23	24	33	39
Total	690	690	770	846
<b>Former members, his majesty's forces, as yet unemployed</b>	7	7	17	92
<b>Registered unemployed</b>	278*	274*	250*	282
<b>Persons in civil employment</b>				
Males	15,190	15,184	15,079	14,945
Females	7,169	7,170	7,078	6,981
Total in civil employment	22,359	22,354	22,157	21,926

\*End of month estimate.

Source: Ministry of Labour Gazette (London).

The major share of this increased employment was in the manufacturing industries. The employment figures for the basic industries remained relatively stable from mid-1949 to mid-1950, although there were slight decreases in the numbers employed in coal mining, fishing and agriculture. Among the other in-



Table V.—Analysis of Civil Employment by Industrial Groups,  
Great Britain  
(In thousands)

Industry or service	July 31, 1950	June 30, 1950	June 30, 1949	June 30, 1948
<b>Basic industries</b>				
Coal mining . . . . .	759	760	784	787
Gas, electricity, water . . . . .	325	324	306	296
Transport, communication . . . . .	1,811	1,811	1,805	1,814
Agriculture, fishing . . . . .	1,261	1,261	1,279	1,268
Other . . . . .	82	82	82	82
<b>Manufacturing</b>				
Chemicals, etc. . . . .	451	450	438	426
Metals, engineering, vehicles . . . . .	3,926	3,929	3,900	3,904
Textiles . . . . .	1,023	1,024	985	948
Clothing . . . . .	749	757	741	700
Other . . . . .	2,253	2,248	2,188	2,136
Building and contracting . . . . .	1,491	1,491	1,489	1,497
Distributive trades . . . . .	2,839	2,829	2,766	2,689
Professional, financial and miscellaneous services . . . . .	3,949	3,946	3,927	3,925
Public administration . . . . .	1,440	1,442	1,467	1,454
<b>Total in civil employment . . . . .</b>	<b>22,359</b>	<b>22,354</b>	<b>22,157</b>	<b>21,926</b>

Source: Ministry of Labour Gazette (London).

dustrial groups, the distributive trades had 63,000 more employees by June 30, 1950, than a year before, and smaller increases were shown by the other groups excepting public administration which declined by 25,000.

**South Africa, Union of.**—The general employment index number (1937=100) for the Union of South Africa (excluding agriculture, commerce and the service) for 1949 was 134 as compared with 137.2 as an average for the first six months of 1950. Employment in manufacturing (1937=100) was at 161 for 1949 and 159.3 for the first six months of 1950.

**Australia.**—The general employment index (July 1939=100), excluding agriculture but including forestry, was 141 for 1949 and averaged 145.8 through June 1950. Employment in manufacturing was 162 for 1949 (1937=100) and 168.7 for the first six months of 1950.

**Chile.**—The manufacturing index (1937=100) for Chile was 138 for 1949 and averaged 141.3 for January through April of 1950.

**Norway.**—On the basis of an index excluding agriculture and commerce and including wage earners only (1941=100), the Norwegian employment index was at 109 for 1949 and averaged 109.5 for the first half of 1950. An industrial index (1948=100) was at 106 for 1949 and averaged 108.8 for the first six months of 1950.

**Switzerland.**—The index based on employment in manufacturing (1937=100) was at 127 for 1949 and for June 1950 was 122 as compared with 128 for June 1949.

**France.**—The general employment index for France (excluding agriculture) was at 109 for 1949 (1937=100). Using the same base year, employment in manufacturing had a level of 113. (See also BUSINESS REVIEW; CENSUS DATA, U.S.)

(P. TA.)

**Endocrinology.** One of the most cultivated fields of research during the year 1950 concerned the action of cortisone, an adrenal cortical hormone, and the adrenocorticotrophic factor of the anterior pituitary gland (ACTH) upon the signs, symptoms and ultimate course of rheumatoid arthritis and a number of acute and chronic diseases. Parallel investigations were concerned with the physiological and biochemical bases for the action of these hormones.

Clinical investigations indicated that these hormones do not affect the causes of the particular disorders which they alleviate, but rather affect the tissue reaction to the noxious agents. Thus, in rheumatoid arthritis cortisone controls the pain, stiffness, swelling of joints; *i.e.*, the phenomena of inflammation. However, the control usually lasts only as long as adequate daily amounts of the substance are given. Cessation of hormone administration is followed by a rapid return of all the signs and

symptoms; and the same joints are affected as were originally the seats of disease. In other words, the fire of rheumatoid arthritis is banked by the hormone, but embers remain to relight the conflagration when conditions are again favourable. In disease states of transient character (*e.g.*, acute attacks of rheumatic fever or certain allergic states) cortisone and ACTH seemingly effect a "cure" by shortening the attack. The beneficial clinical effects in disease are probably not the result of the gross metabolic actions of these hormones, since alleviation of signs and symptoms can be obtained in most cases without causing significant aberrations of metabolism. Furthermore, experience in certain inflammatory states of the eye and the skin demonstrated that local application of cortisone has just as beneficial an effect on the lesions as can be obtained by treating the whole person with the hormone.

In experimental animals, it was shown that cortisone inhibits the inflammatory reaction in tissues with respect to the growth and increase in number of connective tissue cells (fibroblasts) as observed under the microscope, and also prevents or limits the local increase in blood flowing through the area, as indicated grossly by redness and increase in local temperature. There was further evidence that the latter effect may be due to a direct involvement of cortisone in the constrictor mechanism of small blood vessels. Hence, this hormone may operate against the early blood vessel dilatation (hyperaemia) of inflammation, and thus minimize the total tissue reaction.

From these considerations it began to appear that, while cortisone could be of value in those conditions in which disability and pain resulted from an excessive inflammatory reaction, it had potentialities for harm in those conditions in which a vigorous inflammatory tissue response was essential for the protection of the total organism. This was demonstrated in rabbits pretreated with cortisone, and given a subcutaneous injection of a virulent culture of streptococci. The pretreatment abolished the intense local reaction seen in untreated control animals. However, the inhibition of the local tissue reaction permitted the bacteria to invade the general blood stream. The untreated rabbits were uncomfortable, suffered local damage, but survived. The treated animals were locally undamaged, but died of a generalized infection. Parallel experiences with spontaneous infections in man were reported. Thus, a potential hazard of ACTH or cortisone therapy is the possibility that while the patient is being successfully treated for one condition, an unrelated emergency (such as perforation of a duodenal ulcer or an acute appendicitis) may occur in such a modified form as to pass unrecognized until serious consequences have ensued.

**Pituitary-Hypothalamic Relationships.**—It had been known for many years that stimuli from the brain could lead to the release of one or another of the hormones of the anterior pituitary gland. However, the hypothalamus—that area of brain immediately adjacent to the pituitary—has little if any direct nerve connection to the anterior hypophysis. Hence, it was not clear how signals were transmitted from brain to gland. Subsequent investigations indicated that neural signals from the brain lead to the elaboration of certain chemical substances in the hypothalamus. These substances resemble adrenaline or acetylcholine or both and reach the anterior pituitary gland by means of a network of small blood vessels called the pituitary portal system. The transmitting system is, therefore, partly neural and partly humoral.

Many diverse stimuli had been demonstrated to cause release of ACTH from the anterior hypophysis. Some may come from the external environment (sudden temperature changes, physical injury, drugs, etc.); others originate in the body itself (fever, hormonal activities, anxiety states, etc.). The question arose as to whether all these different stimuli operated through the hypo-



thalamic pathway. During the year 1950 it became apparent, as crystallized in the review of W. V. McDermott, *et al.*, that the hypothalamus is by no means the only pathway for the stimulation of ACTH release. For example, the pituitary gland was removed from its normal site and transplanted to the outer chamber of the eye, thus severing the intimate connection between the gland and the midbrain. Nevertheless, the injection of histamine was followed by evidence of ACTH release. Adrenaline applied topically to the eye containing the pituitary transplant also led to ACTH release. It was, therefore, necessary to conclude that in some instances the signal can be conveyed directly via the blood stream to the pituitary without the intervention of the nervous system. However, such stimuli as cold and heat probably convey their messages via the brain, as shown by the interruption of the reaction under deep anaesthesia.

It had been thought by some that, whatever the pathway by which an internal or external stress eventually results in the release of ACTH, the secretion of adrenaline is a necessary intermediate step. This is apparently not so, for it was shown that certain stresses are capable of releasing ACTH in animals from whom the adrenal medullae have been previously extirpated.

Finally, it must be pointed out that all these mechanisms impinge upon an important regulatory system which depends upon the level of the adrenal cortical hormones in the circulating blood. When the level diminishes, more ACTH is released, which in turn stimulates the adrenal cortex to produce more of its hormones. When the level of adrenal cortical hormones in the blood is increased, the anterior pituitary is inhibited from secreting more ACTH. Under ordinary circumstances, this homeostatic mechanism serves to preserve a steady state despite continual demands arising from environmental stimuli. The work of 1950 made it evident that the activity of the important pituitary-adrenal axis can be modified according to "need" through a variety of pathways.

**Diabetogenic Influence of Growth Hormone.**—It had been shown previously that the administration of crude extracts of the anterior pituitary gland to normal animals will induce a severe diabetic state. On the other hand, the extirpation of the pituitary from a depancreatized animal will alleviate the severity of the diabetes. When it was subsequently found that certain steroid hormones from the adrenal cortex were also diabetogenic and that the extirpation of the adrenal glands would reduce the severity of experimental diabetes, it seemed possible that the diabetogenic factor in the anterior pituitary was ACTH. However, the reports of R. C. DeBodo, J. I. Campbell, B. A. Houssay, J. A. Russell and F. G. Young during 1950 indicated that (in addition to ACTH) the growth hormone of the anterior pituitary was a potent diabetogenic factor.

Many seeming paradoxes would have to be resolved before the diabetogenic and anti-insulin activity of growth hormone (GH) was understood. As part of its action in promoting growth, GH speeds up the synthesis of tissue proteins. But this occurs only when insulin is also present; in the absence of insulin GH leads to increased breakdown of protein. When insulin is present, a single injection of GH causes a lowering of the blood sugar level. On repeated injection, GH causes an increase in the blood sugar level and results in a state of resistance to the action of administered insulin. The long-continued administration of GH, under the appropriate conditions, leads to a degeneration of the insulin-producing cells of the pancreas and, thus, to the establishment of a permanent form of experimental diabetes. (See also ARTHRITIS; DIABETES; ZOOLOGY.)

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**England:** see GREAT BRITAIN & NORTHERN IRELAND, UNITED KINGDOM OF.

**English Literature.** If in 1950 the stresses of an uneasy peace sometimes slowed the fluctuations of the imaginative impulse, they were not allowed to overcast completely the vigour and variety of English writings and opinions. Embedded in an output of thousands of volumes, the jewels had to be dug for; but how richly satisfying, for example, was the discovery of Freya Stark's *Traveller's Prelude*. Here, with an acute feeling for words and images, was a sensitively-woven narrative of her life—exhilarations and sadnesses, enthusiasms and frictions—up to the time when her travels in the east began. Here, too, was a marked individuality—a characteristic not lacking in the autobiographical field.

For instance, in his *Independent Member* Sir Alan Patrick Herbert ruminated in spirited and witty fashion on his former career as an M.P. for Oxford university, the ways of parliament and his love of London's river; while another outspoken individualist, Sir Alfred Munnings, the former president of the Royal academy, was content to confine his account of *An Artist's Life* to his first 40 years, recalling his youth in East Anglia and his early struggles as a painter. Wyndham Lewis's *Rude Assignment* was not so much concerned with personal experiences as with his work as writer and artist. Memorable portraits of painters, writers and musicians of the years between the wars formed the substance of *Noble Essences*, the fifth and final volume of Sir Osbert Sitwell's autobiographical series. The third volume of Herbert Hensley Henson's *Retrospect of an Unimportant Life* was concerned with the years of retirement, from 1939 to 1946, and included his revealing "Open Letter to a Young Padre"; while Sir Arthur Keith, who had his own declared views on man's origin and destiny, produced a detailed *Autobiography* engaging in its frankness.

Among the biographers Cecil Blanche Woodham Smith found an ideal subject in *Florence Nightingale, 1820-1910*. Authoritative, careful in its marshalling of facts and skilfully and sympa-

SCENE from T. S. Eliot's play *The Cocktail Party*, chosen in April 1950 by the N.Y. Drama Critics Circle as the best foreign play of the season, and also winner of a 1950 Antoinette Perry award





thetically written, this study kept in proper perspective the diverse phases in the life of a truly extraordinary woman. The first volume of an understanding life of *Monckton Milnes*, written by James Pope-Hennessy and based on Milnes's own papers, dealt with his life from 1809 to 1851. The *Journal of Mrs. Arbuthnot, 1820-1832*, edited by Francis Bamford and the seventh duke of Wellington, offered some illuminating comments on the politics and personalities of the period and made possible a better understanding of the first duke's character. The duke's victory at Waterloo provided one of the best chapters in Arthur Bryant's *The Age of Elegance, 1812-1832*, the third and final volume of his trilogy depicting the struggle against the French Revolution and Napoleon, and the state of Britain over a period of 30 years.

The still rich quarries of the 18th century were again worked over to some purpose and yielded James Boswell's *London Journal, 1762-1763*, a racy and uninhibited record of his stay in the city from the time he left Scotland on Nov. 15, 1762, until his departure for Utrecht in August of the following year. This was the first of a series of volumes to come from the lately discovered haul of Boswell papers kept in Yale university. Correspondence and documents which came to light only some 20 years before enabled Lord Herbert to issue *The Pembroke Papers, 1780-1794*, a further selection of extracts from the letters and diaries of the tenth Lord Pembroke and his circle; and Lord Ilchester in *Lord Hervey and His Friends, 1726-1738* included many of that chronicler's letters to the brothers Fox, afterwards Lords Ilchester and Holland. Stuart Piggott's biography of *William Stukeley* dwelt more on the serious achievements of that 18th-century antiquary than with his better-known amiable eccentricities.

British history through the centuries was surveyed by Keith Feiling's 1,600-page *History of England*; while in *A History of the English People* R. J. Mitchell and M. D. R. Leys concentrated mainly on social history from the Norman conquest onward. The structure of society in *The England of Elizabeth* was examined in the first volume of A. L. Rowse's new portrait of the Elizabethan age; and an account of the last days of mediaeval monasticism in western Europe, published posthumously, brought to a conclusion G. G. Coulton's learned four-volume study of *Five Centuries of Religion*.

Nichol Smith's *John Dryden* was concerned with the poet's early verse and criticisms, his plays, satires and religious poems, translations, odes and fables; and Dryden's prose and poetry were also estimated by C. V. Wedgwood in an excellent short survey of *Seventeenth Century English Literature*. Two literary centenaries—the death of William Wordsworth and the birth of Robert Louis Stevenson—were celebrated with a goodly muster of books about the central figure and reprints of his works. Among the Wordsworthiana Helen Darbishire's *The Poet Wordsworth* was the most satisfying appraisal; and Janet Adam Smith's scholarly edition of *Stevenson's Collected Poems* was in every way a tribute worthy of its occasion.

Aldous Huxley, Bertrand Russell (*q.v.*), George Orwell and Edward Sackville-West produced varied and thought-provoking groups of essays. The main paper in Huxley's *Themes and Variations* was devoted to the 19th-century French philosopher F. P. G. Maine de Biran, but there were others on the Baroque, El Greco and Piranesi and on overpopulation and soil erosion. Bertrand Russell, winner of a Nobel prize for literature, called his reflections on politics, philosophy and other matters *Unpopular Essays*. Political and literary themes provided the substance of Orwell's posthumous volume, *Shooting an Elephant*, though it also contained some light-weight pieces of journalism. *Inclinations*, a collection of literary studies, European as well as English, reflected E. Sackville-West's critical acumen and the wide range of his interests.

Among the war books that stood on their own merits as pieces

of writing were Winston Churchill's third volume of war memoirs, *The Grand Alliance*, which surveyed the year 1941; *Private Army*, Vladimir Peniakoff's account of the small independent unit he commanded so successfully in Africa and Europe, usually behind the enemy lines; and *The Fuel of the Fire* by Douglas Grant, who, in revealing what took place in one man's mind during his experience of war, showed himself the possessor of a sensitive intelligence and imagination and a style of writing out of the ordinary.

(A. Ck.)

**Fiction.**—A literary event of the year was the publication of Rose Macaulay's first novel for a decade; but *The World My Wilderness* disappointed her admirers. In contrast William Cooper's *Scenes from Provincial Life* was artlessly true to experience. In another vein of satire Henry Green's *Nothing* was a chronicle of decadence.

Many so-called novels were more accurately high-grade thrillers, or largely—in the film phrase—"documentaries," or something of both. Typical of these were Mary Borden's *For the Record*, Robert Westerby's *An Awful Lot of Coffee* and Victor Canning's *A Forest of Eyes*. Also in 1950 it again was the fashion for writers to go slumming. Dennis Parry's *Fair House of Joy*, a supremely well-told tale of a doomed infatuation, attained pathos if not tragedy. Royston Morley in *The Desert in the Bed* dealt earnestly, if humourlessly, with the problem of the writer in society. Denton Welch's posthumous *A Voice through a Cloud* was a sensitive and evocative autobiographical record of suffering.

Evelyn Waugh wrote in *Helena* a life of the saint who was the mother of Constantine the Great and the reputed discoverer of the relics of the Cross. Margaret Kennedy's best-seller novel *The Feast* was a modern morality based on the seven deadly sins. The most distinguished work by a Catholic novelist was Bruce Marshall's *Every Man a Penny*, a memorable study in humility that showed deep understanding of the mind and soul of France.

In 1950 fewer writers offered, as short stories, fragmentary sketches and samples of "work in progress." P. G. Wodehouse's *Nothing Serious* proved him to be still a great and unique humorist. In *Mr. Midshipman Hornblower* C. S. Forester—one of the finest British fictional craftsmen—recounted early episodes in the life of his Nelsonian hero. William Sansom's tales in *The Passionate North* were slight, well-written and born of a sense of place. Angus Wilson's *Such Darling Dodos*, a portrait gallery of failures, confirmed his reputation as one of the best British writers of short stories.

In the course of 1950 the amount of talent shown by established and younger writers was impressive. Aubrey Menen's *The Backward Bride*, for instance, shone the light of her innocence into existentialist and other dark places. But case-histories of schizophrenics continued to appear and the accent, on the whole, was on misery.

(L. Ps.)

**Poetry.**—The year 1950 is likely to be remembered as one in which two poets achieved remarkable success in the theatre. Both in London and in New York city T. S. Eliot's *The Cocktail Party* was received with a paean of praise; and a second paean no less loud was raised for the work of Christopher Fry. In reading *The Cocktail Party* or *Venus Observed* one is struck by the difference of style between the two poets: Eliot relies on subtlety of rhythm to carry his lines which are in simple unadorned colloquial language; Fry, upon a fantastic extravagance of artificial language which it yet remains possible to speak naturally. It says much for the vitality of poetry and the drama that two artists of such entirely opposite styles should be so successful.

The year also saw the re-issue of the full *Collected Poems* of W. B. Yeats, which had been unobtainable for nearly ten years. Yeats's poetic life spanned nearly 50 years, and for many the work of his old age is the finest of all. Another poet of genius, not greatly his junior, was Walter de la Mare, who was writing



poetry of a new power, concentration and tranquillity. His latest collection *The Inward Companion* contained at least half a dozen poems which would rank among the finest he had written. Among the younger poets George Barker in his *News of the World* showed a definite advance; promise became fulfilment.

Among other works Roy Campbell's *Collected Poems* showed what an outstanding contribution he had made to the literature of the second quarter of the 20th century, as did W. H. Auden's *Collected Poems*. Robert Gittings' *Wentworth Place* was a work of remarkable and sustained quality. Other memorable works were *Underworlds* by Francis Scarfe; *The Swarming of the Bees* by John Heath-Stubbs; and *The Mongrel and other Poems* by Ronald Duncan.

(See also AMERICAN LITERATURE; BOOK PUBLISHING; CHILDREN'S BOOKS; LITERARY PRIZES.)

FILMS OF 1950.—*Medieval World, The* (Coronet Instructional Films). (P. DN.)

**Entezam, Nasrollah** (1900– ). Persian diplomatist, was born in Tehran, Iran. He graduated in law at the universities of Tehran and Paris and began his career in the ministry of foreign affairs in 1918. Between 1926 and 1929 he was secretary to the Iranian legations in Paris, Warsaw and London. He represented his country at the World Economic conference in London in 1933. From 1934 to 1938 he was chargé d'affaires at Berne, Switz. On his return to Iran he became director of the political department of the ministry of foreign affairs. In 1942 he was appointed grand master of ceremonies at the shah's palace and the following year became minister of health. Subsequently he held office as minister of posts and telegraphs, minister of transport and, in 1944–45, minister of foreign affairs. Entezam represented Iran at the San Francisco conference in 1945 and from 1947 was permanent Iranian representative to the United Nations. On Sept. 19, 1950, he was elected president of the U.N. general assembly by 32 votes of the 59 valid ballots.

**Entomology:** see AGRICULTURAL RESEARCH ADMINISTRATION; HORTICULTURE.

**Entomology and Plant Quarantine, Bureau of:** see AGRICULTURAL RESEARCH ADMINISTRATION.

**Epidemics.** There were no pandemics in 1950. In the United States, reported cases of diphtheria, measles, Rocky mountain spotted fever, scarlet fever, smallpox, tularaemia and typhoid fever were fewer than in any of the years 1945–49. However, there were more cases of acute infectious encephalitis and whooping cough than in any of the preceding five years.

Influenza was prevalent in the United States, but less so than in the 1947 epidemic. A moderate rise in pneumonia cases followed. The Influenza Information centre at the National Institute of Health, London, in its second year of operation under the Influenza Study program of the World Health organization, reported that type A (especially A prime) was responsible for the outbreaks in 20 states, the District of Columbia, Hawaii and Puerto Rico. Hawaii, California, Wyoming, Illinois, Georgia and Pennsylvania were affected in Dec. 1949 and in the following January. The principal outbreaks reported later were in the Atlantic seaboard states. Influenza apparently spread northward from Washington, D.C., to Philadelphia and New York city. In many instances a variety of agents was common. The U.S. naval training station at Great Lakes noted sporadic type B infections early in the year. Later an epidemic of A prime affected 15% of the personnel.

Plague in man is rare in the United States. It occurs usually in the western part of the country following exposure to infected wild rodents. The first epizootic in cottontail rabbits was dis-

covered in investigating the source of a case of human plague in New Mexico. Cottontail rabbits must now be considered a potential source of human infection.

In 1950 poliomyelitis was more prevalent than usual in the United States. Great Britain, heavily attacked in 1949, was again heavily attacked in 1950. Epidemic proportions were attained in Australia, the Philippines, France and the Belgian Congo. Germany, Israel and Mexico were affected more than usual. Some countries with severe outbreaks in 1949 had no abnormal rise in 1950.

This was true of Iceland, Sweden, Mauritius Island, Japan and New Zealand.

Smallpox was endemic in Indonesia, China, Korea, Arabia, Burma, India and Pakistan. A small outbreak of black smallpox occurred in Jalisco, Mex. Chile had a large number of cases, fortunately of the mild variety, alastrim. Considerable interest was aroused by the epidemic in Glasgow, Scot. Twenty-one cases occurred following the arrival of an infected Hindu sailor. The rapid dissemination of the disease emphasized the necessity of constantly maintaining a high level of immunity by vaccination.

India and Pakistan continued to represent main foci of cholera. Plague was widespread in India. An epidemic of bubonic plague, which later became pneumonic, was reported from southwest Kwantung province, China. Epidemic typhus afflicted Afghanistan and Japan and murine typhus struck Korea. Yellow fever was prevalent in Bolivia.

Interest continued to be centred in the Cocksackie group of viruses, or C virus, described by G. Dalldorf in the faeces of two children at Cocksackie, N.Y. The illness in the children resembled paralytic poliomyelitis. This group of viruses, many of which are serologically distinct, differs from the poliomyelitis group in that it is not pathogenic for rhesus monkeys and causes severe destructive lesions in the striated muscles of suckling mice and hamsters. The mice and hamsters may or may not have encephalomalacia.

Diseases caused by C virus include those resembling paralytic and nonparalytic poliomyelitis, epidemic myalgia or pleurodynia, aseptic meningitis, "three day fever" in Louisiana and summer gripe. Inapparent infections also occur but probably not as commonly as with the Lansing strain of poliomyelitis virus. The virus was found also in Delaware, Connecticut, Rhode Island, Pennsylvania, Texas, Canada, England and Denmark and was apparently widespread. Some of its manifestations resemble those of poliomyelitis closely; the clinical picture, including pleocytosis in the cerebrospinal fluid, the presence of the virus in the human nasopharynx and its persistence in the faeces, the finding of the virus in flies and in urban sewage and the predilection of the disease for the summer months. In some poliomyelitis epidemics the peak of nonparalytic disease occurs earlier than the peak of paralytic disease. There is evidence that sometimes C virus may be at least partly responsible for this. It differs from poliomyelitis in that it causes a lower case fatality rate, a higher proportion of nonparalytic cases and has less tendency to attack adults. The incubation period was definitely described as a result of laboratory infections and one human transmission experiment.

In these instances it was generally two to five days, less than that of poliomyelitis.

The part C virus plays in clinical poliomyelitis is obscured by the fact that patients may excrete both viruses simultaneously, and then one must determine which of the viruses is causing disease. Its role in other diseases demanded extensive investigation.

(See also BACTERIOLOGY; FEDERAL SECURITY AGENCY; INFANTILE PARALYSIS; PLAGUE, BUBONIC AND PNEUMONIC; PUBLIC HEALTH SERVICES; VENEREAL DISEASES.)



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**FILMS OF 1950.**—*Eternal Fight* (United Nations, Films and Visual Information Division). (H. E. H.)

**Episcopal Church:** see PROTESTANT EPISCOPAL CHURCH.

**Eriksen, Erik** (1902– ), Danish prime minister, was born at Brangstrup, island of Fyn, Den. on Nov. 20. He was manager and proprietor of his own ancestral farm. Educated at an agricultural college, from 1927 he took an active part in the Liberal (Agrarian or *Venstre*) party's youth organization and was national chairman from 1929 to 1932. He was elected a member of the *folketing* (lower chamber) in 1935 and was afterward repeatedly re-elected. In 1941 he was elected deputy speaker. In May 1945 he joined the Buhl coalition cabinet as minister of agriculture and fisheries and retained this portfolio in the Kristensen Liberal cabinet (Nov. 1945–Nov. 1947). When the Hedtoft Socialist cabinet was in power (Nov. 1947–Oct. 1950) Eriksen led the Liberal opposition in the *folketing*. Shortly after the elections of Sept. 5, 1950, he formed a Liberal-Conservative coalition cabinet which was approved by the king on Oct. 28.

**Eritrea.** A former Italian colony of east Africa, Eritrea is situated on the Red sea between Ethiopia (south) and the Anglo-Egyptian Sudan (west). From 1941 it was under temporary British administration pending a decision on its future. Area (British official est.): 48,350 sq.mi. Pop. (1949 est.): 1,086,300 including 21,432 Italians. The inhabitants in the north-western part of Eritrea are akin to the Beni Amir of the Sudan and in the central plateau to the Amhara of Ethiopia. Language: mainly Tigrīña and Tigré. Religion: roughly half Christian (Coptic rite) and half Moslem. Capital, Asmara (pop., 1949 est., 117,000 including 17,000 Italians). British chief administrator, Greville Drew.

**History.**—In Oct. 1949 the general assembly of the United Nations passed the problem of Eritrea to a commission comprising the representatives of five nations with instructions to examine the question on the spot and recommend a solution. Its visit to Eritrea stirred up political passions and was marred by acts of brigandage and political terrorism, and racial riots in Asmara, in which many were killed and wounded. The commission failed to agree upon either a solution or the facts, and its report, presented in June 1950, revealed the same distinct cleavage of opinion which had previously bedevilled the problem. Three of the five members advocated some form of union with Ethiopia: two were in favour of a federation and one recommended incorporation. The other two recommended independence after a period of ten years' trusteeship. Discussion in the "Little Assembly" produced no answer to the question. When the general assembly met at Lake Success in October, there was by then a marked appreciation of the danger of delay and of the need for an urgent compromise solution. A form of federation between Ethiopia and Eritrea, under the sovereignty of the Ethiopian crown, with a wide measure of autonomy for the Eritrean people and safeguards for the Italian community, was proposed. The federation was to become effective, with the help of a U.N. commissioner, by Sept. 15, 1952. It was accepted by both Italy and Ethiopia and received the support of many Latin-American republics which had championed Italy's interests. It was adopted by an overwhelming majority of the general assembly in December. The solution did not fully satisfy the desires of any political

faction, but it went a long way to meet them and earned a favourable reception in the country. The solution had the result of bringing about a reconciliation between Ethiopia and Italy and ending their long enmity. (F. E. St.)

**Economy.**—Budget (1948–49, actual): revenue £2,188,939; expenditure £2,257,600. Foreign trade (1949): imports £3,114,300; exports £2,261,900. Roads (1949): 780 mi. Railways (1949): 228 mi. Ships entered at Massawa (1949): 792,761 net registered tons.

**Estonia.** From Feb. 24, 1918, to Aug. 6, 1940, when it was annexed by the U.S.S.R., Estonia was an independent republic. The U.S., British and other governments, however, did not recognize the annexation. Area: 18,357 sq.mi. Pop.: (1939 est.) 1,134,000, (1950 est.) 1,200,000. Nationalities (1939 est.): Estonian 88.2%, Russian 8.5%, German 1.5%, others 1.8%. Religion (1939 est.): Lutheran 78.2%, Greek Orthodox 19%, others 2.8%. Chief towns (pop., 1939 est.): Tallinn (cap., 146,400), Tartu (60,100). Chairman of the presidium of the supreme soviet of the Estonian S.S.R. in 1950, August M. Jakobson; chairman of the council of ministers, Arnold T. Veimer.

**History.**—The tenth anniversary of what was described as the proclamation of soviet power in Estonia was celebrated with typical propagandist fervour. The most remarkable and inherently tragic change which occurred in Estonia during the decade was the decrease in the number of Estonians living in the country from 998,000 to 684,000, according to independent estimates. If the official estimate of total population were true, it would be necessary to assume that the Russification of Estonia by the purely physical methods of mass deportation of Estonians and their replacement by Russians was already well advanced. *Sovetskaya Estonia*, a Tallinn Russian-language daily newspaper, had already the largest circulation in the republic. Arnold Raud, minister of education, advised all teachers and professors to learn Russian so that it might become to an increasing extent the language of instruction. Applying the Stalin view of philology to local conditions, *Rahva Hääl*, organ of the Estonian Communist party, in October attacked teachers and writers guilty of treating the Russian language "contemptuously" by using derivatives from the Finnish language. The infiltration of Russian words into the Estonian language was an obvious conclusion.

The amalgamation of smaller collective farms into bigger ones, started in the Soviet Union at the beginning of 1950, was also enforced in the Baltic states, and a Russian, F. Komarov, was in charge of the operation in Estonia. In an article in *Izvestia* of July 21, Veimer claimed that more than three-fourths of the peasant homesteads were organized in collective farms. Agricultural production, it was announced in July by Ivan G. Käbin, secretary of the Estonian Communist party, exceeded the prewar level, but industrial production was not satisfactory.

On Oct. 4 was promulgated a decree abolishing the former districts and communes and dividing the country into 39 *rayons*—administrative units of the soviet type. At the elections of March 12 to the supreme soviet of the U.S.S.R. 798,330 (99.82%) out of a possible 799,776 electors cast their votes: Estonia elected 4 members to the council of the union and 25 to the council of nationalities. (See also LATVIA; LITHUANIA.)

**Education.**—(1949) Elementary and secondary schools: pupils 156,000; University of Tartu: students 2,700, teaching staff 70.

**Finance.**—Budget (1950 est.): revenue 1,039,248,000 roubles, expenditure 1,019,648,000 roubles.

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**Etching.** Interest in the art of etching continued active in 1950 in all countries where it was practised to any appreciable extent. Among the factors which contributed to this were the conditions of contemporary life favouring the small picture in homes which offered less and less space for display or



storage, and the low cost of an etching compared with that of a painting or a piece of sculpture, an economy made possible by the fact that, the etched plate being susceptible to multiplication in printed form, the artist can afford to sell an impression for far less than he could were it unique, and at the same time be as well compensated as any other artist for his investment of time, labour and creative ability.

If the number of artists working in the medium of etching in 1950 was proportionately less than was the case in such other fine print media as wood engraving and lithography, it was, as heretofore, because etching is, technically speaking, the most difficult and exacting of all forms of pictorial expression. It is therefore practised less by artists working in other fields and is less subject to the influence of new forms of approach.

Although there is no reason to doubt that a few surviving etchers of the German school continued to work in 1950, the conditions that had existed in that country since the conclusion of World War II precluded the possibility of their art becoming known to the rest of the world, and much the same may be said, though for differing reasons, of the Netherlands, Belgium and the Scandinavian countries, despite the fact that some significant work appeared in all of them.

Hungary boasted two outstanding figures in the field of etching, Nandor Varga and Julius Komjáti, the latter closely associated with England by ties of exhibitions and residence. Both of these published work during the year.

In Italy interest and creative activity were concentrated more upon the relief and planographic media, though the young Italian artist Antonio Music executed a few plates that earned him recognition.

In France, always a stronghold of art and a country which has produced many of the world's greatest etchers, the tendency of graphic artists in recent years to favour other media, notably line engraving and lithography, especially in the realm of book illustration, was maintained in 1950. However, such established etchers as Michel Ciry, Gérard Cochet, Pierre Dubreuil, Edouard Georg, Robert Lotiron and Jacques Villon not only published new work but were active exhibitors both solo and in groups, as well as in the large exhibitions of the Société des Peintres-Graveurs Français and the *Salons*.

There was no marked change in the character of etching in England, bulwark of traditionalism, in 1950. Its most representative and important print society, the Royal Society of Painter-Etchers and Engravers, held its annual display of the work of its members, including such long-established and outstanding etchers as S. Van Abbe, W. D. Brokman-Davis, John Copley, Paul Drury, Martin Hardie, W. Westley Manning, Malcolm Osborne, D. I. Smart, Robert Spence and Leonard R. Squirrell, working in pure etching, dry point or a combination of both. Others active in the field were Winifred Austen, Charles Bartlett, Eileen Buckton, Katharine Cameron Kay, W. Fairclough, H. Andrew Freeth, Anthony Gross, Norman Jones, Percy Lancaster, John Nicolson, Marion Rhodes, Sara Sproule, C. W. Taylor, Eric Taylor, Harold Thornton, Murray M. Tod and Leslie M. Ward.

In the United States, the widely varying backgrounds of the country's population, the great distances between its centres and the receptivity of its people to change are all reflected in the work of its artists. Whereas the older nations of the world have long established their traditions of art, a truly American tradition is still in the formative stage. Yet there as elsewhere, the art of etching has changed less than has any other form of art expression. Among the leading etchers whose work appeared in the two great national print exhibitions sponsored in 1950 by the Society of American Etchers, Gravers, Lithographers, and Woodcutters and by the Library of Congress, as well as in the many smaller ones all over the country, were Niels Y. Andersen,

Will Barnet, Ture Bengtz, Theresa F. Bernstein, Isabel Bishop, Cornelis Botke, Charles M. Capps, Federico Castellon, John E. Costigan, Stephen Csoka, Frederick K. Detwiller, John Heagan Eames, Ralph Fabri, Ernest Freed, Isaac Friedlander, Sue Fuller, Arthur W. Hall, Stanley W. Hayter, Eugene Higgins, Morris Henry Hobbs, Irwin D. Hoffman, Alfred Hutty, Philip Kappel, Gene Kloss, Armin Landeck, Mauricio Lasansky, Jeannette M. Lewis, Martin Lewis, Helen A. Loggie, Luigi Lucioni, William Meyerowitz, Helen Miller, Kiehl and Xtian Newswanger, Roi Partridge, Andre Racz, Charles B. Rogers, Ernest D. Roth, Carl M. Schultheiss, Donald Vogel, Reynold H. Weidenaar, Charles A. Wilimovsky and R. W. Woiceske.

A very active school of etching exists in Canada, where Sybil Andrews, Isabel Cleland, Patricia M. Harvey, I. Mackinnon-Pearson, Ernst Newmann, Lloyd Scott, E. B. Sisley and W. J. Wood produced work of a high degree of excellence in 1950.

Only scattered examples of the etcher's art appeared in Spain, Mexico and the South American republics, interest on the part of the graphic artists of all these countries seeming to have been centred on the planographic and relief media. (J. T. Ar.)

**Ethiopia.** An independent empire of northeastern Africa, Ethiopia is bounded north by Italian Eritrea (from 1941 under British military administration), west by the Anglo-Egyptian Sudan, south by Kenya, southeast by Italian Somaliland and east by British and French Somaliland. Area: *c.* 350,000 sq.mi. Pop. (Dec. 1950 est.): 10,000,000, but the ruling race, the Amhara, numbers about 2,000,000. Language: Amharic, the official language; also Tigriña, Tigré, Galla, Somali, etc. Religion: Christian (Alexandrine) 57%; Moslem 17%; pagan, etc., 26%. Chief towns: Addis Ababa (cap., *c.* 250,000); Harar (*c.* 45,000); Dessie (*c.* 35,000); Dire-dawa (*c.* 30,000).

Ruler: Emperor Haile Selassie I; prime minister: Bitwoded Makonnen Endalkatchou.

**History.**—During the year 1950 the government's attention continued to be focused on Lake Success where the United Nations general assembly was expected to reach a final decision concerning Eritrea (*q.v.*). Ethiopia objected to the decision taken in Nov. 1949 by which the Italians returned to Italian Somaliland (*q.v.*) as the administering authority. But the decision taken in Dec. 1950 to form a federation between Ethiopia and Eritrea was received with satisfaction.

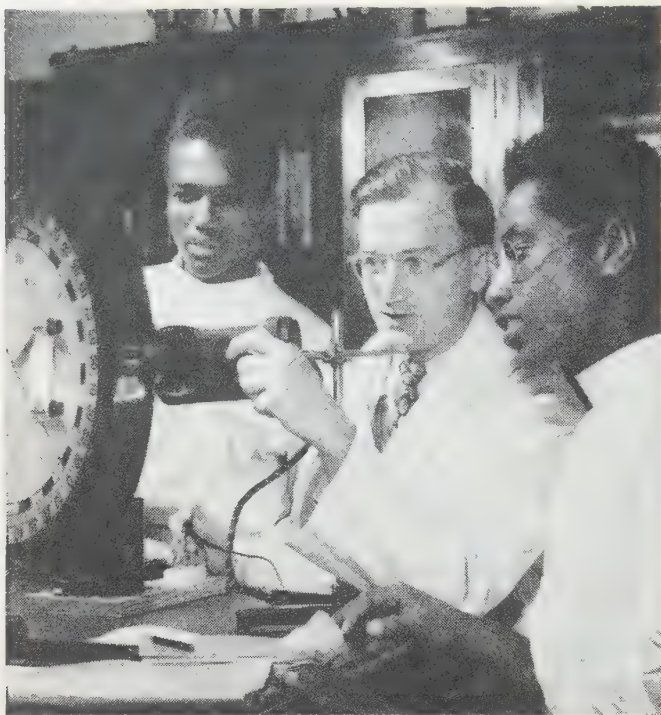
For the first time since 1941 Italo-Ethiopian reconciliation seemed feasible.

Friendly and co-operative relations continued with neighbouring governments. The demarcation of the frontier between Ethiopia and French Somaliland was completed early in 1950, and that of the Ethiopia-Kenya boundary began at the end of the year. Ethiopia agreed to receive 171 displaced persons and their families; the first party of these arrived in August.

A factor of major economic importance was the granting of a loan of \$7,000,000 to Ethiopia by the International Bank for Reconstruction and Development in Sept. 1950; \$5,000,000 of this was earmarked for road construction and maintenance, and the rest for the creation of a new development bank. The Ethiopian government would have certain conditions to fulfil in connection with the service of the loan and the raising of additional capital for development projects. To meet these obligations they had, it was understood, mortgaged the revenue from gasoline taxes and other sources and furthermore reduced their note issue cover in gold, silver and foreign "hard" currencies from 75% to 25%, increasing thereby their currency circulation.

During 1950 the government completed the construction of a new reinforced concrete bridge over the Blue Nile, on the main route from the capital to Gojjam province, but their resources were unequal to the greatly needed general overhaul of the roads





ETHIOPIAN STUDENTS at the Tafari Makonnen secondary school in Addis Ababa receiving instruction in 1950 from a Canadian physics teacher, one of nearly 300 foreign teachers assembled from abroad by the Ethiopian government

built by the Italians.

The Ethiopian government was eager to encourage the investment of foreign capital in industry. On Feb. 28, 1950, a statement appeared in the *Official Gazette* to the effect that, in the case of enterprises financed from abroad which were deemed by the government to be beneficial to the country, freedom would be granted from the payment of profit tax for five years from the date production began; customs duties would not be charged on imported machinery; and facilities would be accorded for remittances abroad of funds to cover dividends, interest and the amortization of capital. (C. SA.)

**Education.**—Schools (Aug. 1949): elementary 407, pupils 52,965 (including 5,964 girls); secondary, pupils 1,079 (including 804 in Addis Ababa). Teachers: 1,615 Ethiopian and 286 foreign. There were 228 students abroad, mostly supported by the government. During the year ended Aug. 31, 1949, Eth. \$10,530,806 was spent on education.

**Finance and Banking.**—Budget (1947): balanced at Eth. \$58,000,000. Monetary unit: Ethiopian dollar. Exchange rate: Eth. \$2.53 = U.S. \$1.00.

**Foreign Trade.**—(Year ending Sept. 10, 1950): imports Eth. \$73,500,000, exports Eth. \$75,900,000; (year ending Sept. 10, 1949): imports Eth. \$90,900,000, exports Eth. \$77,200,000.

**European Coal and Steel Pool:** see EUROPEAN UNION.

**European Economic Cooperation, Organization for:** see EUROPEAN RECOVERY PROGRAM.

**European Payments Union:** see EUROPEAN RECOVERY PROGRAM; EXCHANGE CONTROLS AND EXCHANGE RATES; INTERNATIONAL TRADE.

**European Recovery Program.** As the five-year Marshall program of European recovery approached its mid-point, the council of the Organization for European Economic Cooperation (O.E.E.C.), in its second interim report issued on Feb. 2, 1950, noted that in 1949 the total output of the member countries was 25% above the 1947 level and exceeded the pre-World War II level in all countries except west Germany and Greece. During 1950 the O.E.E.C. area raised its industrial production by a further 13%. The O.E.E.C. took major steps toward freeing intra-O.E.E.C. trade of quantitative and monetary restrictions, while U.S. support of the program came into increasing competition with de-

mands of the Korean war and rearmament.

On Feb. 20 the original request for \$3,100,000,000 for the 1950-51 program of the Economic Cooperation administration (ECA) was pared by Administrator Paul G. Hoffman to \$2,950,000,000; he also requested authorization to use a part of the new funds to support creation of a multilateral European Payments union (E.P.U.). In joint hearings, Feb. 21-27, before the U.S. house committee on foreign affairs and the senate committee on foreign relations, Hoffman stressed the importance of raising European productivity and promoting European economic integration. Having rejected proposals to cut the ECA program drastically, the senate committee recommended on March 21 provision of \$3,100,000,000, including \$150,000,000 in unexpended funds, approved earmarking up to \$600,000,000 for E.P.U. and condemned unreasonable restrictions on imports of U.S. goods. On March 22 the house committee reported out a bill which similarly earmarked \$600,000,000 for E.P.U. and also set aside \$1,000,000,000 for the export of food and raw material surpluses accumulated under the domestic farm price support program.

On March 29 the house voted to withhold ECA assistance from the United Kingdom as long as the division of Ireland continued but withdrew this provision March 31. The house bill authorized an ECA program of \$2,850,000,000, and this amount was incorporated in the senate bill, passed on May 5, after rejection of proposals for a sharp reduction of ERP and for inclusion of a \$50,000,000 loan for Spain.

The joint bill which emerged from the conference committee authorized ECA to use up to \$600,000,000 in counterpart funds as well as \$600,000,000 in new funds to support the proposed E.P.U. It also earmarked \$200,000,000 for insuring private U.S. investments abroad against loss through expropriation or confiscation, instead of the \$150,000,000 requested by ECA and the \$300,000,000 approved by the house. The conference bill, providing for an ECA program of \$2,850,000,000, was passed by the house on May 23 and by the senate on May 25, and was signed by Pres. Harry S. Truman on June 5.

In late July the senate appropriations committee recommended reducing the ECA fund from \$2,850,000,000 to \$2,392,000,000. On July 31 the senate raised this to \$2,450,000,000 and authorized expenditure in 1950-51 of unused balances amounting to \$277,000,000. Passed by the senate on Aug. 4, the omnibus appropriations bill was sent to conference with the house, which had not yet passed a bill of its own. The ECA total of \$2,527,000,000, agreed upon in conference committee on Aug. 24, was approved by the house on Aug. 25 and by the senate on Aug. 28, and the omnibus bill was signed by President Truman on Sept. 6. Debates on the third year of ERP had been marked by bitter disputes over Communist advances in China and over the extent and cost of rearmament. At the end of September ECA Administrator Hoffman resigned and was succeeded by William C. Foster (*q.v.*).

In early October ECA announced a top priority for the economic rehabilitation of western Berlin, seriously handicapped by soviet-imposed transportation obstacles and by earlier removals of industrial equipment. On Dec. 13 it was announced that allocations of ECA aid to the United Kingdom would be suspended from Jan. 1, 1951. The U.K. foreign exchange position had improved greatly as a result of the significant increase in exports following the devaluation of sterling and the rapid growth in dollar sales of raw materials. During the second half of 1950 ECA allotments to the U.K. had totalled only \$175,000,000, of which \$150,000,000 were offset by sterling grants made by the U.K. to other members of O.E.E.C. ECA deliveries previously authorized for purchase of industrial equipment would continue into 1952, in the amount of about \$200,000,000. The



U.K. thus became the first recipient country able to dispense with ECA assistance.

The O.E.E.C. was strengthened as the principal instrument of European collaboration in the recovery program. Under U.S. urging the O.E.E.C. council decided to appoint a continuing rather than a rotating chairman and on April 4 elected Netherlands Foreign Minister Dirk U. Stikker to this post for one year. At that time the council also elected seven countries—Belgium, Denmark, France, west Germany, Iceland, Turkey and the U.K.—to the executive committee, directed the full council with representation of ministerial rank to convene every two months, and abolished the consultative committee of 11 foreign ministers. It also appointed a subcommittee to confer with representatives of the Council of Europe concerning co-operation between the two bodies.

On May 18 the Canadian, French, U.K. and U.S. foreign ministers recommended closer association of the U.S. and Canadian governments with O.E.E.C. but assigned to the North Atlantic Treaty council (N.A.T.C.) primary responsibility for economic and financial problems arising from rearmament. Beginning July 6 Canadian and U.S. representatives sat with the O.E.E.C. council, without vote.

The relation of O.E.E.C. to the North Atlantic rearmament program remained unresolved. At the council session of June 2 Secy.-Gen. Robert Marjolin urged the O.E.E.C. countries to effect a selective replanning of their investment programs on a co-operative basis in order to meet the cost of rearmament while continuing to build up their basic economic potential. On Oct. 6-7 the council also considered the growing stringency in raw materials and the renewed pressure of inflation, and on Dec. 2 it stressed its own responsibility to "initiate measures of international co-operation" for the control of the supply and prices of raw materials. In these problems the roles of O.E.E.C. and N.A.T.C. remained unclear, especially after the French, U.K. and U.S. governments announced the appointment of a three-power committee to recommend measures for regulating

the supply of raw materials. (See also NORTH ATLANTIC COMMUNITY.)

The O.E.E.C. continued its efforts to liberalize trade among its members. During 1949 intra-O.E.E.C. quantitative restrictions had been removed from 50% of the trade of the area, and on Jan. 31 the council agreed to eliminate by July 1 similar quotas which still regulated a further 10% of O.E.E.C. trade. It was unable, however, to solve the problems presented by state trading and dual pricing. A substantial part of U.K. imports were regulated by bulk purchasing on government account and thus escaped from control by O.E.E.C. agreements for liberalizing private trade; the U.K. felt unable to abandon these arrangements, which it considered an essential part of its recovery plan. In the U.K. and west Germany coal was sold cheaper at home than for export, despite protests of coal-importing countries over the competitive disadvantage thus imposed on their industries. The council was successful, however, in bringing about a partial relaxation of controls over intra-O.E.E.C. invisible trade; this relaxation, announced on May 11, facilitated payment for shipping, insurance, tourist trade and banking services, which together were equivalent in value to about one-third of the commodity trade within the O.E.E.C. area.

In June Chairman Stikker presented far-reaching proposals for the complete elimination of quantitative restrictions on intra-O.E.E.C. trade. He urged that quotas affecting 75% of the 1949 trade be removed by the end of 1950; that quotas on the remaining 25% be eliminated gradually on an industry-by-industry basis; and that the O.E.E.C. countries establish a European integration fund which would pay part of the cost of modernizing less efficient but viable plants and would pay compensation for plants closed by the abolition of protection through quotas.

No action was taken on this program for complete integration, but on Oct. 26-27 the O.E.E.C. council approved the elimination of quotas from a further 15% of intra-O.E.E.C. trade by Feb. 1, 1951, thus raising the proportion of liberalized

**GIANT SHIPMENT** of artificial fertilizer purchased with ECA funds being unloaded at Pusan on the southeastern coast of Korea in 1950





trade to 75%. In view of west Germany's stringent foreign exchange position the council allowed the latter to wait until Feb. 28 before notifying O.E.E.C. whether it could remove quotas from 75% of its trade; since the Netherlands, Denmark and Turkey were delivering more than 25% of their exports to west Germany they received a similar extension to April 30, 1951. The question of the "hard core" of quotas covering the remaining 25% of intra-O.E.E.C. trade remained in abeyance, being overshadowed by problems of the cost of rearmament, stringency of raw materials and renewed inflationary tendencies.

The development of a relatively free O.E.E.C. trading area received an important impetus from the creation of a European Payments union, which replaced the previous Intra-European Payments scheme. Recommended by ECA in Dec. 1949 and approved in principle by O.E.E.C. on Jan. 10, the E.P.U. was designed to do away with the system of periodic bilateral balancing of payments in intra-O.E.E.C. trade and to establish the more elastic device of a periodic multilateral settlement of net debits and credits among the member countries. Between January and June many obstacles to the creation of a freer system were encountered and gradually surmounted. The U.K. was especially anxious to safeguard the effectiveness of the sterling bloc, which provided the payments mechanism of a large part of world trade, and to protect its economic system against a renewal of the uncontrolled drain of gold and dollar reserves such as that which had preceded and precipitated the devaluation of the pound sterling. On the other hand, some continental countries held large amounts of sterling which they could convert into other currencies only after bilateral agreement with the U.K. At one stage the U.K. proposed to remain outside of E.P.U.; at another, it offered to join E.P.U. and to provide its quota of credits to the E.P.U. pool, but to forego the right to borrow from the pool in return for retaining the right to extend its system of bilateral agreements on transfers of sterling holdings. The final agreement included a number of important safeguards desired by the U.K. As a further safeguard, the ECA agreed to indemnify the U.K. in ECA credits for the loss of dollars which might arise from the use of their sterling balances by net debtors to settle their deficits with E.P.U. Finally, by mid-June a compromise was reached between O.E.E.C. and the sterling bloc by which sterling could be used by sterling creditors to offset their debits to E.P.U., but the amount of sterling to be held for other clearing purposes could be determined between them and the U.K.

Among other issues which had to be settled was that of the relations of lending countries and borrowing countries to the credit pool of E.P.U. Taking as a base the total value of its 1949 trade with O.E.E.C. countries, each member would be entitled to borrow up to 10% of this sum from E.P.U. without transferring gold or dollars; it could borrow another 5% under obligation to repay in gold or dollars within six months. In turn a creditor country could lend to E.P.U. up to 5% of its 1949 turnover without transferring gold or dollars and could lend a further 10% by providing one-half of the additional credit in gold or dollars. When one country had loaned 15% of its credit quota to other member countries, the latter would be free to apply discriminatory measures against its goods in order to redress the balance of payments, and when a creditor country had loaned more than 20% of its credit quota it would be free to leave the E.P.U. and to make trade and payment agreements outside of it. Most of the member countries would advance their credits to E.P.U. from the counterpart funds, which were created through the sale of ECA goods for local currency and which were controlled jointly by the national government concerned and the ECA.

This arrangement met with strong objection from Belgium.

Unlike most of the O.E.E.C. countries, whose potential contributions to the E.P.U. credit pool would be fully covered by counterpart funds, Belgium might have to finance such advances out of its own budget, thus stimulating inflation and worsening its ability to compete in foreign trade. These objections were met on June 17 by the O.E.E.C. council, which also set the duration of E.P.U. at two years and made provision for the problem of chronic debtors and creditors and for the settlement of existing foreign-exchange debts.

On July 7 the council approved the final arrangements for E.P.U., which came into force retroactively from July 1, and the agreement was signed in Paris on Sept. 19 by representatives of 18 European countries and of ECA. Switzerland's membership was completed on Oct. 25, through legislative action. On Sept. 19 E.P.U. also elected a management board of seven members, including an ECA representative without vote, and appointed the Bank for International Settlements at Basle, Switz., as its agent. E.P.U. received a working fund of \$350,000,000 from ECA, which also set up a special fund in counterpart currencies to aid members of O.E.E.C. which encountered special payments difficulties. The E.P.U. credit pool, based on the value of intra-O.E.E.C. trade in 1949, amounted to \$3,950,000,000. From this pool each country received a credit quota, based on its 1949 trade turnover with other O.E.E.C. countries, and on which it could draw to the percentages and under the arrangements described above. In percentages of the global credit fund the quotas were assigned as follows: Austria, 1.8; Belgium-Luxembourg, 9.1; Denmark, 4.9; France, 13.2; west Germany, 8.1; Greece, 1.1; Iceland, 0.4; Italy, 5.2; Netherlands, 8.3; Norway, 5; Portugal, 1.8; Sweden, 6.6; Switzerland, 6.3; Turkey, 1.3; sterling area (exclusive of Iceland which, for other purposes, is part of the sterling area), 26.9.

By November the E.P.U. faced its first crisis, brought on through west Germany using up, in three and one-half months, E.P.U. credits assigned for an entire year. After an investigation of the German payments difficulties the west German government agreed to adopt measures designed to increase taxes, exports and credit controls and to decrease imports, and on Nov. 28 the E.P.U. management board assigned a supplementary credit of \$120,000,000 to it, while ECA gave further assistance to its economy. If successful in the face of new problems of rearmament, shortages of raw material and revived inflation, E.P.U. was expected to eliminate many uncertainties and barriers created by the previous system of bilateral clearings and iron out many seasonal and short-term fluctuations in intra-O.E.E.C. trading.

During 1950 the future of the ECA-O.E.E.C. program was subjected to careful stock-taking. The O.E.E.C. report of Feb. 2 pointed out that even if O.E.E.C. exports to the U.S. and Canada could be increased by 50% between 1950 and 1952 and imports from the dollar area could be reduced, as estimated, by 23.5%, there would still be a \$1,000,000,000 gap in the 1952-53 foreign trade of the O.E.E.C. area. The report emphasized that redressing this imbalance in trade between the two areas was complicated by a number of longer-range trends, including the decline in U.S. imports of raw materials from European-controlled areas, the administrative complexities of U.S. tariffs, the protection of U.S. shipping and the displacement of European by U.S. exports in Latin-American markets. In response to this and other suggestions the U.S. government undertook a thorough review of the administration of import tariffs, and efforts were made to make importation procedures simple, uniform and expeditious.

On March 25 Sen. Arthur H. Vandenberg urged the importance of a new study of the international economic problems which



would follow the expiration of the Marshall program in 1952. On March 31 President Truman appointed a commission, headed by Gordon Gray, former secretary of the army, to study these problems and to make recommendations designed to "assure ourselves that our own policies are those which will serve best to reinforce our economic strength and that of the other free nations of the world."

Issued on Nov. 12, the Gray report noted that the attainment of an adequate level of rearmament would postpone the termination of U.S. economic assistance to Europe and recommended that the U.S. extend dollar aid to support military production within Europe, in addition to supplying a part of the military equipment directly from U.S. production. It urged that special attention be devoted to strengthening O.E.E.C. and E.P.U. as instruments for developing an integrated European economy, for promoting intra-European trade and increasing the flow of European exports. It concluded that the healthy development of the world economy required raising the annual export of U.S. capital to \$600,000,000 or \$800,000,000. It emphasized the need of expanding the ECA's program of technical assistance in order to raise the productivity of European industry and agriculture and thus to enable Europe to carry the burdens of rearmament without lowering standards of living. (See also EUROPEAN UNION; INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT.) (P. E. M.)

**European Union.** The organization of a political, economic and military unity of the European nations which share a common tradition and way of life had started hopefully in 1949 but in 1950 suffered a setback. Many plans were drawn up and committees formed without, however, leading to concrete achievements. The concept of European unity was not new in 1949. On May 17, 1930, Aristide Briand, then French foreign minister, suggested to the League of Nations a plan for a federal European union. Winston Churchill (*q.v.*), then prime minister of Britain, proposed in June 1940 a Franco-British union. During World War II the concept of European unity gained ground in the discussions of the underground movements which often propagated the slogan "Liberate and federate." After the war, it fell to private organizations to propagate the creation of institutions for European co-operation. The International Committee for the Coordination of European Unity Movements called a congress at The Hague, the Netherlands, in May 1948 which demanded the convening of a European consultative assembly.

From the beginning there were two opposite concepts about the way to proceed toward union. The one was voiced by the British and the Scandinavians who advocated the organization of Europe by means of a network of agreements and pacts among the governments which would later be followed by a comprehensive organizational structure. This piecemeal approach by experiment and experience was opposed by the "logical" continental school, led by the French, who insisted from the beginning on a constitution in which the rights and duties of the supranational and of the national bodies would be clearly defined. Finally a compromise was reached and on Jan. 28, 1949, the foreign ministers of the five nations united in the Brussels pact (Britain, France, Belgium, Netherlands, Luxembourg) invited Italy, Ireland, Denmark, Norway and Sweden to join them in drafting a statute for the Council of Europe which was signed in London on May 5, 1949. Its aim was "to achieve greater unity between its members for the purpose of safeguarding and realizing the ideas and principles which are their common heritage and facilitating their economic and social progress." The Council of Europe in its first meeting in Strasbourg, France, from Aug. 8 to Sept. 9, 1949, decided to invite Greece, Turkey and Iceland to participate.

This movement toward European unity received its impetus from the threat which the expansion of communism after World War II presented to all European nations alike. Their survival according to the traditions of western civilization which had originated and developed among the nations of the Council of Europe seemed to demand their unity in order to increase their political strength and their economic well-being. The United States, deeply concerned about the survival of western civilization on which its own culture was built, and about its security against Communist expansion, encouraged the economic and military union of Europe. The encouragement and even pressure by the United States became stronger in the year 1950. Within the Council of Europe, however, little progress was achieved on account of the disagreement between its two organs, the Committee of Ministers and the Consultative assembly. Only the Committee of Ministers could act to realize the aim of the organization, but it could do so only through the form of recommendations to the member governments (military matters were outside the competence of the council). On the other hand, the Consultative assembly could only discuss and express opinions on matters which were referred to it by the Committee of Ministers or which had been approved by the committee for inclusion in the agenda of the assembly.

The year 1950 witnessed a struggle between the assembly and its wish to acquire a responsibility of its own and the Committee of Ministers which wished to hold the assembly in check. The General Affairs committee of the assembly under the chairmanship of Georges Bidault, French prime minister, met in Strasbourg on March 21, 1950, and suggested the creation of an executive committee which would be composed in equal numbers of members from the Committee of Ministers and the assembly. This executive committee would have as its task the co-ordination of the two organs and the supervision of the realization of their decisions. Some days later, at the end of March, the Committee of Ministers met in Strasbourg and accepted in principle the creation of a joint committee to study means of ensuring the efficient co-operation of the two organs of the Council of Europe. The decisions of the Committee of Ministers fell far short of the expectations of the friends of European union. The committee instructed experts to study the possible extension to the member states of the multilateral convention on social security adopted by the signatories of the Brussels pact, and the political and juridical questions connected with the various proposals of the assembly for a European treaty on human rights.

More important was the decision of the Committee of Ministers to invite the governments of the German Federal Republic and of the Saar to become associate members of the Council of Europe. The German Federal Republic would be entitled to send 18 members to the Consultative assembly (as many as France, England and Italy) while the Saar would send 3 members (as many as Luxembourg). The Saar legislative assembly accepted the invitation on April 27, and on May 9 the Council of Ministers of the German Federal Republic in Bonn unanimously recommended to the *bundestag* the acceptance of the invitation. On June 15 the *bundestag* voted by a roll call with 220 for and 152 against acceptance, with 9 abstentions. Chancellor Konrad Adenauer greeted this decision, declaring, "Germany's road to Europe is now open"; the Social Democrats led by Kurt Schumacher opposed acceptance, as did the rightist Nationalists and the Communists. The Social Democrats, however, accepted membership in the German delegation to the second session of the Consultative assembly which met in Strasbourg on Aug. 7, 1950.

In this session the assembly adopted again a series of resolutions to strengthen its own authority and thereby European union. It requested each member state to appoint a minister of European affairs to handle matters related to the Council of



Europe and it demanded that assembly resolutions be submitted to the various national parliaments for consideration. Other resolutions called for tighter links between the Council of Europe and the Marshall plan's Organization for European Economic Cooperation (O.E.E.C.) and between the European organizations and the North American nations, the United States and Canada. The strong feeling for pooling the resources of Europe and creating a common military and economic authority was evident throughout the discussions. The Committee of Ministers was blamed for its failures to act and for its "clinging to overhanging branches of the tree of sovereignty while the stream of time rushed on beneath them." Paul Reynaud of France suggested the appointment of a war minister to unite European defense preparations. Winston Churchill in an address on Aug. 11 stressed on the one hand the British point of view that "the progress of building up a European parliament must be gradual, and roll forward on a tide of facts, events and impulse, rather than by elaborate constitution making. We are not making a machine, we are growing a living plant." On the other hand he showed himself much more favourable to European union than the British Labour party government. He stressed that "there is no revival of Europe, no safety of freedom for any of us except to stand together, united and unflinching." He proposed that "the Assembly, in order to express its devotion to the maintenance of peace and its resolve to sustain the action of the Security Council of the United Nations in defense of peaceful peoples against aggression, call for a unified European army subject to proper European democratic control and acting in full cooperation with the United States and Canada." An eventual European defense authority and a unified European army were, after many discussions and against the opposition of members of the British Labour party, endorsed by the assembly on Aug. 28 by 69 to 19 votes, with 2 abstentions.

The assembly dealt also with the proposal advanced by the French foreign minister Robert Schuman to pool the steel and coal resources and production of western Europe. It endorsed this plan by 73 votes with 32 abstentions, mostly members of the British Labour party and Scandinavians. An amendment by British Conservative members that a "renewed effort should be made by all the governments concerned to find a basis for an agreement which will enable all the principal coal- or steel-producing countries of Europe to participate fully in the scheme," was also accepted. While this point of a unified authority for European steel and coal production remained hotly debated, two other proposals met no opposition. It was unanimously approved to set up a European supreme court to enforce the Convention of Human Rights in all member states. The European Human rights charter consisted of 68 articles, of which the first 20 defined the fundamental freedoms. The proposed court would consist of one judge of each member state, elected by the Consultative assembly for a nine-year term from a list submitted by member governments. The assembly also voted its support for a European social security code which would raise benefits in each member state to an equally high level.

The debate whether to create an outright European federation or whether to adopt the British method of a functional approach was brought to a temporary conclusion at the meeting of the assembly in Strasbourg in Nov. 1950. The decision followed on the whole the British line of setting up specialized authorities under the assembly for economic, social and cultural matters of interest to all the member states. The first two specialized authorities envisaged were those for European transport and agriculture.

The British won adherents for their opposition to a European superstate not only among the Scandinavians but also among the Benelux countries and many continental Socialists.

The Consultative assembly voted also on Nov. 24 to recommend the immediate creation of a European army which would include German units.

Substantial progress was achieved in the field of a constructive approach to economic integration through the reduction of tariffs and the elimination of other barriers to trade, especially between France and Italy. The worsening of the international situation in 1950 shifted the emphasis from European economic recovery to the equipment of European defense forces, or rather to an attempt to balance these two necessary ends. The overriding problem of the allocation of the European economic resources and of United States help to these goals brought about in 1950 a closer linking of the strategy of the Marshall plan and of the North Atlantic treaty. By the middle of 1950 the powers of the Brussels pact had, after the lapse of two years, hardly made any progress whatsoever in rearmament, and their unified command established in Fontainebleau, France, under the British Field Marshal Viscount Montgomery of Alamein, remained largely a paper organization. A further step was envisaged by the Netherlands foreign minister Dirk U. Stikker, who was also political conciliator of the European Marshall plan organization. He called in June for the creation of a balanced collective economy through a European integration fund, similar to the balanced collective armed forces projected for the North Atlantic community. Elimination of trade barriers would create in the economic structure of the various countries temporary adjustment problems which could be solved by credits from the integration fund to permit either the modernization of inefficient plants or the creation of more suitable industries after the removal of tariff protection or the re-education and reallocation of labour.

The most promising single economic integration project, however, was the French proposal, advanced by Schuman for a pooling of coal and steel production. The six governments of France, Germany, Belgium, Italy, Luxembourg and the Netherlands declared themselves ready to join such a plan. The British government, however, rejected the suggestion of its own participation. In a communiqué of June 3 the British government declared that it had welcomed the French initiative of May 9 and was fully alive to its far-reaching importance for improving Franco-German relations, with beneficial effects for western Europe as a whole. While the French government suggested an international conference of the countries willing in principle to pool their coal and steel resources and to set up a new high authority whose decisions would be binding on the governments concerned, the British suggested a slower and more cautious approach of preliminary discussion and exploration. The British Labour party hesitated to enter into any commitments with other European nations which would impair Britain's commonwealth relations or jeopardize the planning and controls deemed essential for the maintenance of full employment in Britain.

In spite of this British reluctance, the six other nations met in conference in Paris on June 20 to discuss the details of the plan. As a concession to the British the French announced through Jean Monnet (*q.v.*), the principal author of the Schuman plan, that the decisions of the high authority to be created would be subject to parliamentary as well as judiciary review. He proposed a common interparliamentary assembly, chosen by the parliaments of the participating countries, to review the work of the authority annually in public discussion. Thus a democratic control on an international scale would be achieved. It was also suggested that the authority should make an annual report to the assembly of the Council of Europe which should draft recommendations after hearing delegates from nonpool nations. Similar pools should be established among other nations for various purposes, such as an agricultural pool. By the end of



1950 the coal and steel authority had not yet been created, but the negotiations seemed well on the way. They faced the difficulty of drawing up a clear picture of how the merger should be attained while allowing a wide scope for flexibility in its application.

The events of 1950 made it more and more clear that the military and economic strength needed for the survival of western civilization could not be found in a European union but only in the wider framework of an Atlantic union which would include the United States and Canada. Such a union would also attract closer British co-operation than would a purely European union. While the measures proposed for a European union remained in 1950 largely on paper, more concrete and definite steps were taken towards the realization of an Atlantic union. The Council of the North Atlantic Treaty organization which included the United States, Canada and ten western European nations, approved a mutual defense plan on Jan. 6. On Jan. 27 Pres. Harry S. Truman proclaimed the North Atlantic joint defense plan in effect, and eight European nations signed arms aid pacts for military assistance. These countries were Belgium, Denmark, France, Italy, Luxembourg, the Netherlands, Norway and the United Kingdom. The Military committee of the North Atlantic Treaty organization, consisting of the chiefs of staff of the pact nations, met in The Hague, the Netherlands, at the end of March under the chairmanship of Gen. Omar N. Bradley of the United States and approved an integrated defense plan. This military integration found a parallel in the establishment of a European payments union under the Economic Cooperation administration. The 17 governments represented in the Marshall plan council decided to make their currency interconvertible, thus removing the payments difficulties that had blocked intra-European trade. This decision of July 7 paved the way toward replacing bilateral arrangements by a multilateral system.

The French, who were the prime movers for the creation of a European union, were also the first to go officially beyond the European area and to suggest, in a speech of Premier Georges Bidault in Lyon on April 16, the establishment of an Atlantic high council for peace. The French government proposed the new authority as the logical continuation and unification of previous undertakings—the Brussels pact, the organization of Europe and the foundation of the Atlantic community. Europe was still in the formative stage; in French opinion it was necessary to enlarge its perspectives to Atlantic dimensions in order to promote its progress. "Our present need to be America's partner, partners of the United States and Canada, in the planning of common projects, must bring about the progress of Europe itself," said Bidault. "Our idea is not to dissolve within an enlarged community the European body now in process of formation, but to make it possible for Europe to take its place within that community while retaining its own originality and integrity, just as the separate nations that make up Europe would retain theirs." Within such a unit, Bidault insisted, the spirit of unity and freedom must develop to such a point that economic co-operation could be conceived without any suspicion that one country sought to supplant or exploit another. The union must be binding in good times and bad through contracts freely entered into and the realization of a common interest. On April 26 Schuman explained that the Atlantic high council for peace would be an agency of co-ordination between all the countries of the Atlantic zone, between all the countries of the west and between the various existing organs.

The French government proposed in a memorandum of Aug. 17 a simplified structure for organizing and financing the collective military efforts of the Atlantic nations and the appointment of a supreme Allied commander. The multiplicity of organizations, sometimes working at cross-purposes, was under-



ROBERT SCHUMAN, French foreign minister, addressing delegates meeting in Paris in June 1950 to discuss plans for a pooling of western European coal and steel resources; present were representatives of France, the Benelux nations, Italy and Western Germany

mining the effectiveness of the rearmament program. The North Atlantic council went a long step in that direction when it agreed on Sept. 26 to establish at the earliest possible moment an integrated force under centralized command, which would be adequate to ensure the defense of western Europe. The supreme commander should have sufficient delegated authority to ensure that national units allocated to his command were organized and trained into an effective integrated force in time of peace as well as in the event of war. He would be supported by an international staff representing all nations contributing to the force. In pursuance of this goal the foreign ministers and secretaries of defense of the North Atlantic nations agreed in a joint meeting in Brussels, Belgium, on Dec. 18 on the details of the establishment of the integrated armed force and approved the principle of the eventual participation of the German Federal Republic in such an army. The five Brussels treaty powers decided on Dec. 20 to merge immediately their defense organization with the new Atlantic setup. Gen. Dwight D. Eisenhower was appointed supreme commander of the Atlantic forces. In a corresponding development a defense production board for the 12 North Atlantic treaty nations was to be set up in London which would appoint an Atlantic defense production director with a staff of experts chosen from various countries without regard to nationality. In this way, by the end of 1950, a concrete union of the western nations was slowly emerging. (See also EUROPEAN RECOVERY PROGRAM; MIDDLE EASTERN UNITY; NORTH ATLANTIC COMMUNITY.)

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**Events of the Year:** see CALENDAR OF EVENTS, 1950, pages 1-16.

## Exchange Control and Exchange Rates.

Despite stringent control of imports most countries had experienced increasing difficulties in balancing their dollar accounts in 1949 and had been forced to liquidate substantial holdings of gold and dollars. In 1950 the situation was very different. Although U.S. financial assistance declined, many countries, and particularly the sterling area, added to their reserves of gold and dollars at an accelerating rate, while the United States gold stock declined steadily from its postwar peak of \$24,771,000,000 (Aug. 1949), to reach \$23,153,000,000 at the end of Nov. 1950. The reduction in the volume of foreign imports from the dollar area was attributable in part to higher levels of industrial and agricultural production abroad and also to the more stringent control of dollar imports into the sterling area since the summer of 1949. Furthermore, the recovery of U.S. business activity, the rise in raw material prices following the beginning of the Korean crisis, and the nascent rearmament program contributed to the expansion of U.S. demand for foreign goods and services. But there was no doubt that the widespread currency devaluations which took place in the fall of 1949 were also an important cause of the substantial improvement in the balance of payments positions of most countries.

Nevertheless, the improvement in the world economic balance did not give rise to any marked trend toward the relaxation of restrictions and the elimination of bilateral trading arrangements, and stringent exchange controls were still widespread throughout 1950. The drastic limitation of dollar imports into the sterling area in 1949, for example, remained in full effect. By the end of the year, however, signs were not wanting that some modification of this restriction was contemplated. Furthermore, action had been taken to relax import restrictions in Canada, progress had also been made in the liberalization of intra-European trade and payments, and some countries, such as France, Italy and the Netherlands, had taken steps to encourage private capital imports by assuring reasonable facilities for the retransfer of earnings and capital.

With the effects of the 1949 devaluations still working themselves out, it was not surprising that changes in exchange rates were far less numerous or far-reaching in 1950 than in 1949. Such alterations as did occur were on the whole minor and represented adjustments on the part of individual countries to special problems confronting them.

Indeed, some of the changes made, for example, in the multiple exchange rate structures prevalent in Latin America were purely technical and did not materially affect the systems of trade control in operation.

**United States.**—As was indicated above, the "dollar gap" was a much less serious problem in 1950 than in 1949. The strengthening of the international economic position of the nondollar world was reflected in the U.S. balance of payments. Imports into the U.S. increased with the rising trend of business activity, while U.S. exports were lower, not only because foreign countries were unable to finance a larger volume of purchases, but also because their own production continued to rise. The total U.S. surplus on current account (goods and services) declined from \$6,500,000,000 in 1949 to an annual rate of \$1,900,000,000 in the first nine months of 1950. Indeed, in the third quarter merchandise transactions came into approximate balance, while the surplus on goods and services shrank to an annual rate of less than \$300,000,000, the lowest rate since 1937. Although part of this was seasonal, it also served as a dramatic indication of the extent to which both market demands and the terms of trade were

undergoing fundamental shifts in favour of countries other than the United States.

The improvement in the position of foreign economies was also evident from the way in which their dollar deficits were financed. Despite large-scale U.S. aid, they had had to draw heavily on their gold and dollar assets to cover their dollar deficits in the period before the devaluations of Sept. 1949. In the year following these currency realignments, foreign countries utilized for the purchase of goods and services only about a quarter of the \$4,300,000,000 of financial aid made available to them by the U.S. government, and, partly as a result of foreign short-term capital movements into the U.S. in the latter part of the year, they were able to increase their gold and dollar holdings by almost \$4,000,000,000, \$3,200,000,000 through transactions with the United States and the remainder through new gold production.

**Canada.**—The improvement in the position of Canada was especially dramatic. Though controls on imports from the United States were relaxed and purchases of U.S. goods increased markedly in the second quarter of 1950, Canadian gold and U.S. dollar holdings rose steadily. The Canadian dollar, quoted in the free market in New York at a discount of 10% in Dec. 1949, appreciated steadily, almost reaching par with the U.S. dollar in June. As speculation on a possible revaluation of the currency mounted, short-term capital flowed into Canada in ever-increasing volume until by the end of September the country's holdings of gold and short-term U.S. dollar assets stood at U.S. \$1,790,000,000, an increase of \$800,000,000 in a year, three-quarters of which had taken place in only four months.

To cope with the inflationary threat which this massive movement of capital brought, the Canadian government suspended the fixed official rate of the Canadian dollar on Sept. 30 and allowed its exchange value to fluctuate in accordance with free market operations. At the same time it greatly relaxed the emergency controls over imports from the U.S. Thereafter the exchange rate hovered around 1.05 Canadian dollars per U.S. dollar compared with the previous fixed par value of 1.10. To prevent the possible emergence of broken cross rates between the U.S. dollar, the Canadian dollar and sterling, the Canadian Exchange Control board stood ready to buy or sell sterling for U.S. dollars at the official rates of 2.79875 and 2.80125 U.S. dollars per pound sterling.

**Latin America.**—The use of complicated exchange control systems composed of licences, multiple-rate structures (often including mixed effective rates resulting from the application of different rates to specified percentages of export proceeds) exchange taxes, certificates, and free markets for specified transactions continued widespread in Latin America. These aimed chiefly at securing sufficient foreign exchange receipts and regulating imports in such a way as to obtain an adequate volume of necessities, restricting luxuries, and sometimes protecting local industries.

The technical positions of many currencies were strengthened by the improvement in their terms of trade after the European devaluations of Sept. 1949 and accentuated by the rise in commodity prices following the outbreak of hostilities in Korea. Nevertheless, modifications in the exchange regulations and rate structures in use in 1950 were rather more numerous than in most other areas. The monetization of the increased export proceeds contributed in no small measure to the persistence of inflationary conditions which in turn increased the demand for imports. In some countries this was restricted by certificate exchange-rate systems or by the imposition of taxes and surcharges levied on purchases of foreign exchange, particularly if they were to be used for the import of luxuries. In other countries technical changes were made to simplify systems which



had become unnecessarily complex, but these could hardly be said to represent a general trend toward that unification of exchange rate structures for which the International Monetary fund was striving. No country using exchange controls removed them completely in 1950, nor did any of those operating without controls introduce such measures. Toward the end of the year, however, there was evidence in some countries that import and exchange restrictions were being relaxed to allow for the stockpiling of various goods expected to become scarce as the rearmament programs of the U.S. and western Europe progressed.<sup>7</sup>

Mainly in order to bolster the weakening market position of some of its export products and at the same time to increase production of them by raising their peso prices, the Argentine government devalued the peso on Aug. 29, 1950, by 24%-36% for exports, depending on the previous rate applicable, and by a somewhat smaller percentage for imports. At the same time the exchange control system was simplified considerably, the number of effective rates being reduced from nine to three. The preferential selling rates of 3.73 and 5.37 and the basic buying rate of 3.3582 pesos per U.S. dollar were consolidated into a single new rate of 5.00 pesos per U.S. dollar applicable to the major exports and imports of fuels. A single rate of 7.50 pesos to the dollar, used for nonregular exports and essential imports not granted exchange at the 5 peso rate, replaced the basic selling rate of 6.09 pesos per dollar and the preferential buying rates of 4.83 and 5.73 pesos per U.S. dollar. Finally the auction selling rate of 12.53 pesos, used for imports of luxury goods since July 1950, was abolished and the free rate, formerly pegged at 9.00 pesos to the dollar, allowed to find its own level. This rate, which fluctuated around 13.65 pesos per U.S. dollar in the subsequent months, was applicable to export goods not readily marketable abroad, to luxury imports and also to authorized nontrade remittances. As before, the granting of permission to buy foreign exchange for imports was dependent on their country of origin as well as on the category of goods.

Various changes amounting to a depreciation of the currency were made in Bolivia. Up to Feb. 27, 1950, the official buying and selling rates of 42.00 and 42.42 bolivianos per U.S. dollar respectively were applicable to specific percentages of all export proceeds and to all essential imports. For specified percentages of mineral exports and imports of semiessentials lower rates of 55.50 and 56.05 bolivianos were used, while luxury imports and most financial transactions were conducted at the free market rate of more than 100 bolivianos to the dollar. Thereafter slight changes were made by lowering the intermediate rate to 60 bolivianos per dollar and changing the categories of goods to which the various rates applied. In April the 42 boliviano rate was abandoned and a new par value of 60 bolivianos to the dollar announced. The new buying and selling rates of 60.00 and 60.60 bolivianos were applied to specified percentages of foreign exchange proceeds of tin exports,

to the proceeds of basic quotas of other exports, and to most imports, specified financial payments and all government transactions. All other permitted foreign exchange operations were carried on at the free rate of 100 bolivianos to the dollar, a rate which was, however, held stable by central bank intervention. The exchange surcharge of one boliviano per U.S. dollar levied on all private foreign exchange transactions remained unchanged.

A major part of Bolivia's export earnings is derived from the sale of nonferrous metals, notably tin, produced mainly by foreign-owned enterprises. The exchange rates applicable to exports of these as well as the percentages of the foreign exchange proceeds required to be surrendered to the monetary authorities had been a subject of long-standing controversy. On Nov. 1, 1950, a new arrangement was made permitting tin exporters to retain 40%-42% of their export proceeds—a lower proportion than before—and requiring them to turn over the remainder to the authorities at the official buying rate of 60 bolivianos per U.S. dollar.

Various changes were made in the rather similar system in effect in Chile. On April 17, 1950, a new set of official rates was announced, substantially similar to those temporarily in effect since Jan. 10. The preferential selling rate of 25.10 pesos per U.S. dollar, used only for newsprint imports, and the commercial buying and selling rates of 43.00 and 43.10, applicable to export proceeds not sold at lower rates and to the majority of imports, were abolished, the latter being replaced by rates of 60.00 and 60.10 pesos per dollar. The government buying and selling rates of 19.37 and 19.47 pesos continued to be applicable to that proportion of the major mining companies' export proceeds equivalent to their local currency production costs and to designated government nontrade remittances. Similarly the official buying and selling rates of 31.00 and 31.10 were retained for certain additional peso requirements of the mining companies, for varying proportions of the exchange proceeds of certain other exports, for varying percentages of essential imports, and for some nontrade payments. The new commercial

#### Exchange Rates of Selected Countries

Note: Includes only currencies regularly quoted in New York during 1949. Averages of certified noon buying rates in New York for cable transfers. In cents per unit of foreign currency, corrected to two decimal places. The rates listed are mostly official rates regulated by strict systems of exchange control.

Country	Unit quoted and type of exchange	Annual average rate			Monthly average rate, 1950			
		1938	1948	1949	March	June	Sept.	Nov.
Argentina	Peso							
	Basic	32.60	29.77	29.77	29.78	29.78	20.00	20.00
	Pref. A	—	—	20.69	20.69	20.69	13.33	13.33
	Pref. B	—	25.12	23.35	17.46	17.46	—	—
	Special	—	20.00	18.59	13.90	13.90	—	—
Australia	Free	—	—	—	—	—	7.20	7.15
	Pound	389.55	321.22	293.80	223.16	223.16	223.16	223.16
Belgium	Franc							
	Official	3.38	2.28	2.20	2.00	1.99	1.98	1.99
Brazil	Bank note	—	—	2.14	—	—	—	1.97
	Cruzeiro*	5.84	5.44	5.44	5.44	5.44	5.44	5.44
Canada	Dollar							
	Official	—	100.00	97.49	90.91	90.91	90.91	—
Ceylon	Free	99.42	91.69	92.88	90.25	90.46	90.84	96.04
	Rupee	—	—	27.84	20.85	20.85	20.85	20.85
Colombia	Peso	55.95	57.01	—	—	—	—	—
	Koruna	3.47	2.01	2.01	2.01	2.01	2.01	2.01
Czechoslovakia	Krone	21.83	20.86	19.12	14.49	14.49	14.49	14.49
	Denmark							
France	Franc							
	Official	2.88	0.49	0.47	—	—	—	—
Germany (Federal Republic)	Free	—	0.32	0.30	0.29	0.29	0.29	0.29
	Deutschmark	—	—	—	23.83	23.83	23.83	23.83
India†	Rupee	36.59	30.17	27.70	20.87	20.87	20.87	20.87
	Peso	22.12	18.86	12.62	11.57	11.56	11.57	11.57
Mexico	Guilder	55.01	37.67	34.53	26.27	26.26	26.26	26.23
	Pound	392.35	350.48	365.07	277.29	277.29	277.29	277.29
Netherlands	Krone	24.57	20.16	18.48	14.01	14.01	14.01	14.01
	Peso	—	—	49.72	49.61	49.62	49.62	49.62
New Zealand	Escudo	4.43	4.02	3.88	3.46	3.48	3.48	3.48
	Pound	484.16	400.75	366.62	278.38	278.38	278.38	278.38
Norway	Peseta	5.60	9.13‡	—	—	—	—	—
	Dollar	—	—	42.97	32.72	32.81	32.82	32.85
Philippine Republic	Krona	25.20	27.82	25.48	19.33	19.33	19.33	19.33
	Franc	22.87	23.36	23.31	23.27	23.14	22.96	22.95
Portugal	Pound	488.94	403.13	368.72	280.07	280.07	280.07	280.07
	Swedish	—	—	—	—	—	—	—
South Africa	Swiss	—	—	—	—	—	—	—
	United Kingdom	—	—	—	—	—	—	—
Spain	Peso							
	Basic	64.37	65.83	65.83	65.83	65.83	65.83	65.83
Sweden	Pref.	—	56.18	56.18	56.18	56.18	56.18	56.18
	Swiss	—	—	42.55	42.55	42.55	42.55	42.55
Switzerland	Pound							
	United Kingdom							
Uruguay	Peso							
	Basic	64.37	65.83	65.83	65.83	65.83	65.83	65.83
	Pref.	—	56.18	56.18	56.18	56.18	56.18	56.18
	Swiss	—	—	42.55	42.55	42.55	42.55	42.55

\*Prior to Nov. 1, 1942, the official designation of the Brazilian currency was the milreis.

†Excludes Pakistan, beginning April 1948.

‡Quotations not available after Dec. 17, 1948.



buying rate was applicable to the remaining peso requirements of the mining companies, to the remainder of those export proceeds part of which had to be surrendered at 31.00 pesos to the dollar, and to the proceeds of most minor exports.

The corresponding buying rate was used for exchange requirements for which exchange was partially granted at the 31.10 peso rate and for the total exchange requirements of all other imports. In addition the free rate, which fell steadily from 98.80 pesos to the dollar in January to 86.55 in November and was used for some nontrade transactions, and the gold rate of 140 pesos applicable to exports of newly mined gold and imports of certain luxury goods remained in effect.

The multiple rate structure used in Colombia continued to include a number of mixed effective rates resulting from the combining of official and certificate rates and also from the rates of tax imposed on most private purchases of foreign exchange. In 1950 certain modifications were made in these taxes. Prior to July 10, 1950, private imports had been conducted at the official rate plus taxes of 10%, 16% or 30%, depending on the category in which they were classified. Thereafter all imports and certain specified nontrade remittances allowed at the official selling rate of 1.96 pesos were subject to a tax of 4%, giving an effective rate of 2.038 pesos to the dollar. The certificate rate, which fluctuated around 3 pesos per dollar, was applicable to certain luxury imports and to designated financial remittances on which additional taxes ranging from 6% to 30% were also levied. Only government transactions and a few nontrade transactions were permitted at the official selling rate without tax. Certain imports, primarily industrial equipment, took place at mixed effective rates lying between the official and certificate rates. Exchange proceeds from most exports continued to be surrendered to the authorities at the official buying rate of 1.95 pesos. Those from certain minor exports were sold at the prevailing certificate rate while gold producers continued to receive

special premium rates. On April 1 the system was significantly changed. The official selling rate became nominal, and a tax of 10% was levied on preferential imports and specified nontrade remittances, the only transactions to which the official rate was henceforward applicable. All other payments were made at the free rate—which fluctuated between about 8 and 9 colones per U.S. dollar during the remainder of the year—to which was added a surcharge ranging from 10% to 100% of the official selling rate, depending upon the nature of the transaction.

Early in December the par value of the Ecuadorian sucre was changed from 13.50 to 15.00 to the dollar and a considerable simplification of the rate structure announced. The new parity was made applicable to most imports and all but minor exports. Luxury imports were still restricted by taxes of 33% to 44% levied on import permits, but these duties were to be transferred to the customs tariff system as soon as possible. Most nontrade transactions continued to be conducted at the free rate which then stood at close to 20 sucres per U.S. dollar.

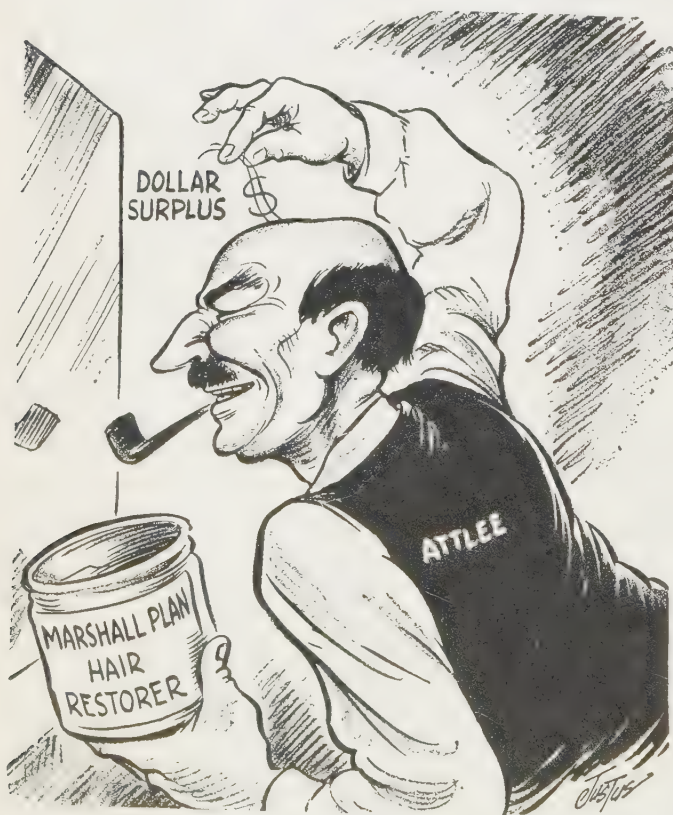
The introduction of exchange certificates at the end of 1949 had inaugurated a multiple rate system in Nicaragua. Exporters received payment for 80% of their foreign exchange earnings at the official rate of 5.00 córdobas per U.S. dollar and 20% in negotiable certificates which were purchased by importers of designated luxury goods who received no foreign exchange allocation at the official rate. On July 12 the certificate rate was made applicable to all imports, but on Oct. 20 the entire system was abolished. Use of the official rate was limited to government transactions only and to 20% of the total foreign exchange receipts. Most imports and nontrade payments were made at a rate of 7.00 córdobas to the dollar, with surcharges of 1 and 3 córdobas per dollar respectively on imports of semiessentials and luxuries. Twenty per cent of all export proceeds were to be purchased by the authorities at the official rate and the remainder at the 7.00 córdoba rate, thus giving a uniform effective buying rate of 6.60 córdobas per U.S. dollar.

A slight change in Paraguay's multiple exchange rate structure was brought about on April 11, 1950, by the introduction of a series of taxes ranging from 2% to 10% levied on purchases of foreign exchange by private individuals for imports of semiessentials and luxuries as well as for nontrade transactions.

**The Sterling Area.**—For the sterling area 1950 was a year of stable exchange rates. With the exception of the devaluation of the Icelandic krona by no less than 42.5% on March 20, no significant changes occurred. That change was primarily a delayed adjustment to the changed outlook for the fish exports to the United Kingdom. Hitherto the effects of a deteriorating market had been cushioned by the payment of subsidies to exporters. When the collapse of the market in the spring of 1950 would have rendered the continuance of this system an unbearable burden on a budget already out of balance, the opportunity was taken to abandon it and seek the restoration of equilibrium, internal as well as external, by lowering the external value of the currency.

Controversy continued throughout the year concerning the future of the Pakistani rupee—the only sterling area currency not devalued in Sept. 1949—while the possibility of the revaluation of the Australian pound was widely discussed, particularly after the spectacular jump in wool prices in the fall.

The 1949 devaluation of sterling had been intended to cope with the dollar problem, and indeed the improvement in the sterling area's dollar balance in 1950 was remarkable. A net gold and dollar deficit of \$962,000,000 in the first half of 1949 was transformed into a net surplus of \$220,000,000 in the first half of 1950. Aided by European Recovery program grants and loans and drawings on the Canadian credit amounting in all to about \$1,000,000,000, the central gold and dollar reserves stood at



"BY JOVE!" a cartoon by Justus of the *Minneapolis Star*, published in 1950



\$2,756,000,000 on Sept. 30, 1950—more than twice as high as at the time of devaluation—and were still rising. Because of this improvement, ERP aid to Great Britain was suspended as of Jan. 1, 1951.

The role of the exchange rate adjustment in this transformation cannot of course be isolated. In the nine months following devaluation the improvement was almost entirely the result of a reduction of 31% in the sterling area's dollar imports. Since a cut of only 25% had been agreed upon at the Commonwealth Finance Ministers' conference of July 1949, devaluation, which increased the prices of dollar goods to sterling area buyers by 42%, probably was effective in reducing dollar import demands. In the same period sterling area exports to the dollar area increased modestly in dollar value, a change no doubt associated with the rising trend of economic activity in the U.S. as well as with the lower dollar prices ruling for many products after devaluation. Only part of the change, however, is traceable to movements in trade with the dollar area. The remainder resulted mainly from the cessation of gold losses to Belgium, Switzerland and other countries outside the dollar area and from semi-speculative movements of funds, including acceleration and postponement of sterling payments and receipts. These changes were also associated to a significant degree with the strengthening of sterling. In any case, by the middle of 1950 the sterling area had apparently achieved at least a temporary balance in its dollar accounts even apart from U.S. assistance and speculative capital movements. Moreover, that equilibrium had been reached without the help of the spectacular rise in certain sterling area raw material prices which took place after the outbreak of hostilities in Korea.

The position of the United Kingdom itself was less satisfactory. True, wage rates and the cost of living rose by only about 2% in the year after devaluation—less than in the corresponding period before—despite a rise of 25% in import prices. Furthermore, at least in the first half of the year, the increase in national income was apparently sufficient to permit the rate of net investment to be maintained and that of both government spending and private consumption to be increased so that even the limited anti-inflationary measures announced by the government were never severely tested. But the increase in the surplus on current account from £16,000,000 in the first half of 1949 to £52,000,000 in the first six months of 1950 was very modest and resulted entirely from a rise in net earnings on invisible account. The visible trade deficit rose from £43,000,000 to £108,000,000 (f.o.b. basis) because the expansion in the volume of British exports was far from sufficient to compensate for the sharp deterioration in the country's terms of trade—partly a consequence of devaluation. In dollar terms the U.K. deficit with the dollar area was \$428,000,000 less than in the first half of 1949, but this change was entirely the result of a fall in imports and a sharp improvement in nontrade earnings. The value of exports to the dollar area actually declined slightly.

A large part of the rise in the sterling area's gold and dollar reserves was attributable to the stronger position of its overseas members, including the colonies. In the first half of 1950 the sterling area other than the U.K. recorded a dollar surplus of \$220,000,000 compared with a deficit of \$177,000,000 in the corresponding period of the previous year. Rising raw material prices must have raised this surplus substantially in the second half of the year. Part of the improvement was brought about by restriction of dollar imports, and since the U.K. was unable to increase its exports to the other sterling area countries by an equivalent amount, the increase in the gold and dollar reserves in London was almost matched by a rise in the U.K.'s short-term liabilities to various countries in the sterling area, such as Australia, New Zealand, Malaya and the African colo-

nies.

Restrictions on transfers from the sterling area to Belgium and Switzerland were eased in accordance with the provisions of the European Payments union, while currency movements between London and the Scandinavian countries were virtually freed in December. Toward the end of the year the Union of South Africa—which does not participate in the sterling area dollar pool—announced the broad principles of a liberal licensing policy to be adopted for dollar imports in 1951. The proposed relaxations were to operate so that within the limits of its total current income of hard and soft currencies, South Africa's imports would be thrown open to world-wide competition. Discrimination would take place only to the extent that capital inflow from soft-currency countries exceeded the capital inflow from hard-currency countries.

The discriminatory dollar import policy of the rest of the sterling area, however, was not modified. Within the framework of the General Agreement on Tariffs and Trade, consultations took place on this point in November, and opinions were expressed that because of the stronger position of the sterling area, a cautious relaxation of hard currency import restrictions would be feasible in the cases of Australia, Ceylon, New Zealand and the United Kingdom. The governments of these countries took note of the views expressed, but no action had been taken by the end of the year.

**Continental Europe.**—On the continent of Europe, as in the sterling area, 1950 was a year of comparative exchange stability despite the increasing threat of renewed inflation, first through sharply rising raw material prices and, toward the end of the year, through the anticipated effects of rearmament. A very significant step toward the liberalization of intra-European payments took place in September when the European Payments union was set up within the framework of the European Recovery program. At the same time measures were taken progressively to reduce quantitative restrictions on intra-European trade and payments. Unlike its predecessor, arrangements through which deficits and surpluses between pairs of countries had been settled bilaterally, the European Payments union was fully multilateral, providing for the offsetting of such bilateral balances and the settlement partly on credit and partly in gold, of the net surpluses or deficits with the union. In the first five months of its operation (July-November) the United Kingdom and France built up strong creditor positions with the union. Germany, on the other hand, ran an unexpectedly high deficit, exhausting its credit facilities and making gold payments of more than \$100,000,000 to the union from which it had also to receive special assistance.

In 1950 the external position of France improved substantially, the over-all balance of payments deficit of the franc area falling to \$168,000,000 in the first half of 1950 compared with \$483,000,000 in the corresponding period of 1949. Within Europe, France became a substantial creditor and received about \$40,000,000 in gold in the first five months of the operations of the European Payments union. These changes brought a notable return of confidence in the franc, and in the course of the year several steps were taken toward the liberalization of dealings in foreign exchange. Restrictions on the import and export of bank notes were greatly eased as were the regulations relating to the retransfer both of foreign capital invested in France and of earnings from it. The number of currencies traded in the free market was increased and the scope of forward exchange operations extended.

The position of some countries which had devalued by a substantial amount in 1949 was less fortunate. The Netherlands and Denmark in particular were hit by the deterioration in their terms of trade, while the stability of the Finnish currency con-



tinued to be threatened by domestic inflation. The position of the Belgian franc—which had been devalued by only 12% in 1949—was relatively weaker than in the previous year. The gold and foreign exchange reserves of the Belgian National Bank declined steadily and, influenced also by scare buying after the outbreak of hostilities in Korea, had dropped by \$200,000,000 between Aug. 1949 and Nov. 1950. Apart from the continuing surplus with the Netherlands, Belgium's strong European creditor position of 1949 practically disappeared. To discourage speculative purchases of foreign currencies and protect the National bank's reserves, the use of imported Belgian bank notes was limited in October to payments within the Belgian-Luxembourg Economic union, and forward exchange operations in all currencies except the U.S. and Canadian dollars were suspended a month later. In contrast, the position of the Swiss franc and the Italian and Turkish lira, which did not devalue in 1949 or did so by a relatively small percentage, remained relatively strong.

In 1950 successive steps were taken in Austria to lower the external value of the schilling and to unify the existing multiple rate structure. Through Jan. 25 exporters were required to surrender 40% of their exchange proceeds at the basic rate of 14.40 schillings to the dollar and could either sell the remainder at the premium rate of 26.00 schillings or use it to purchase imports. Effective Jan. 26 the latter practice was limited to specific quotas established for each exporter so that the great bulk of export transactions were conducted at an effective rate of 21.36 schillings to the dollar. From Oct. 5 all commercial transactions were conducted at the 21.36 schilling rate. The basic rate, hitherto applicable to essential imports, was abolished, while the premium rate, hitherto also used for luxury imports, was confined to certain nontrade transactions, notably tourist expenditures.

The new zloty introduced into circulation on the occasion of the drastic Polish currency reform at the beginning of November formally contained 0.222168 grains of fine gold, which placed it at par with the soviet rouble and gave an exchange rate of 4 zlotys per U.S. dollar compared with the previous effective rate of 400 old zlotys to the dollar. However, this rate, like its predecessor and others in eastern Europe, had little influence on the volume or direction of the country's foreign trade, which was largely conducted by state-owned agencies at prices negotiated by agreement and generally corresponding to world market prices.

Spain continued to operate a multiple exchange rate system arranged to give the advantage of a low peseta cost to imports of raw materials and other necessary imports and higher rates to the less essential products and exports whose local costs were relatively high. Until October there were 11 fixed buying rates ranging from 10.95 to 28.47 pesetas per U.S. dollar and 12 fixed selling rates ranging from 11.22 to 39.47 pesetas to the dollar. On Aug. 1 a free exchange market was introduced through which financial transactions and a few trading operations were effected. After Oct. 18 the number of official rates was reduced somewhat, but various mixed effective rates arose as a result of the purchase and sale by the authorities of proportions of exchange proceeds and requirements which varied according to the goods exported or imported.

**Middle East.**—Only minor changes, motivated by local conditions, were made in exchange rates and regulations in the middle east in 1950. Because of the large foreign exchange income from oil royalties Iran had not devalued the rial in 1949. In the course of 1950, however, various changes were made in the certificate system in operation, the net effect of which was to depreciate the rial for most other private transactions. The official selling rate of 32.5 rials per U.S. dollar remained in

effect for government transactions and transactions with the Anglo-Iranian Oil company but was not applicable to sugar imports after Jan. 8, 1950. Exporters other than the Anglo-Iranian Oil company received, in addition to rials at the official rate, negotiable certificates in the amount of 100% of their exchange proceeds, which they sold either directly or through authorized banks to importers or others authorized to purchase exchange on presentation of a certificate for an equivalent amount. The central bank also dealt in certificates, and the rate for them was held stable at around 7.50 rials throughout the year, giving an effective certificate rate of about 40 rials to the dollar. From July 24 this rate was applicable only to essential imports—amounting to about 60% of the total—and to all export proceeds not used or sold by the exporter within four months. In order to discourage foreign exchange hoarding, exporters selling their exchange proceeds within 4 months—later increased to 16 months and subsequently reduced to one year—could take advantage of the more favourable fluctuating rate obtainable in the free market in which importers of nonessentials had to purchase exchange.

At the end of November all transactions were channelled through authorized banks and the free rate stabilized at 48.75 rials per U.S. dollar.

Mainly because of the continued high level of imports an exchange crisis developed in Israel in the summer. To cope with it taxes ranging from 2% to 6% were imposed on exchange sales for purposes other than the import of essential goods.

In 1950 the monetary systems of Syria and Lebanon became, formally at least, more independent of one another. For a time the Lebanese pound was quoted at a 7%–15% premium above the Syrian pound, although the latter remained officially of equal value. In addition, as from March 1950, the respective exchange control systems to which transactions with third countries were hitherto subject were also applied to transactions between them.

Most transactions continued to be conducted through the free market where the pound sterling was traded at a discount which became progressively smaller as the year passed.

**Far East.**—Despite disturbed economic and political conditions in many countries, exchange rates and regulations remained relatively stable. As China came completely under Communist control, exchange transactions with the rest of the world dwindled. In the Philippines 1950 saw the working out of the exchange control system introduced at the end of the previous year. The most characteristic feature of the free markets existing in various far eastern countries was the steady rise in sterling, which was close to par by the latter part of the year.

The only changes of major significance took place in Indonesia, where monetary and financial conditions had continued unstable after the country's independence had been achieved at the end of 1949. In an effort to cope with the balance of payments disequilibrium a new certificate system was introduced on March 13, 1950, which aimed at increasing exports and in particular at curbing imports. Exchange for authorized transactions continued to be bought and sold by the authorities at the old official rates of 3.79 and 3.81 guilders per U.S. dollar. However, in addition, exporters received a certificate expressed in guilders equivalent to 50% of the exchange sold, while importers were required to present a similar certificate equal to the full guilder equivalent of the amount of foreign exchange required. Dealings in certificates were carried on through authorized banks, and since the price was maintained at 1.99 buying and 2.00 selling, the effective buying and selling rates were 7.56 and 11.43 guilders per U.S. dollar. (See also EUROPEAN RECOVERY PROGRAM; GOLD; INTERNATIONAL TRADE; TARIFFS.)

(A. STE.)



**Exhibitions, Livestock:** *see* SHOWS.

**Existentialism:** *see* PHILOSOPHY.

**Exploration and Discovery.** The year 1950 saw considerable activity in the field of discovery and exploration. The various expeditions included more and more scientific studies, and numbered in their personnel many specialists in particular branches. In general, the scientific results of such expeditions are worked up and published in the recognized journals, and often are not available until a long time after the expedition has returned. Hence it is possible to report in this article only the fields and regions covered during 1950, and to outline the problems studied.

In the antarctic, the Norwegian-British-Swedish antarctic expedition of 1949–52 conducted extensive explorations in Graham Coast and Queen Maud Land. This expedition, led by Capt. John Giaever, was financed, supported and staffed by experts from several countries. Extensive work in glaciology, climatology, meteorology and topographic surveying was in progress. The expedition's radar expert, G. de Q. Robin, and glaciologist, C. W. M. Swithinbank, made a seismic profile more than 20 mi. long across the shelf ice over Maudheim bay, measuring the thickness of the ice and the depth of the water below the ice. They found that the shelf ice is hinged at the shore, and rises and falls gently with the tides. A belt of crevasses near the active "hinge" was studied carefully. The meteorologists had the aid of the latest devices, including the rawinsonde, which not only transmits temperature, humidity and pressure measure-

ments by radio automatically from a free balloon during its rise, but also provides measurements of the wind direction and speed at each altitude traversed. Thus, a complete picture of the structure of the atmosphere was being obtained in this region.

The expedition planned to remain in the field for at least two more years. The supply ship would bring new scientists each year, and take back those whose work was completed.

The French expedition to Adélie Land was making progress. The ship "Commandant Charcot," under the scientific director Andre Liotard, carried the expedition which planned to spend a year on the antarctic continent. It was studying geodesy, geography, meteorology, climatology and hydrology. It was being closely co-ordinated with the French expedition to Greenland, the two undertakings together making up the Expéditions Polaires Françaises, which were being operated as a unit by the explorer Paul-Émile Victor.

The northern portion of the expedition manned an observing station on the Greenland ice cap, in about the middle of the cap, during the 1949–50 northern winter.

Further arctic exploration was carried out by Henry B. Collins, Jr., of the Smithsonian institution of Washington, D.C., who made archaeological studies on Cornwallis Island. The meteorological reconnaissance flights of the U.S. air force planes from Alaskan bases were continued, and led to the discovery of curiously shaped ice islands which seem to be imbedded in the polar ice cap and drift with it.

In carrying out aerial mapping near Hudson bay, a circular lake was discovered. It was thought that this might be a large meteor crater, and this possibility was being investigated by V. B. Meen of the Royal Ontario Museum of Geology and

**ANIMIST FRESCO** bordered by sacred serpents adorning a mud wall in Tikapur, Nepal, photographed during a scientific expedition and published in 1950. The shy inhabitants were allowed to look through the camera's view finder before being photographed; the woman at right smoked a water pipe





Mineralogy, Toronto, Ont., Can.

The schooner "Blue Dolphin," under the leadership of Commander Donald B. Nutt, carried out another year's reconnaissance program off the coast of Labrador. The work of the expedition included bathythermograph observations, water and bottom sampling, hydrological survey and marine biological studies.

Alexander Wetmore, secretary of the Smithsonian institution, again spent some time in eastern Panama and western Darien, studying the primitive Indian tribes in a nearly inaccessible region.

The Oxford University Exploration club sponsored an Oxford university expedition to Persia (Iran) in 1950, which proceeded from Tehran to Kerman, and there made an ecological survey of the Kerman basin, together with a land-utilization map and a specialized study of the fauna and of the underground water supply.

The Roncador-Xingú expedition, sponsored by the Brazilian government to obtain information about the interior of Brazil and to make the first moves toward opening up this region for settlement, penetrated further into the vast region between the Tocantins, the Xingú and Madeira rivers. It had done much aerial mapping, established contact with native tribes, constructed airfields in the jungle and discovered possible routes for ground parties to follow. Much medical work had also been carried out.

The British royal research ship "Discovery II" conducted an extensive cruise through the southern Indian ocean, the South Pacific and the Antarctic ocean. Extensive oceanographic work was done, taking ocean bottom samples, making seismic profiles and studying ocean currents and meteorology in this region.

Paul Zahl, on an ornithological expedition sponsored by the National Geographic society of Washington, D.C., discovered the breeding ground of the scarlet ibis in southern Venezuela.

Thorkild Jacobsen, dean of the division of the humanities, The University of Chicago, conducted an expedition to Mesopotamia, and found tablets at Nippur, including the law code of Hammurabi.

W. D. Johnston, Jr., led the U.S. Geological museum expedition to Thailand, and made a study of the mineral deposits in the interior of that country.

The third Danish expedition to central Asia, under Prince Peter of Greece and Denmark, operated in 1950 between Malabar and southern Tibet, and made anthropologic and ethnographic studies in addition to securing an extensive motion-picture record of local customs. The expedition sought to trace some of the customs from the plains of India into the Pamirs, and to obtain records of how customs change as the altitude and economic structure of the region varies.

The University of Puerto Rico expedition to Venezuela, under the leadership of Ventura Barnes, reached the upper Orinoco river and made an extensive collection of plants, birds and reptiles. Other expeditions operating in this region were led by William Phelps, Jr., who specialized in ornithology and botany, and Nicol Smith, who made a motion-picture study of the newly discovered Angel falls, highest waterfall in the world.

Sponsored by the Geographic Society of Chicago, Carveth Wells led an expedition to Pakistan and Kashmir.

Thomas Gilliard, of the American Museum of Natural History in New York city, led an ornithological expedition to the Territory of New Guinea, and ascended Mt. Hagen and Mt. Wilhelm, on each side of the Wahgi valley, in the highlands in the western part of the territory.

The American Geographical society of New York city continued its program of glaciological research during 1950. Maynard Miller conducted studies of the Juneau ice field in Alaska,

obtaining data to be compared with that previously obtained in Patagonia. It was hoped that much would be learned about the advance and recession of glaciers and that clues would be found to long-period climatic changes on the earth.

Wendell Phillips of the American Foundation for the Study of Man, led the Arabian expedition for the study of archaeology, palaeontology and geography to the western part of the Aden Protectorate.

A British North Borneo zoological expedition included Dwight Davis, curator of vertebrate anatomy, and Robert F. Inger, assistant curator of fishes, of the Chicago Natural History museum. Alexander Spoehr, curator of oceanic ethnology of the same museum, made studies in the Marshall Islands in Micronesia, and obtained extensive records of the life of the people and of the changes in customs resulting from contacts with European and American cultures. Philip Hershkovitz, assistant curator of mammals in the same museum, collected specimens in south-eastern Colombia.

Underseas exploration during 1950 made notable strides as new techniques for obtaining 50- or 60-ft.-long cores of ocean bottom material came into extensive use. An expedition directed by Maurice Ewing of Columbia university made many core and sampling tests in the western part of the North Atlantic, and concluded that the region between the mid-Atlantic ridge and the east coast of North America contained large areas where the material of the ocean bottom had been carried down and deposited from the surrounding land. The mid-Atlantic ridge was also further studied.

A new underwater camera gave successful photographs of the ocean bottom and the fish and plant life there, at depths of several miles.

In the Pacific it was found that the Cape Johnson deep, off the Mindanao trench, measured 34,440 ft. The previously reported deepest place, the Emden deep, was resurveyed, and the earlier measurements there were found subject to considerable correction.

A joint Scripps Institution of Oceanography and U.S. navy expedition found that a ridge called the "mid-Pacific mountains," 1,000 mi. long and 100 mi. wide, extends from Wake Island to a point near the Hawaiian group. A number of submerged mountains 14,000 ft. high are in this ridge.

The exploration of the upper atmosphere continued, without any new records being established during 1950. Experimental step-rockets were fired, consisting of a large rocket of the V-2 type with a smaller "Viking" type in its nose. In previous tests it had been shown that vertical firing by this means would get the smaller rocket to altitudes considerably higher than those attained by the larger component. During 1950 the tests were not vertical, but out at an appreciable zenith angle, to secure horizontal travel. Several experimental firings were made. No new records were claimed, but the equipment was believed to have operated successfully, and horizontal distances of several hundred miles were thought to have been covered.

Ballooning was also carried out. Several balloons of the single-cell plastic envelope type attained altitudes of more than 100,000 ft., and remained at top altitudes for some hours. Such balloon flights were launched from the Caribbean area, from the midwestern United States and from Canada. Latex-type balloons were also flown from various stations in the United States and Canada, as well as from some points in Europe. These flights usually carried equipment weighing up to 150 lb. for special studies, as for cosmic ray observations. They were in addition to the routine flights conducted by the various meteorological services in which weather data were measured.

(See also ANTARCTICA; ARCHAEOLOGY; COAST AND GEODETIC SURVEY, U.S.; GEOGRAPHY; MARINE BIOLOGY; NATIONAL GEO-



GRAPHIC SOCIETY; OCEANOGRAPHY; SMITHSONIAN INSTITUTION.)  
(S. A. K.)

**Explosions:** see DISASTERS.

**Export-Import Bank of Washington.** Created in 1934, the bank was made a permanent independent agency of the U.S. government by the Export-Import Bank act of 1945, approved July 31, 1945. Its purpose is not only to facilitate the financing of U.S. exports, but to assist in financing development projects in foreign countries which will increase their productive capacity, step up their exports, thereby improving their foreign exchange situation and making them better suppliers of materials and goods needed for import into the U.S. Its financing is generally limited to the dollar cost of U.S. materials, equipment and services required for development projects in foreign countries.

The bank is empowered to lend to U.S. exporters and importers and to private entities in other countries as well as to foreign governments. It finances specific export and import transactions on application of U.S. exporters and importers where the nature of the risk involved is such that private credit cannot be obtained and when, in the opinion of its board of directors, there exists reasonable assurance of repayment. It also arranges, in favour of foreign purchasers, credits which are available on equal terms to all qualified U.S. exporters for financing the sale of U.S. export staples such as raw cotton.

The total amount of loans authorized by the bank from the time of its establishment in 1934 approximated \$5,078,600,000 at the end of 1950. Disbursements during 1950 were approximately \$199,918,971.82, and repayments during 1950 were approximately \$160,018,494.40. Outstanding loans of the bank totalled \$2,219,485,750.94 at the end of 1950. (S. Sp.)

**Exports:** see AGRICULTURE; INTERNATIONAL TRADE. See also under various countries.

**Eye, Diseases of.** Cortisone, a hormone of the adrenal cortex (Compound E), and ACTH, the pituitary adrenocorticotrophic hormone, were found to have a profound effect in the control of ocular inflammations. These drugs block the inflammatory and exudative phases of the anaphylactic protein reaction, of the bacterial allergic reaction and of the focal reaction produced by the subcutaneous injection of tuberculin. Cortisone was used topically and systemically while ACTH was administered systemically only. The drugs appeared beneficial in cases of nongranulomatous iritis, sympathetic ophthalmia, tuberculous choroiditis, sclerokeratitis and disciform degeneration of the macula secondary to subretinal haemorrhage. The drugs did not benefit syphilitic interstitial keratitis, retrolental fibroplasia or juvenile Coats's disease.

Additional ocular diabetic changes were reported. Conjunctival aneurysms were studied and divided into two groups: the diabetic type was round, purple, had sharp borders and at times was attached to a vessel; the nondiabetic type was a dilatation of a vein, often seen near areas of inflammation and in old people. The diabetic aneurysms were found in 14% of apparently normal persons and in 55% of the diabetic patients. Aneurysms were found more frequently in diabetic patients with retinopathy than in patients without retinopathy.

Asymmetric exophthalmos was investigated by studying 177 cases and 100 normal persons. The Hertel exophthalmometer was used for all measurements and 22 mm. was established as the upper normal limit, and 2.5 mm. or less difference between the two eyes was considered normal. Neoplasms caused the exophthalmos in 44% of the cases, while 25% was attributable to

exophthalmic goitre. The amount of asymmetry was not of great value in determining the aetiology of the exophthalmos. However, a high amount of asymmetry favoured a tumour and asymmetry of more than 7 mm. was uncommon in exophthalmic goitre.

Aureomycin, an antibiotic obtained from the mould *Streptomyces aureofaciens*, was tolerated by the eye when used in 0.5% solution of the borate form and in 1.25% solution of the ethylene diamine form. Aureomycin injected into the vitreous produced considerably more damage than did penicillin or streptomycin. Locally instilled aureomycin penetrated the normal cornea poorly but penetrated an abraded or inflamed cornea more easily. Systemically administered, the drug became distributed throughout the eye, the more vascular the tissue, the higher the concentration of aureomycin. Aureomycin had a large spectrum of antibiotic activity, including staphylococcal, pneumococcal, streptococcal, influenzal and *Pseudomonas aeruginosa* infections. It also appeared beneficial in epidemic keratoconjunctivitis and trachoma.

The biochemical systems of the eye were studied extensively by a number of workers. The synthesis of glycine into glutathione and then into lens protein was studied by culturing lenses and following the progress of radioactive carbon. The observations suggested that the glutathione and protein of the lens are being continuously synthesized. Spectrophotometric analysis of rabbit and bovine lenses suggested that either cytochrome C is absent or present in quantities less than 20 gammas per gram. The oxygen uptake of the lens was inhibited by cyanide, therefore some enzyme system containing a heavy metal, possibly copper, was postulated.

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**Facsimile:** see RADIO; TELEGRAPHY.

**Fairs and Exhibitions.** Fairs and exhibitions, which have made their greatest development in the United States and Canada, reached a new high in attendance and popularity in 1950. The more than 2,200 county, district and state fairs of the U.S. and the provincial exhibitions of Canada were attended by more than 65,000,000 people, who spent an estimated \$250,000,000 for entertainment and merchandise. In the educational line, the exhibition and demonstration of improved methods of agriculture and livestock raising, home economics, labour-saving machinery, youth projects and everything pertaining to farm life was carried out in 1950 on a more extensive scale than ever before. Leading manufacturers of everything used on the farm and in the farm home spent large sums of money on exhibits and demonstrations. Thousands of members of 4-H clubs and Future Farmers of America exhibited their work in competition for substantial prizes; and in the adult classes the exhibits of high-grade cattle, sheep, hogs, horses, poultry and other livestock reached an all-time high. Entertainment was of the same general character as in previous years—a carnival midway, elaborate grandstand shows featuring musical revues and circus acts, harness racing, auto racing and auto thrill shows—but with the addition of many entertainers famous in radio and the theatre. At many of the larger fairs elaborate historical revues and pageants were presented.

Topping all fairs on the North American continent was the Canadian National exhibition at Toronto, with an attendance of 2,723,000 in 14 days. In the United States, the Texas state fair





EXHIBIT of the European Travel commission at the first U.S. International Trade fair which was held in Chicago, Ill., during the summer of 1950

at Dallas recorded an attendance of 2,176,519 in 16 days, and the Los Angeles county fair at Pomona, Calif., drew more than 1,000,000 attendance in 17 days. The Minnesota state fair, St. Paul, drew 905,563 in 10 days; the Wisconsin state fair, Milwaukee, 721,781 in 10 days; the Indiana state fair, Indianapolis, 600,630 in 10 days, and most of these and other state fairs set new all-time records for attendance. The first U.S. International Trade fair was held in Chicago, Ill., in Aug. 1950. It attracted a public attendance of about 350,000 and about 25,000 buyers; 47 countries were represented. Another Chicago event, the Chicago fair, held on the lake front June 24–Sept. 4, counted 1,700,000 paid admissions. The Texas state fair presented the stage show *South Pacific* and drew a gate of more than \$375,000. The auditorium on the Indiana state fair grounds was used to present the Sonja Henie ice show and other attractions throughout the year. Most fairs are subsidized by the state, which appropriates a large share of the money offered as premiums to exhibitors of agricultural and home products. But for the greater part of their income, the fairs depend upon gate admissions, which range from 25 cents to \$1.00, and revenue from the midway and grandstand attractions and the sale of exhibit space to manufacturers and dealers. Most of the 1950 events showed a profit.

(NA. G.)

**Great Britain.**—The year 1950 saw the 29th British Industries fair, again held at Olympia and Earls Court, London, and at Castle Bromwich, Birmingham. There were 3,038 exhibitors; 19,005 overseas visitors, nearly 2,000 more than in 1949; 113,102 home buyers; and 73,540 public visitors. Two regular exhibitions were again held in 1950: the *Daily Mail* Ideal Homes exhibition at Olympia and the annual display of the Society of British Aircraft Constructors at Farnborough.

**Agricultural Shows.**—The show of the Royal Agricultural society of England was held in July at Kidlington airfield near Oxford. The total attendance for the four days was 122,236, compared with 186,678 at Shrewsbury in 1949. The Royal Norfolk Agricultural show was held at Anmer park on the royal es-

tate at Sandringham. The total livestock entry of 1,951 was a record. In two days the attendance was 69,872. The Royal Counties show was merged in 1950 with the Sussex county show and the combined show was held at the seaside resort of Bognor Regis, Sussex; the attendance was 64,223. The Bath and West and Southern Counties show, held at Castle Bromwich, had only 72,207 visitors in 1950 compared with more than 122,000 at Bristol in 1949 and 162,000 at Cardiff in 1948.

**Germany.**—The two leading spring shows in Germany again gave signs of their importance to European trade. The Leipzig fair attracted 7,500 exhibits, 750 of which were from western Germany, making the fair the largest there since World War II. An entire pavilion was devoted to products of the U.S.S.R. There were 4,000 exhibitors at the Frankfurt fair in western Germany later in the same month. About 28% of the exhibits were foreign.

**Finland.**—The fourth of a series of great national fairs was held from Sept. 30 to Oct. 15, the first three having been held in 1925, 1930 and 1935. A new exhibition hall was built and almost the whole of Finnish industry was represented.

**Italy.**—The traditional Milan fair and Fiera del Levante at Bari were well supported. More than 40 countries took part at Milan in April including many eastern European states. The U.S.S.R. was not represented because of a disagreement on the allocation of space.

**France.**—Among the important exhibitions in France were the international fairs at Lyons in April and at Paris in May and the motor and cycle shows in Paris.

**Falk Foundation, The Maurice and Laura:** *see* SOCIETIES AND ASSOCIATIONS.

**Falkland Islands.** A British colony and dependencies. The colony consists of two main islands, East and West Falkland, and about 200 smaller islands in the South Atlantic. Dependencies: (1) South Georgia (four whaling stations) with South Orkney and South Sandwich, and (2) South Shetland and Graham Land. Colony, area: 4,618 sq.mi.; pop. (1949) *c.* 2,000 white, almost all of British descent, predominantly Protestant. Capital and only town, Stanley (pop. *c.* 1,200). Area of dependencies: 3,063 sq.mi.; pop. *c.* 400. Governor in 1950, Sir G. Miles Clifford.

**History.**—The Colonial Development corporation's two projects for a sealing industry and for establishing a freezing plant for mutton were the most important developments in the Falkland Islands in 1950, though the phenomenal rise in the world wool prices also promised increased prosperity for the farming industry. In May two Auster aircraft purchased by the government were put into service, and since there are no roads outside Stanley the people living in the settlements had for the first time an alternative means of transport to the horse.

On two occasions the Argentine government pursued its century-old claim to the Falklands, first by a resolution in the senate reaffirming the claim, and subsequently by applying Argentine internal telegraph rates on messages sent to the Falklands and their dependencies. The Falkland Islands Dependencies survey continued its work in the antarctic, and after two years the base at Stonington Island was relieved on Feb. 10 by the supply ship "John Biscoe."

**Finance and Trade.**—Currency: pound sterling. Budget (est. 1950): colony, revenue £189,725 and expenditure £186,734; dependencies, revenue £129,806 and expenditure £102,864. Trade (1949): imports £295,467; exports, including re-exports, £428,946. Principal exports: wool, tallow and whale oil (dependencies).

(K. G. B.)

**Family Income:** *see* CENSUS DATA, U.S.

**Famines:** *see* FOOD SUPPLY OF THE WORLD.



**Far Eastern Commission:** see JAPAN.

**Far Eastern Unity.** Two contrasting and at times conflicting aspects of policy in the field of far eastern unity were observed during the year 1950. The threat of Communist aggression was felt acutely by almost every state in the far east at one time or another, but there was no general agreement upon the means of meeting that threat. Some governments, especially nationalist China, Republic of the Philippines, Thailand and Australia, openly favoured some sort of regional defensive alliance. Others, chiefly India and Indonesia, voiced strong objection to any specific commitment that would involve an alignment in one or another ideological camp.

This difference was reflected primarily in attitudes toward the Chinese Communist regime at Peking. Burma and India recognized that regime in Dec. 1949 and Indonesia followed suit somewhat later. Thereafter it became the Indian position that such recognition was the logical and realistic course and that a settlement of problems such as the status of Korea or Formosa could not be reached unless and until the Chinese Communists were admitted to the United Nations. This point of view accounted for the Indian reluctance to support strong measures in Korea, expressed primarily in abstentions in the United Nations, in spite of the fact that India had joined in condemning the original North Korean aggression.

On the other hand, India's recognition of Peking made it possible for the Indian delegation at Lake Success, headed by Sir Benegal Rau, to take the lead in exploring possibilities of contacts with the Chinese Communists in the search for a peace formula. Thus India headed a group of 13 Asian and Arab states that offered a resolution in the general assembly calling for the naming of a committee to search out the ground for a ceasefire.

The differences in point of view were illustrated by the fact that when this same group drafted a second resolution calling for the simultaneous discussion of a variety of far eastern problems, including the status of Formosa and the admission of the Chinese Communists to the United Nations, the Republic of the Philippines sharply dissociated itself from the action. The Philippine delegation aligned itself clearly with the United States position which was that the Korean situation must be stabilized before these other problems were broached. In that connection it was significant that the Philippines and Australia were the only far eastern states that had sent substantial military or naval contingents to Korea, although offers of help had come from nationalist China and Thailand.

This difference reflected divergent opinions as to the proper role for any grouping of Asian states. The Philippines, Australia and Thailand had expressed their willingness to join in the formation of a strong regional alliance involving common defense commitments. Such an alliance would be openly anti-Communist in character. Moreover, both Pres. Chiang Kai-shek of nationalist China and Pres. Syngman Rhee of the Republic of Korea had voiced their support for such an alliance during the preceding year. The United States had promptly disavowed support for such a program, presumably on the ground that alliance with Chiang could involve war against Communist China. A similar view was expressed several times in India.

The Indian position, and the Indonesian, was that there might and should be some sort of spiritual rather than physical unity among the Asiatic peoples, but that it must not take on any aspect of an alliance nor must it be directed against any group or any idea. Implicit in this approach was the hope that the Asian states, headed by India, might form a "third force" in the ideological struggle between the Soviet Union and the western democracies. There were indications late in the year that this hope had been

somewhat dimmed in India by the Chinese Communist invasion of Tibet and by the evidence of Communist penetration in neighbouring Nepal.

When the Philippines took the lead, early in the year, in efforts at regional *rapprochement* it was necessary, therefore, to compromise these differences. The compromise restricted the scope of regional meetings and made the possibility of advances toward real unification somewhat remote. Nevertheless, exploratory efforts were continued and some progress was made.

Elpidio Quirino, president of the Philippines, had issued an invitation in the summer of 1949 to Asian nations to meet in conference in the Philippines early in the next year. The work of translating this invitation into an international meeting and of planning and directing such an enterprise was entrusted to Brig. Gen. Carlos P. Romulo who was then president of the United Nations general assembly and subsequently was made Philippine foreign minister. General Romulo had long been an advocate of some sort of far eastern federation at any level that could be achieved and had been an eminent spokesman for both the Asian and "small nation" members of the United Nations.

General Romulo was obliged to work diligently and persuasively to overcome the apprehensions of some of the invited nations. It was not until it had been made plain that there would be no prior commitments involved and not even an agreed preliminary agenda that it was possible to announce that the conference would be held in Baguio, Philippine mountain resort, during the last week in May. President Quirino and General Romulo had indicated from the beginning that this was to be a meeting at the government level to explore the whole field of common interest. It was the first conference of such a character to be proposed and there was therefore an obvious tendency on the part of some governments to go slowly.

Those that participated, with the Philippines, were Australia, Ceylon, India, Pakistan, Thailand and Indonesia. Their delegations were headed by J. W. Burton, secretary of the Australian department of external affairs; R. G. Senanayake, parliamentary secretary to Ceylon's ministry of external affairs; Sir Ramaswami Mudaliar, Indian delegate with the rank of ambassador; Nazir Ahmed of Pakistan; Luang Bhadravadi, envoy extraordinary and plenipotentiary of Thailand; and Ali Soebardjo, Indonesian delegate with the rank of ambassador. A large Philippine delegation was under the chairmanship of General Romulo.

The first plenary session was held on May 26 and meetings continued for five days. It was decided that political matters should be considered by the conference only in a committee of the whole, while two subcommittees were named to make draft reports in the economic and the social and cultural fields. The reports of these subcommittees were subsequently adopted with enthusiasm by the entire body and incorporated in its final resolution. A draft Declaration of Principles in the political field was submitted to the committee of the whole by the Philippine delegation on May 29. This draft, with the proposal that some permanent body be set up further to explore the possibility of regional unification, went too far to meet the approval of some delegations and provoked the most spirited debate of the conference. The political draft was finally revised by a subcommittee to include only material upon which there could be no disagreement.

In the discussions it was evident that some of the nations were wary of any political commitment that might involve an identification with one or another ideological group. At the opening session, for example, the Indonesian delegate, Soebardjo, stated: "It is to our interest and that of our neighbours that we refuse to take sides with this or that nation or group of nations."

Within the limitations set by such an attitude the results of the conference were regarded by its members as significant and



impressive. The first objective as stated by General Romulo, who was made permanent chairman of the conference by acclamation, was to become better acquainted and to embark on a task of friendly and co-operative exploration. This was fully accomplished. The meetings were held in an atmosphere of cordiality and enjoyment. The final act was adopted in complete unanimity.

The recommendations of this final resolution fell into three groups: political, economic, and social and cultural. In the political field it was agreed that regional consultation should be carried on through normal diplomatic channels and within the framework of the United Nations. The emphasis upon diplomatic channels was important because at the time of the conference there was as yet no interchange of representatives among all the participating states. While the idea of some permanent organization was not accepted it was agreed in principle that there should be joint action among the countries of the region for specific purposes at specific times. The New Delhi Asian conference on Indonesia was cited in the discussion as a precedent. Such action, it was indicated, would be within the organs of the United Nations and other international organizations.

In the economic field the conference made four recommendations. First, it was agreed that the Asiatic nations should play a part in the fixing of fair and stable prices in world markets for their export products. In the past the market prices of raw material products such as copra and abaca had been fixed by the buyers rather than by the producers. Second, the conference urged the early conclusion of bilateral trade agreements among the Asian states, coupled with the possible establishment of multilateral clearing arrangements. Third, the delegates recommended government encouragement of the interchange of technical personnel and information. In this connection it was urged that the governments also take advantage of facilities to be offered by countries outside the region. This was an obvious, if oblique, reference to the Point Four program. Fourth, it was recommended that the governments undertake a co-operative study of their development plans so as to integrate some efforts and to take advantage of possible specialization in certain areas.

In the social and cultural field the recommendations of the conference covered a wide range. The delegates were firmly agreed on the need to promote social well-being in the area and they called upon their governments to take a variety of steps that they regarded as necessary. First on their list was the campaign against illiteracy. Second only to that was the fostering of cultural and social programs designed to support peace and international understanding. A related recommended project was the establishment of international study centres and cultural institutes, coupled with the growth of public libraries and the translation of classics of each country into the languages of the others. Likewise it was urged that the exchange of books, periodicals and all sorts of information be facilitated. In this cultural exchange, as outlined, were included also the movement of specialists and technicians and the organization of art exhibits, concerts, radio broadcasts and athletic tournaments. Finally, this phase of the ultimate act of the conference touched on social services and recommended legislation relative to public health and nutrition that would improve material well-being.

The agreement upon the need for such a program was complete. The conference did not, however, create any regional bodies to effect its co-ordination but left the initiative as well as the direction of effort to the several governments. It was apparently felt that the levels of prior accomplishment in the different states were so diverse that a uniform mode of procedure would be impossible.

If there was some disappointment because more firm decisions were not reached by this conference there was also a satis-

fied conviction that deep friendliness had been expressed and that important, if limited, progress had been made. This feeling was summed up by General Romulo in his comment on the final resolution that he submitted in his third progress report on May 29. He said:

"The document speaks for itself. It proposes no final solutions for the complex and difficult problems of our region. It contains no earth-shaking declarations. But it is epoch-making in a very significant sense. It is the first official declaration of its kind emanating from a conference of representatives of the free states of south and southeast Asia which, in itself, is a milestone in the history of the region. The spirit of cordiality and free understanding breathes through this document. Our nations have come together, not in defiance nor in anger, but solely out of a desire to know each other better and to seek effective solutions for our common problems.

"This achievement of the conference is wholly in keeping with the spirit of Asia and its peoples. It constitutes, to paraphrase the remark of President Quirino during the opening day of the conference, 'no miracle of achievement.' Viewed, however, against the background of the conditions that have obtained among our peoples in the region for many centuries, this document is more than a mere statement of familiar principles. It is a triumph of initiative, courage and understanding, and I am certain that succeeding generations will consider it in this light as the beginning of a major historical development in Asia."

The development that General Romulo had in mind must have been the closer integration of Asiatic peoples that he had so often urged. The year 1950 showed the trends in that direction that were apparent at the Baguio conference. It showed also, however, some of the cleavages in belief and policy that made such an integration difficult.

The common danger was recognized to a degree by most of the Asian states. Common means of defense against it were not found.

One reason for that failure quite obviously lay in the difference in political structures involved. General Romulo remarked pointedly that the conference at Baguio was a meeting of the "free" states of south and southeast Asia. Indochina and Malaya were thus significantly omitted in spite of the fact that the most imminent danger in the area was the danger to Indochina and that the economic co-ordination of the region without the conspicuous contribution of Malaya would be difficult if not impossible.

This difference in structures was pointed up even further by the Indonesian delegate at Baguio when he declared that the only proper basis for unified action in Asia would be a commitment to "anticolonialism" and "anti-imperialism." Manifestly, such a commitment would not apply to Australia, to the Philippines or to Thailand and could hardly be stretched to cover India, Pakistan, Ceylon or even Indonesia itself. What could have been meant, therefore, was only that far eastern unity should be approached by opposition to the French in Indochina and to the British in Malaya.

The Baguio conference, as a whole, took a more constructive tone, but this viewpoint limited the degree to which it could approach effectively political problems that affected the area as a whole.

A further obstacle to unity does not appear to have been discussed in detail at Baguio although it made itself felt at different times during the year in several of the east Asian states. Almost every one of those countries represents what is called a "plural" society. The diversities in India and Pakistan are well known, but in other Asian states there are also significant and differing minority groups. Thus Thailand was made acutely aware



of the presence of a large and influential Chinese community and received admonition from Peking about its treatment. In Malaya there was evidence that localized terrorist activities had at least some connection with Chinese Communist planning and direction. Moreover, there was severe Moslem rioting in Singapore in December, touched off by a court case involving the disposition of a Dutch child who had had Moslem foster parents and had been married, at 13, to a Moslem.

The Netherlands resisted Indonesian demands for the annexation of western New Guinea at least partly on the ground that the indigenous Papuans were not ethnically and culturally part of the Indonesian group.

Thus governments representing many differing peoples sought a common ground of interest. Their progress was slow. Their efforts, however, gave ground for hope to those who felt that far eastern unity was morally and politically desirable. (See also MIDDLE EASTERN UNITY.) (Ro. A. S.)

**Farm Co-operatives:** see FARM CREDIT ADMINISTRATION.

**Farm Credit Administration.** Farmers and farmers' co-operatives in the United States and Puerto Rico in the year ended Dec. 31, 1950, obtained more credit from the institutions and associations operating under the supervision of the Farm Credit administration of the U.S. department of agriculture than in any year since it was organized. The number of farmer borrowers and the number of borrowing farmer co-operatives increased; the amount of money invested by farmers and farmers' co-operatives in this co-operative credit system was the largest since it was organized; and the reserves of the system were increased substantially in the year.

The co-operative Farm Credit system operates through 12 district offices and through local co-operative associations. Farmers obtain short-term operating credit from 500 local production credit associations, and long-term farm mortgage credit through 1,200 local national farm loan associations. Each farmer-borrower owns stock in his association equal to 5% of his loan. Farmers' business co-operatives deal directly with the bank for co-operatives of the district in which the co-operative is located or, in the case of a co-operative of large regional scope, with the Central Bank for Cooperatives. Each borrowing co-operative owns stock in the bank for co-operatives from which it obtains its loan.

Farmers and farmers' co-operatives obtained loans from the associations and institutions operating under the supervision of the Farm Credit administration totalling \$1,900,000,000 in 1950 compared with \$1,700,000,000 the previous year. Credit needs of farmers and their co-operatives in the year remained high.

Farmers obtained 43,122 farm mortgage loans amounting to \$206,000,000 through their national farm loan associations and federal land banks. This compares with \$182,000,000 and 39,522 loans in 1949. At the end of 1950 they were using 308,021 land bank loans totalling \$946,000,000, the largest amount in any year since 1945. Funds used to make these loans were obtained by the sale of consolidated farm loan bonds to investors. The bonds are not guaranteed as to principal or interest by the United States government.

Farmers obtained \$1,076,000,000 in credit from their 500 production credit associations in 1950. The number of loans was 288,082. This compares with \$956,000,000 and 287,443 loans in 1949. The production credit associations in the year again increased their membership from 454,774 to 461,571.

At Jan. 2, 1951, 176 of these associations were completely member-owned compared with 116 on Jan. 2, 1950, and 52 on

Jan. 2, 1949.

Farmers' marketing, purchasing and business service associations obtained \$402,000,000 in operating capital, facility and commodity loans from the 13 banks for co-operatives in 1950 compared with \$383,000,000 in 1949. The Central Bank for Co-operatives sold \$30,000,000 of 3-year, 1½%, collateralized debentures to obtain money to make longer-term loans. This was the first sale of debentures by the Central bank. These debentures are not guaranteed as to principal or interest by the United States government.

The 12 federal intermediate credit banks, the principal sources of loan funds of the production credit associations and of part of the loan funds of the banks for co-operatives, as well as of certain types of privately financed credit institutions, made loans and discounts in the year totalling \$1,627,000,000 compared with \$1,589,000,000 in 1949.

These funds were obtained principally through the sale of consolidated debentures to investors. These debentures also are not guaranteed as to principal or interest by the United States government.

Farmers and farmers' co-operatives in 1950 increased the amount of their capital stock ownership in their co-operative credit system. Farmers and farmers' co-operatives owned \$148,000,000 in capital stock in Farm Credit institutions and associations on Dec. 31, 1950, which compares with \$138,000,000 on Dec. 31, 1949. Farmer-borrowers own all the capital stock of the national farm loan associations and the associations own the capital stock of the federal land banks except a limited amount owned by direct borrowers. The capital stock of the 12 federal land banks totalled \$60,000,000 on Dec. 31, 1950, compared with \$58,000,000 the year previous. Farmer-members of production credit associations owned \$71,000,000 in capital stock of their associations, compared with \$65,000,000 on Dec. 31, 1949. Government capital in these associations declined from \$22,300,000 at the end of 1949 to \$15,700,000 on Dec. 31, 1950. Farmers' co-operatives increased their capital in the 13 banks for co-operatives from \$15,500,000 on Dec. 31, 1949, to \$16,600,000 on Dec. 31, 1950.

Besides supervising a nation-wide co-operative credit system through 12 district offices, the Farm Credit administration supervision also includes activities in connection with the Agricultural Marketing act revolving fund and the liquidation of commissioner loans held by the Federal Farm Mortgage corporation. It also has a co-operative research and service division which conducts research and service activities helpful to farmers' business co-operatives. (I. W. D.)

**Farmers Home Administration.** More than 121,000 farmers who could not obtain needed credit from other sources borrowed from this agency of the United States department of agriculture in the first ten months of 1950, and about 170,000 others who had borrowed previously continued to receive individual guidance from local supervisors in planning and carrying on sound farming operations.

The greatest demand was for operating credit for livestock, machinery and other essentials. Through October, 86,157 operating loans were approved in the amount of \$76,029,804. Nearly all were five-year adjustment loans to enable farm families to reorganize and adapt their work to changing conditions and to aid veterans and other young farmers make a good start in agriculture.

A smaller proportion of operating loans than in any other year were made for seasonal needs.

The same trend was evident in the farm-ownership program in which 1,101 farmers borrowed federal funds to buy, enlarge or develop economic units and 2,038 were similarly assisted by



private loans insured by the Farmers Home administration. A larger percentage of these 40-yr. real estate loans than ever before were used for readjustment of farming patterns through enlargement or improvement of inadequate units.

The direct farm-ownership loans, limited almost entirely to veterans, totalled \$10,393,783. Insured loans advanced by banks, insurance companies and other private lenders amounted to \$15,651,047.

In the new farm housing program begun late in 1949 the agency extended credit of \$26,539,910 to 5,849 farm owners to build or repair homes and farm buildings. Small grants of \$117,060 also were made to 265 owners of small farms who urgently needed assistance in making emergency housing repairs for health and safety.

Housing loans were subject to government credit controls put into effect Oct. 12 to prevent inflation and conserve building material for defense purposes. After that date a loan could not be made for the full amount needed for construction or repair of a farm dwelling, if the amount was more than \$2,500. Also, the 33-yr. maximum repayment period was shortened to 25 yr. for loans between \$2,500 and \$7,000, and to 20 yr. for loans exceeding \$7,000.

Western offices of the agency made water facilities loans to 1,080 individual farmers and 19 farmers' associations in arid and semiarid areas for installations to furnish water for farmstead use and irrigation.

Emergency credit was extended in areas designated by the secretary of agriculture to aid about 26,900 farmers who suffered production losses because of flood, drought, blizzard or similar disaster.

A special congressional committee studying the problems of low-income farm families recommended additional aid through supervised loans for production and farm purchase. (D. B. L.)

**Farm Income:** see AGRICULTURE.

**Farm Machinery:** see AGRICULTURE.

**Farm Population:** see AGRICULTURE; CENSUS DATA, U.S.

**Fascism.** The year 1950 marked the rebirth of fascist currents and organizations in Germany and Italy. In Germany it was represented by several groups of which the strongest was the Socialist Reich party. It appealed to the concept of a "socialism" as opposed to a "plutocracy" represented by the United States, and to the expansionist traditions of the German reich. Another group was the Brotherhood or Brüderschaft organized by former S.S. officers. They wished to rebuild Germany as the strong core of a united Europe independent from the U.S.S.R. as well as from the United States. A Fighting Group of German Socialists was organized at Brunswick in 1950 to act as a guard for extreme nationalist meetings. Common to all these movements was the conviction that German National Socialism succumbed not because its ideas were wrong but because its leaders were not equal to the task. Another group, the German Reich party openly approved Hitler's anti-Semitic "solution." The Deutsche Volksbewegung—Sammlung zur Tat (German People's Movement—Union for Action) developed a program which was as near to communism as to fascism; the one thing characteristic of these movements was their contempt for western democracy and for the German Federal Republic of Bonn.

In Italy the Italian Social Movement, which had six members in the chamber and one in the senate, publicly declared itself neofascist. This Movimento Sociale Italiano propagated the return to the one-party state and to the corporative society. Its official organs clamoured for the return of all former Italian colonies including Ethiopia and for an aggressive foreign policy, hostile equally to communism and to the Anglo-American democ-

racies. The Italian government decided at the end of 1950 to ban the neofascist movement.

In France fascism had so far found no organizational basis but was represented by a few weeklies and monthlies, among them *Aspects de la France* and *L'Indépendance Française*. In Portugal the old semifascist order remained unchanged. The fascist control of Spain, established in 1939 by Generalissimo Francisco Franco, continued in its deep-seated opposition to western democracy, especially to Britain and France, and in its longing for a revival of Spanish imperial greatness.

A different kind of fascism was cultivated by Pres. Juan D. Perón in Argentina. Peronism was praised in Argentina as a movement for social justice which had the wide support of labour and had enhanced the prosperity of the country. On the other hand, greatest emphasis was put on Argentinian extreme nationalism; individual liberty in the democratic sense was little valued and the "imperialism of gold," meaning United States capitalism, was violently attacked.

Thus fascism in 1950 represented a wide variety of different movements, united only in their rejection of democracy as understood in the Anglo-American countries. (H. Ko.)

**Fashion and Dress.** Women's clothes were seldom prettier or more generally "wearable" than they were in 1950. The end of 1949 had found fashion apparently headed for a large-scale revival of the 1920s, but this rather extreme trend modified itself greatly. Some silhouettes of the flapper age remained, but they were so modernized as to be hardly detectable.

One of these was the chemise dress. In its 1950 form, this was a dress cut straight and fairly tight from the armhole to the flank, without a waist; the woman created her own waist, as high or low and as tight or loose as she wanted it, by means of a belt. This feature made the chemise a wearable dress, easy on difficult figures, and it was popular in the couture as well as in budget dress departments and in both day and evening versions. These latter dresses usually had stiff flares near the hem line, which were termed Spanish flounces or "trumpet" skirts.

Another feature of 1950 fashions that persisted from the 1920s revival was sleevelessness. Sleeveless dresses were worn for all four seasons of the year. Women liked them because of the easy fit they gave through the shoulders. Sleeveless blouses were also worn and, for evening, harness tops that were hardly more than yokes around the neck.

These harness tops were often in velvet. Velvet was one of the chief reasons why 1950 was such a pretty year in fashion. Always flattering to a woman's complexion, it was lavishly used by designers, particularly cotton velvet (velveteen). There were tailored velveteen suits and dresses for day, short dinner dresses in pretty colours of velveteen such as Parma violet, velvet ball gowns and dominoes, and evening separates that combined velvet with fabrics like tulle and stiff cotton lace. The short, swingy little odd jacket in black velveteen became a best seller, as did the velvet pump and the velvet belt.

An abundance of transparent fabrics also added to the atmosphere of prettiness in 1950—organdies and chiffons in white and pale colours and sweet sherbet tones were worn both day and evening. At night gray tulle was often seen, in every shade from mist to gunmetal.

Other fashions of 1950 included stoles—lengths of matching fabric which were used to wrap gracefully the shoulders of dresses, wool dresses as well as more formal dresses. There was also a trend toward longer hair; the short crop began to give way to more feminine coiffures, and a few chignons (knots of hair at the nape of the neck) were seen. Eyes were outlined with pencil and mascara to make them seem larger. This fashion, so





Left: **FABRIC AND COLOUR SCHEME** popular in 1950: velvet, used even in tailored suits, and black used with white

Below: **THE SPANISH INFLUENCE** in 1950 fashions included matador hats, boleros, braid, ball fringe, jet, and Spanish reds and yellows



Below: **THE SUIT LINE** of 1950 showed a swing to the tailoring of the 19th century riding habit, with spare shoulders, high notched lapels and narrow sleeves



Below: **THE STOLE**, a popular 1950 accessory, was used as an adjunct to street wear as well as to formal evening dresses such as this one of red satin





quickly and completely adopted that it was featured even in the big news weeklies, took on rather amusing aspects, and women with the new made-up eyes were referred to as "doe-eyed."

In suits and coats 1950 was notable for tailoring. The suit of the year was the tailor's suit, with a straight skirt and a jacket tailored as strictly as the jacket of an old-fashioned riding habit, with high, notched lapels, narrow sleeves, high armholes and vents at either side or in the back. More redingotes were seen—sharply fitted single-breasted coats with notched lapels and vented skirts.

In Paris there was a definite trend toward tunic coats and flared three-quarter coats. However, the loose, fleecy topcoat continued as popular as ever, in bright colours as well as a very dark banker's gray.

The most fashionable colour scheme of the year was black and white, used day and night, winter and summer, and in either proportion—black with white accessories, or white with black accessories. There was a big wave of Spanish colours, like a rich yellow or ruby red worn with accents of black. This Spanish influence was also felt in the widespread use of ball fringe, jet and passementerie, and many hats were of Spanish inspiration, resembling those worn by matadors.

Hats continued quite small in 1950—pillboxes, toques and tiny berets—although there was a noticeable forward movement in the way they were worn.

Little fashions that "caught on" during 1950 included: patent leather, which was used all year round for shoes, bags and belts; accessories in two textures of leather or fabric, and two colours (even satin spectator pumps for the evening); fox furs, which had a big revival; and rhinestone jewellery, big, glittery and frankly fake, which was worn from the morning on, on tweed suits as well as on lace evening dresses. (See also FURS.)

(C. SN.)

**Faulkner, William** (1897– ), U.S. novelist, was born on Sept. 25 in New Albany, Miss. He attended high school at Oxford, Miss., and after serving with the British royal air force during World War I, he returned to Oxford to attend for two years the University of Mississippi. He served for a time as a newspaper reporter in New Orleans, and subsequently remained in Oxford for virtually his entire literary career, leaving only for such rare trips as one he made to Europe, a few to Hollywood to supervise the filming of his novels, and visits to his publishers in New York. Ironically, his work is perhaps least known in the deep south about which he so often wrote. His works include *Sanctuary*, *The Marble Faun*, *As I Lay Dying*, *Sartoris*, *Go Down Moses*, *The Hamlet*, *Light in August*, *Absalom, Absalom!* and *Intruder in the Dust*. In Nov. 1950 Faulkner was awarded the Nobel prize for literature, held over from 1949 when no prize was given in this area because the Swedish academy had failed to agree on a candidate.

**FBI:** see FEDERAL BUREAU OF INVESTIGATION.

**Federal Bureau of Investigation.** Established in 1908 as a permanent investigative arm of the United States department of justice, the FBI is engaged in two general fields of activity—general investigation and security. Its general investigative duties require the collection of evidence relating both to violations of the federal criminal laws over which it has jurisdiction and to certain types of civil litigation in which the government is a party in interest.

By presidential directives, the FBI is charged with co-ordinating the investigations of espionage, sabotage and general internal security matters.

During the 12-month period ending June 30, 1950, there were 8,921 convictions in all types of cases investigated by the FBI. This represented a 6% increase over the same period in 1949. Convictions resulted in 96.9% of all FBI cases brought to trial, and sentences imposed totalled 21,102 years, 2 months and 29 days, plus four life terms.

A total of 6,097 fugitives in FBI cases were located during the year, including 2,745 deserters and Selective Service fugitives.

Returns to the taxpayers in the form of fines, savings and recoveries in FBI cases totalled \$36,152,576 during the 1950 fiscal year. Renegotiation act claims adjusted in favour of the government in cases investigated by the FBI amounted to an additional \$55,162,900.

Substantial increases in convictions during the 1950 fiscal year over the preceding 12 months occurred in a number of the various crime categories investigated by the FBI: for violation of the federal kidnapping statute 61%; federal extortion statute 35%; interstate transportation of stolen property 20%; National Bank and Federal Reserve acts 59%; National Bankruptcy act 80%; White Slave Traffic act 62%; and frauds against the government 114%. There was also an increase from 3,625 to 3,933 in convictions for violations of the interstate transportation of stolen motor vehicles or aircraft statute; and 10,581 stolen automobiles were recovered in these cases investigated by the FBI.

By presidential directives issued in 1939 and 1943 and restated on July 24, 1950, by Pres. Harry S. Truman, the FBI was charged with the responsibility of protecting the internal security of the nation against subversive threats and foreign agents. Other special security responsibilities concern applicant and employee investigations arising from congressional enactments or executive directives especially calling on the FBI to secure facts pertaining to security, character and loyalty of applicants for employment in and employees of the executive branch of the government.

In these investigations, the FBI is strictly a fact-finding agency and does not attempt to evaluate the information or to recommend action to be taken on the basis of information gathered through investigations.

Included in the special security category are those investigations made in connection with the Atomic Energy Act of 1946, the federal employees' loyalty program and special applicant investigations for the department of justice and other government agencies.

In addition to its investigative responsibilities, the FBI acts as a central service organization to all constituted law enforcement authorities in the nation. Co-operative services provided by the FBI include aid in connection with identification, laboratory examinations, training and crime record matters.

The identification division of the FBI received 2,338,254 fingerprint records during the 1950 fiscal year, bringing the total number on file to 114,356,747. There were 12,168 agencies contributing fingerprint data.

The FBI laboratory during the 1950 fiscal year conducted more than 100,000 examinations. These included those for the FBI itself, for other federal agencies and for nonfederal law enforcement organizations in every state in the nation as well as in the territories. These scientific examinations were performed pursuant to 23,462 requests involving 86,008 individual specimens.

Three sessions of the FBI National academy were conducted during the 1950 fiscal year. The 172 graduates brought the total number of graduates from the academy to 2,196 officers, representing each of the states of the United States and every territorial possession as well as a number of foreign countries.

In order to make professional law enforcement training available to entire departments and to police officers who were unable to attend the FBI National academy, the FBI participated in



2,979 local police training schools during the 1950 fiscal year. (See also CRIME; JUVENILE DELINQUENCY; POLICE; SECRET SERVICE, U.S.) (J. E. H.)

**Federal Civil Defense Administration:** see ATOMIC ENERGY.

## Federal Communications Commission.

The improvement and expansion of television absorbed a major share of the commission's attention during 1950. On Oct. 11, after a lengthy hearing, the commission approved the field sequential system of colour television developed by the Columbia Broadcasting system, in preference to systems proposed by Color Television, Inc., and the Radio Corporation of America. The commission found that the CBS system was the most satisfactory from the standpoint of texture, colour fidelity and contrast, that the receivers and station equipment were simple to handle and that this equipment had been successfully tested in widely diversified circumstances.

Commercial broadcasting of colour by CBS was scheduled to begin on Nov. 20 but was postponed when a special three-judge court in Chicago issued a temporary restraining order. On Dec. 22 the court upheld the commission's decision but ruled that the temporary restraining order was to remain in effect until April 1951 or until dissolved by the supreme court.

The ban on new television station construction, effective since Sept. 1948, was expected to remain in force until decisions on other phases of television were issued sometime in 1951. During the year, the commission heard extensive testimony on the feasibility of vastly increasing the potential number of stations by adding 42 channels in the ultrahigh-frequency band. These, added to the 645 stations provided for in the existing allocation of 12 channels in the very-high-frequency band would make possible, from an engineering standpoint, 2,245 metropolitan stations and 1,000 lowpower community-type stations. Educational leaders testified on their requests for the allocation of television channels for noncommercial educational broadcasting. The commission was scheduled to hear testimony on its proposed allocations to specific communities over the nation early in 1951.

Two subscriber television experiments were carried on. One was the Skiatron Subscriber-Vision system employing a punched decoder card. The other was the Zenith company's Phonevision, in which pictures are unscrambled for subscribers by the telephone company. A hearing was ordered on the request of the motion picture industry for special channels for large-screen theatre television.

As the year ended, there were 107 television stations on the air and 10,000,000 sets in use. The number of standard AM broadcasting stations in operation had passed the 2,200 mark, with more than 100 under construction and 300 applications pending. There were 90,000,000 AM receiving sets in use. There were somewhat less than 700 frequency modulation stations in operation and in the hands of the public approximately 7,000,000 sets capable of receiving FM.

A new five-year North American Regional Broadcasting agreement was signed by the delegates of Bahamas-Jamaica, Canada, Cuba, the Dominican Republic and the United States in Washington, D.C., in November. Provisions were made for adherence by Mexico and Haiti. It provided for the recognition of initial station assignments among the signatories and for notification procedures for additional and changed assignments, and established technical standards for the use of the broadcast band. The FCC and the department of transport of Canada concluded an agreement to co-ordinate assignments along the border in the very-high-frequency band to minimize interference possibilities

in land mobile radio operations. The Inter-American Radio agreement (Washington, 1949) accepted by the United States in June, concerns the use of frequencies of a regional nature.

There were several significant developments in the common carrier field during the year. The United States for the first time in its history became a party to the International Telegraph regulations which were revised at Paris in 1949. The Bell system began the construction of the final legs of a coast-to-coast microwave relay for television programs and telephone calls. Western Union completed its program of installing automatic switching centres in different parts of the country, to relay telegrams between cities without manual retransmission. The number of telephones in use in the United States grew from 41,000,000 to 43,000,000 with the Bell system reporting 750,000 applications on hand. (See also RADIO; TELEVISION.)

(W. Cy.)

## Federal Deposit Insurance Corporation.

The calendar year 1950 was the sixth consecutive year in which no depositor in an insured bank in the United States experienced a loss as a result of banking difficulties. During the year four banks with total deposits of nearly \$4,500,000 received advances from the Federal Deposit Insurance corporation which facilitated the merger of each bank with a solvent insured bank. Depositors in these banks were fully protected against loss.

At the close of 1950 the surplus of the Federal Deposit Insurance corporation amounted to about \$1,200,000,000, which had been accumulated from assessments paid by insured banks and from the return on the investments of the corporation. All the original capital stock had been repaid prior to 1949. The first of two equal instalments of repayment of interest on the capital stock was made during 1950 in an amount greater than \$40,000,000.

The contingent liabilities of the corporation as an insurer of bank deposits increased during 1950 with the increase in total deposits in the 13,600 insured banks and with the increase in maximum insurance from \$5,000 to \$10,000 for each depositor, effective Sept. 21, 1950.

The board of directors of the Federal Deposit Insurance Corporation was composed of Maple T. Harl, chairman, Preston Delano, comptroller of the currency, and H. E. Cook. (See also BANKING.)

(M. T. H.)

**Federal Housing Administration:** see HOUSING.

**Federal Income Tax:** see TAXATION.

**Federal Land Banks:** see FARM CREDIT ADMINISTRATION.

**Federal Power Commission.** Natural gas was brought to New York for the first time in 1950 through the 1,840-mi. pipe line built from Texas by the Transcontinental Gas Pipe Line Corp. New England was assured of natural gas by the action of the Federal Power commission in dividing the territory between two companies, Northeastern to serve Springfield, Mass., and many other cities, Algonquin to serve Boston, Mass., Providence, R.I., and neighbouring areas. Michigan-Wisconsin's newly completed pipe line increased the gas supply of Detroit, Mich., and Milwaukee, Wis. Work was begun on the Texas-Illinois pipe line to augment Chicago's supply. St. Louis, Mo., and Kansas City, Mo., Colorado and Wyoming had their supplies increased. San Francisco, Calif., was to be served by a new line being built by El Paso Natural Gas Co. and Pacific Gas & Electric Co. Completing its line to Buffalo, N.Y., the Tennessee Gas Transmission Co. was to lay extensions to Massachusetts to supply Northeastern while Texas Eastern, owner of the "Big Inch" and "Little Big



Inch" pipe lines, would increase its capacity to serve Algonquin with gas for New England and to increase deliveries to the Appalachian area. Panhandle Eastern Pipe Line Co., Northern Natural Gas Co., Texas Gas Transmission, Consolidated Natural Gas, Southern Natural Gas Co., Mississippi River Fuel Corp., United Gas Pipe Line Co., Cities Service, the Columbia Gas System, Inc., and practically all the larger companies were extending lines and increasing system capacities in 1950 to meet the enormous demand for natural gas.

During the fiscal year ending June 30, 1950, the Federal Power commission issued 108 certificates of convenience and necessity authorizing construction of 6,188 mi. of pipe lines estimated to cost \$487,240,014. Since Feb. 7, 1942, when the certificate provisions of the Natural Gas act became effective, the commission had authorized 33,689 mi. of interstate pipe lines costing \$2,115,751,350. Natural gas revenues in 1950 reached \$1,363,000,000, the industry reported, a gain of 25% above 1949, and 14,894,000 customers used 3,500,000,000,000 cu.ft. of natural gas. More than \$1,000,000,000 was invested in new production, transportation and distribution facilities, plants and compressors.

Electric energy production reached an all-time high, mounting to the first 7,000,000,000-kw.hr. week in the seven days before Christmas. Public utility plants in the 12 months ending Nov. 30 produced 324,713,811,000 kw.hr., 11.8% more than in the 1949 period, the Federal Power commission reported. Industrial and railroad plants generated for their own use 58,000,000,000 kw.hr. the industry reported, estimating the United States' total output from all sources in 1950 at 386,000,000,000 kw.hr.

Electric companies reported installation of 6,700,000 kw. of new generating capacity. Some obsolete units were, of course, retired, but the Federal Power commission reported that, at the end of November, installed capacity in public utility service was 67,975,389 kw., while industrial plants had 13,937,672 kw., making total U.S. generating capacity 81,913,061 kw.

Practically completing its ten-year task of placing electric plant accounting on the basis of original cost, the commission proceeded steadily with the reclassification and original cost studies of natural gas companies under its jurisdiction. In this process the commission ordered approximately \$1,500,000,000 reduction in the capitalization and claimed costs of electric companies. Original cost determination of 11 major projects under federal license brought the total to 106. About 650 hydroelectric projects of all types with an installed capacity of 6,570,000 h.p. representing a cost of nearly \$1,000,000,000 had come under the commission's jurisdiction.

The commission, after extended hearings, denied the application of the New York state power authority to develop, with the province of Ontario, the hydroelectric power of the International rapids of the St. Lawrence river and recommended that the entire St. Lawrence seaway and power project be developed by the governments of the United States and Canada in accordance with the long-pending treaty which the senate had not yet ratified.

River-basin and power potentiality studies of projects proposed for construction totalled 155 during the year, including 110 co-operative investigations with the army corps of engineers and 45 with the bureau of reclamation. Five power-market surveys were published, as well as electric-system maps of the United States as a whole and by regions, and ten coloured state maps, the first of an all-state series. Rate reports showing electric bills paid in every city and town were issued, studies of power-plant costs and operating data, financial statistics and the monthly reports of power production and capacity on which the country depended for authentic official statistics.

Co-operating with other governmental agencies, state and federal, the commission took part in the activities of interagency river basin committees, the National Association of Railroad and Utilities Commissioners, joint international commissions, the World Power conference and meetings of other technical bodies in the United States and other countries.

The commission was reorganized in accordance with an act of congress vesting administrative duties in the chairman and providing that he be no longer elected by the commission but designated by the president. Commissioner Mon C. Wallgren, former governor of the state of Washington and earlier a United States senator, became chairman, succeeding Commissioner Nelson Lee Smith of New Hampshire, who was reappointed member for another five-year term. Commissioner Thomas C. Buchanan of Pennsylvania was elected vice-chairman for the remainder of 1950 and for the calendar year 1951. (J. W. JE.)

**Federal Reserve System.** During the year 1950 the federal reserve system took an important series of steps to restrain inflation and to facilitate adjustment of the economy to the needs of the new defense program.

Even before the Korean war, bank credit and monetary expansion had been resumed on a significant scale, and by June output and employment were at very high peacetime levels and prices had been rising for several weeks. Early in 1950 the reserve system began to make long-term bonds available to the market from its portfolio, and during the first six months of 1950 federal reserve holdings of restricted treasury bonds declined by \$1,400,000,000.

These sales of bonds by the system exerted some pressure on member bank reserve positions and contributed to some firming in long-term yields.

In a statement of policy issued on Aug. 18, the board of governors of the federal reserve system and the federal open market committee stated that they were "prepared to use all the means at their command to restrain further expansion of bank credit consistent with the policy of maintaining orderly conditions in the Government securities market" in view of an amount of credit expansion which was clearly excessive under existing conditions and the president's announcement in his midyear economic report that major reliance would be placed for the immediate future upon fiscal and credit measures to curb inflation.

On the same day, the board of governors approved an increase in the discount rate of the Federal Reserve Bank of New York from 1.50% to 1.75%. Discount rates were subsequently raised at all other reserve banks as well, in order to discourage borrowing by member banks of additional reserves to support further credit expansion.

Simultaneously with the federal reserve announcement and action to allow the upward pressure of interest rates in the market to express itself and to avoid supplying additional reserve funds to the market, the treasury announced a short-term refunding of about \$13,600,000,000 of securities maturing in September and October at terms somewhat less attractive than were then available on outstanding issues of comparable maturities. The system undertook to purchase freely the maturing issues involved in the treasury's refunding offering and took parallel action in making offsetting sales of other securities.

The federal open market committee continued its policy, against treasury opposition, of permitting a rise in short-term yields, narrowing the spread between long- and short-term rates and reducing the incentive to lengthen maturities, creating some uncertainty about bond prices, making short-term securities more attractive to nonbank investors, and as an inevitable concomitant making reserve funds less freely available to the banking system.



Under authority of the Defense Production Act of 1950, the board of governors reissued regulation W, controlling consumer credit, effective on Sept. 18. The regulation covered automobile instalment credits of \$5,000 and less and other instalment credits of \$2,500 and less. The limitations initially established were: down payments of at least one-third, and maximum maturities of 21 months for automobiles; down payments of at least 15% and maximum maturities of 18 months for appliances; down payments of at least 10% and 18 months maximum maturity for furniture and rugs. Later, effective Oct. 16, the regulation was substantially tightened in view of the continuing growth of bank credit as well as the unabated strength of the underlying inflationary forces.

The maximum maturity on instalment credits for automobiles was reduced to 15 months; the down payments on appliances were increased to 25% and on furniture to 15%; the maximum maturity on instalment credits for appliances and furniture was reduced to 15 months.

Effective Oct. 12, the board of governors issued regulation X, which established credit restrictions on conventional housing loans, with the concurrence of the administrator of the Housing and Home Finance agency. Companion restrictions on government-aided housing finance, on a basis conforming to those applied to other types of private credit, were announced by the administrator. The regulations called for down payments ranging from 10% in the \$5,000 and less price range to 50% at \$25,000 and more, with preference for veterans amounting in most cases to 10 percentage points. The regulations specified maximum amounts which could be borrowed, maximum maturities and minimum amortization requirements for extensions of credit on residential construction.

Effective Sept. 27, the board of governors inaugurated a program of guaranteed loans to facilitate the defense effort. Regulation V set forth the procedure and terms for such loans, whereby the federal reserve banks act as fiscal agents in connection with production loans guaranteed by the departments of the army, the navy and the air force and by other government procurement agencies.

On Dec. 29 the board of governors announced a general increase in reserve requirements on both net demand deposits and time deposits and for all classes of member banks, effective at various dates in Jan. 1951. The effect of this increase was to raise the required reserves of member banks by a total of about \$2,000,000,000. (See also BANKING; CONSUMER CREDIT.)

FILMS OF 1950.—*Federal Reserve System* (Encyclopædia Britannica Films Inc.). (J. K. L.)

## Federal Security

**Agency.** Probably the most important event of 1950 for the Federal Security agency was the action of the congress in strengthening and developing the nation's social security system—the first major extension of the system since 1939. A measure signed

by the president on Aug. 28 extended coverage under old-age and survivors insurance to 10,000,000 or so more workers—principally agricultural and domestic workers and the self-employed—and increased average monthly benefits substantially. The amendments also increased grants to states for maternal and child health and child welfare programs and strengthened the public assistance program in many significant respects. Aid to dependent children was extended to include, within the maximum payment in which the federal government will share, an amount for the mother or other relative with whom the child is living. And federal aid was, for the first time, made available to the states to help provide for needy persons who are totally and permanently disabled.

New legislation in the field of education authorized federal grants for communities that have large amounts of federally owned property exempt from taxation or that are overburdened by a large increase in school attendance resulting from federal activities in the area.

In May 1950 the bureau of employees' compensation was transferred from the agency to the department of labour.

Throughout the year the work of the agency went steadily forward and many of the programs set new records of accomplishment. As of June 1950, the Social Security administration certified monthly benefits of almost \$61,000,000 under the old-age and survivors' insurance program. These benefits were paid to more than 2,700,000 persons—retired workers and their wives and dependent survivors of deceased insured workers. In the same month, payments to recipients of public assistance totalled \$197,000,000. Payments under state-federal programs went to 2,800,000 needy aged persons, 77,000 needy blind and almost 1,700,000 children in about 654,000 families; under state and local programs, 526,000 cases (approximately 1,100,000 persons) received general assistance.

ILLUSTRATION from *Love Is Not Enough* by Bruno Bettelheim, a 1950 report financed by research grant of the Federal Security agency on work in mental health at the Orthogenic school of The University of Chicago. Children and counsellors are shown in one of the dormitories of this residential institution for emotionally disturbed children





Of the \$22,000,000 available in the fiscal year for grants for maternal and child health and child welfare services, \$11,000,000 went to assist states and local communities to develop and provide health services for children and for mothers before and after childbirth; \$7,500,000 for services for crippled children; and \$3,500,000 for services for protecting and caring for homeless and neglected children and those in danger of becoming delinquent.

The office of vocational rehabilitation reported that 59,600 handicapped persons were fully rehabilitated to paying jobs under the state-federal system of vocational rehabilitation in the fiscal year 1950.

The continuing shortage of teachers and classroom facilities—particularly in the elementary schools—exerted heavy pressures on the office of education. Staff members worked with state school authorities in an effort to deal with the crisis. The primary fact-finding and advisory functions of the office were also carried forward.

The public health service continued to give technical and other assistance to state and local public health departments. It also administered federal grants totalling more than \$45,000,000 to states for general health activities, for the control of heart disease, tuberculosis, venereal disease and cancer, for mental health programs and for industrial waste studies. Under the hospital construction program the surgeon general approved federal grants totalling \$59,000,000. By June 30, 1,300 projects had been approved, 300 were in operation and 500 were under construction.

The National Institutes of Health carried on long-term research projects in various chronic and other diseases, and also administered grants and contract authorizations amounting to about \$14,000,000 to various universities and institutions, as well as to individual scientists, for special research projects.

The Food and Drug administration examined 75,680 samples of foods, drugs and cosmetics to check observances of the federal statutes and instituted 1,850 seizure, criminal and injunction actions in the federal courts for violation of the statutes. It also detained 7,375 imported products at ports of entry for failure to meet United States standards.

In August a conference on aging, sponsored by the agency, was held to explore the social and economic problems arising from the increasing proportion of older people to total U.S. population. In December the fifth decennial White House Conference on Children and Youth met to study problems of personal development.

Following the Korean crisis, all units of the agency began intensive studies of the relation of their programs to the requirements of national defense. (See also DRUG ADMINISTRATION, U.S.; PUBLIC HEALTH SERVICES; SOCIAL SECURITY; VOCATIONAL REHABILITATION, OFFICE OF.) (O. R. E.)

## Federal Trade Commission.

During 1950, the Federal Trade commission issued 106 formal complaints and 115 orders to cease and desist from violations of law. It approved 137 stipulations to discontinue unlawful practices and promulgated trade practice rules for 13 industries. Its staff made inspections of the labelling practices of thousands of wool products of manufacturers and dealers throughout the United States. Investigation of a carbon black export association was completed and recommendations were issued for the readjustment of its business to conform with the Export Trade act.

The commission completed a survey of the principal state laws regulating the insurance business.

The commission approved three reports presenting the results of such investigations. In "The Divergence between Plant and Company Concentration," the commission reported that there are

different patterns of economic concentration which suggest different types of public policy in dealing with them. It advised Congress, in a report on "Interlocking Directorates," that competition is threatened by interlocking relationships among directors of the 1,000 largest manufacturing corporations and by the interlocking relationships between these corporations and about 330 nonmanufacturing firms. A report on "International Cartels in the Alkali Industry" discussed the nature, extent and effect of international cartel agreements concerning baking soda, soda ash and caustic soda. The commission continued to report quarterly on the operating results of manufacturing corporations and published a comparison of profit rates before and after World War II in 25 selected manufacturing industries.

The year 1950 was marked by major changes in organization and procedures. In a reorganization reflecting Hoover commission recommendations, administrative management of the commission was vested in the chairman, former U.S. Sen. James M. Mead of New York, who was appointed by the president. A reorganization of the commission's internal structure to integrate its work by major purposes was completed.

In a program designed to expedite disposition of formal cases, the commission authorized its trial examiners to make "initial decisions" in the cases they hear. The effect was to make trial examiners an initial trial court from whose decisions appeals may be taken to the commission.

The year also brought several significant legislative developments. Congress amended the Clayton act to authorize the commission to stop corporate mergers through asset acquisition when the effect might be substantial lessening of competition or a tendency toward monopoly. The Defense Production act assigned to the commission, in conjunction with the attorney general, important functions designed to prevent, as far as possible, any impairment of the competitive system as a result of U.S. defense mobilization.

The penalty provision for violation of final commission orders was strengthened by amendment of the Federal Trade Commission act.

Members of the commission in 1950, besides Chairman Mead, were William A. Ayres of Kansas; Lowell B. Mason of Illinois; John Carson of Michigan; and Stephen J. Spingarn of New York. (J. M. Md.)

**Federated Malay States:** *see* MALAYA (FEDERATION OF) AND SINGAPORE.

**Fencing.** At the National Championships held in New York city June 9 to June 16, 1950, Norman Lewis of the Salle Santelli, New York, became the second American to win three successive national épée championships since Charles Tatham accomplished this feat in 1901, 1902 and 1903. Silvio Giolito of the New York Athletic club won his first foil individual championship, and the sabre title went to Tibor Nyilas of the Salle Santelli.

In the women's foil individual championship Janice Lee Yorke of the Faulkner School of Fencing of Los Angeles, Calif., defeated her teammate Polly Craus, the defending champion.

The New York Athletic club won the sabre team championship, while the Salle Santelli retained the épée team and three-weapon team titles, and the Fencers club of New York retained its Foil team championship.

The Faulkner School of Fencing of Los Angeles continued to dominate the women's field by taking the foil team title for the third straight time.

The Pacific coast championships were held in Los Angeles. Salvatore Giambra of the Olympic club of San Francisco won both the foil and sabre titles, and Gerard Biagini, also of the



Olympic club, won the épée title. Mrs. Muriel Bower of the Los Angeles Athletic club took the women's title. The foil team championship went to the Olympic club of San Francisco, the épée team and the women's team titles to the Faulkner School of Fencing of Los Angeles and the Los Angeles Athletic club won the sabre team championship.

In the midwest championships held at Columbus, O., May 20 and 21, Byron Krieger of Michigan again won both the foil and sabre titles, Donald Thompson of Illinois became the épée champion, and Paula Sweeney of Michigan, the almost perennial women's champion, was again successful.

The newly organized southwest section held its first championship at Galveston, Tex., on May 13 and 14. The foil championship was won by John Baird, the épée title by Walter T. Brown and the sabre by John Baird. All three were from Galveston. Betty Jean Fox of Houston captured the women's championship. The Buccaneers of Galveston won the foil and épée team championships, Rice institute won the sabre team and St. Joseph hospital of Houston won the women's team championship.

Fencing in intercollegiate circles was climaxed by the Intercollegiate Fencing association championship held in New York city March 17 and 18. Navy and New York university tied for the team honours in both foil and épée. Army took the sabre team championship and N.Y.U. the three-weapon trophy. Joseph Vera of Harvard won the individual foil, Thomas Stuart of Navy won the individual épée championship and Alex Treves of Rutgers defeated Hamilton Millard of Cornell in a fence-off for the individual sabre championship.

Intercollegiate fencing continued with the National Collegiate Athletic association championship in Detroit, Mich., on March 24 and 25. Robert Nielsen of Columbia won the foil title. Stuart of Navy took the épée championship, repeating the victory he had won in the Intercollegiate Fencing association match, and Alex Treves of Rutgers also duplicated his I.F.A. victory in the sabre.

(W. A. Dw.)

**Fertilizers.** The Food and Agriculture organization of the United Nations made a world-wide survey and report on fertilizers in 1950. No data were obtainable for the U.S.S.R., and the following figures and discussions do not include that country. The following tables from that report give figures by continents for the production and consumption of the three primary plant foods—nitrogen (N), phosphoric acid ( $P_2O_5$ ) and potash ( $K_2O$ ).

Table I.—Fertilizer Production and Consumption

(In terms of total plant nutrients; thousands of metric tons of N,  $P_2O_5$  and  $K_2O$ )

Continent	Production			Consumption		
	1948-49	1949-50*	1950-51†	1948-49	1949-50*	1950-51†
Europe . . . . .	6,193	7,078	7,790	5,791	6,418	7,124
North and Central America . . . . .	4,105	4,061	4,036	3,868	3,828	3,962
South America . . . . .	350	359	388	150	163	184
Asia . . . . .	486	631	708	930	1,186	1,287
Africa . . . . .	108	126	139	236	282	309
Oceania . . . . .	455	492	532	482	537	581
Total‡ . . . . .	11,698	12,746	13,593	11,457	12,414	13,446

\*Preliminary. †Outlook. ‡Total may differ from sums because of rounding.

There was expected to be a reasonable world balance for the 1950-51 year. There would be some surplus production in Europe; North and Central America would be about in balance; the surplus production apparent in South America would be from Chilean nitrate of soda production; shortages were expected for Asia, Africa and Oceania.

International allocation of nitrogen was discontinued June 30, 1949, supplies having so nearly caught up with demand that allocation was no longer deemed necessary. The outlook for 1950-51 as to foreign trade in nitrogen is shown in Table III.

Table II.—World Nitrogen Production and Consumption

(In thousands of metric tons)

Continent	Production			Consumption		
	1948-49	1949-50	1950-51	1948-49	1949-50	1950-51
Europe . . . . .	1,541	1,804	2,025	1,493	1,625	1,872
North and Central America . . . . .	1,151	1,231	1,087	972	994	1,027
South America . . . . .	298	303	317	54	56	65
Asia . . . . .	309	389	425	497	727	767
Africa . . . . .	—	—	—	92	128	131
Oceania . . . . .	11	11	15	15	19	25
Total . . . . .	3,310	3,738	3,869	3,123	3,549	3,887

Table III.—Foreign Trade in Nitrogenous Fertilizers

(In thousands of metric tons of N)

Continent	Outlook 1950-51	
	Imports	Exports
Europe . . . . .	319	464
North and Central America . . . . .	194	255
South America . . . . .	29	290
Asia . . . . .	352	25
Africa . . . . .	131	—
Oceania . . . . .	11	—
Total* . . . . .	1,036	1,034

\*Total may differ from sums because of rounding.

Production and consumption data for phosphoric acid are shown in Table IV.

Table IV.—Production and Consumption of Phosphoric Acid\*

(In thousands of metric tons of  $P_2O_5$ )

Continent	Production		Consumption	
	1948-49	1950-51†	1948-49	1950-51†
Europe . . . . .	2,371	2,654	2,275	2,600
North and Central America . . . . .	1,989	1,979	1,893	1,912
South America . . . . .	42	59	73	93
Asia . . . . .	177	283	241	360
Africa . . . . .	108	140	112	144
Oceania . . . . .	443	517	459	539
Total‡ . . . . .	5,130	5,631	5,053	5,648

\*Excluding ground rock phosphate. †Outlook. ‡Total may differ from sums because of rounding.

From 65% to 75% of the phosphoric acid used was in the form of normal superphosphate (16%–20%  $P_2O_5$ ). Most of the remainder was in the form of concentrated superphosphate (45%–48%  $P_2O_5$ ). Most superphosphates are produced by treating phosphate rock with sulphuric acid which in turn is usually made by burning sulphur. The United States produces about 90% of the world's sulphur. In 1950 known reserves were sufficient for about 20 years at existing rates of output. Consumption was exceeding production and above-ground stock piles were being depleted. (See also SULPHUR.)

Known world deposits of phosphate rock were sufficient for thousands of years.

In Table V is shown the production and consumption of potash, by continent, for 1948-49 and 1949-50.

Table V.—Production and Consumption of Potash

(In thousands of metric tons of  $K_2O$ )

Continent	Production		Consumption	
	1948-49	1949-50	1948-49	1949-50
Europe . . . . .	2,281	2,812	2,023	2,408
North and Central America . . . . .	965	895	1,003	973
South America . . . . .	10	11	23	24
Asia . . . . .	—	—	192	147
Africa . . . . .	—	—	32	34
Oceania . . . . .	1	1	8	17
Total . . . . .	3,257	3,719	3,281	3,603

In the United States consumption of fertilizers and fertilizer materials containing nitrogen, available phosphoric acid and potash in 1950 was estimated at approximately 16,000,000 tons, or slightly less than in 1949. Preliminary estimates for 1951 indicated that there would be obtainable from 10% to 15% more nitrogen and from 10% to 15% more potash than was used in 1950, providing there were no serious labour or transportation difficulties or emergency restrictions. Because of the sulphur shortage a reduction of 10% or more was indicated in the supply of superphosphate, which furnishes available phosphoric acid. (See also AGRICULTURE; TENNESSEE VALLEY AUTHORITY.)

(F. S. L.)



**FHA (Federal Housing Administration):** see HOUSING.  
**Fiction:** see AMERICAN LITERATURE; BOOK PUBLISHING;  
 CANADIAN LITERATURE; ENGLISH LITERATURE; FRENCH LITERATURE;  
 GERMAN LITERATURE; ITALIAN LITERATURE; LITERARY PRIZES;  
 RUSSIAN LITERATURE; SPANISH-AMERICAN LITERATURE;  
 SPANISH LITERATURE.

**Figs:** see FRUIT.

**Fiji:** see PACIFIC ISLANDS, BRITISH.

**Filberts:** see NUTS.

**Financial Review:** see BUSINESS REVIEW.

**Fine Arts:** see MUSIC; PAINTING; SCULPTURE; etc.

**Finland.** An independent republic of northern Europe, Finland has an area of 130,159 sq.mi., including the Åland Islands. Pop. (census 1940) 3,695,617; (mid-1949 est.) 4,015,000. Capital: Helsinki (pop. Jan. 1, 1947, tax list figures) 358,195. Other principal cities: Turku (Åbo) 93,735; Tampere 93,665. Language and nationality: 90% Finnish, about 10% Swedish. Religion: Lutheran Christian. President 1950: Juho K. Paasikivi (re-elected for six-year term from March 1); prime minister: Karl August Fagerholm to March 1; after March 17, Urho K. Kekkonen.

The Åland Islands, a Swedish-populated archipelago belonging to Finland, lie to the southwest at the mouth of the Gulf of Bothnia. Area: 581 sq.mi. Pop. (tax list, Jan. 1, 1947) 22,787. Chief town: Mariehamn, pop. 3,239.

**History.**—The Tass news agency in Moscow announced on New Year's day 1950 that Foreign Minister Andrei A. Gromyko had accused the Finns of violating their treaties with the U.S.S.R. of 1944, 1947 and 1948. The issue involved about 300 "soviet war criminals" whom the Finns were supposed to hand over to the soviets but who were being hidden or allowed to escape under officially faked names and documents, according to the Russians. In succeeding weeks of careful investigation the list of 300 was reduced to a handful: some of the names were duplicates, some had long ago fled the country, some had been delivered, some were Finnish citizens. The charges were made obviously to frighten the Finns, and to hold them in line, and the attack came immediately before the presidential elections in Finland.

But the Finns were not easily frightened. The government continued to follow a vigorously correct policy. The electoral campaign proceeded without serious incident, and on Jan. 16-17 a clear majority of pro-Paasikivi electors was chosen. When the electors cast their ballots on Feb. 15 the 79-year-old president received 171 of the 300 votes, while Mauno Pekkala (the Communist candidate) got 67 and Urho Kekkonen got 62. Paasikivi, president since 1946, thus took office on March 1 for a new term of six years.

The Social Democratic ministry of Karl August Fagerholm resigned according to custom at the beginning of the new presidential term, and it took more than two weeks to form a new cabinet. Even then it proved impossible to obtain a majority government. The Social Democrats had had only 54 delegates out of the 200 in parliament. Urho Kekkonen at last built a coalition under his own Agrarian party leadership. He had wanted to include three Communists, but the parties would not accept this plan. The coalition formed represented the 56 Agrarians, 14 Swedish Peoples party and 5 Liberals. The 75 votes behind the cabinet were expected to be backed also by the 33 Conservatives.

A month after the new ministry took office negotiations began with the U.S.S.R. for a trade treaty. On June 13 Kekkonen signed the agreement in Moscow. The Finns yielded to the Russian demand for a five-year term, while for themselves they gained assurance that the soviet union would buy products which formerly the Finns had manufactured for reparations account, and for which they had made a heavy investment in factories. Thus the

agreement continued rather than changed the existing flow of commerce. Prices were to be determined annually at current world levels.

The Finnish markka suffered further in 1950 on top of the two devaluations of 1949. First came a special devaluation (Feb. 16) in relation to the rouble and east European currencies in general. Toward the end of the year strong pressure developed for another general devaluation for the purpose of correcting Finnish prices on the world market, and reflecting more accurately the markka's real purchasing power.

Wage demands did not wait for devaluation. In January a general increase of 7.5% was forced from the government. Early in May, however, a general strike again loomed on the question of wages and the cost of living; at the last moment Fagerholm as special mediator stopped the strike with an agreement for a 15% wage increase prior to a new pegging of wages to the price index. The government tried desperately to achieve stabilization, and on July 29 decreed a stop to price changes. But success was incomplete.

On Aug. 28 the metal workers began a long strike, which threatened to widen out into a general strike, called for Oct. 23. Only at the last moment did the workers decide not to carry through, and to accept only minor wage gains.

The Kekkonen government survived the crisis, at least temporarily. The Communist agitation was defeated, likewise for the moment.

The Åland Islands question arose because of a redrafting of the statute of 1922. The autonomy of the islands was to be preserved in any case, but the islanders insisted that the League of Nations guarantees of that autonomy be written into the statute. The Russians said that such guarantees no longer had validity, and must be dropped. The Swedes reminded the Finns that the original promises to the Åland people were pledged in a treaty between Finland and Sweden, in 1921, a treaty which also pledged demilitarization of the islands. Both items were still legally binding, said Sweden.

The Finns did not include mention of the League of Nations in the revised statute, but the other guarantees were not questioned.

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**Education.**—Schools (1948): elementary 6,050, pupils 481,392; secondary 318, pupils 87,740, teachers 5,147; teachers' training 9, students 1,536, teachers 116; for adults 75, students 4,245, teachers 634; technical 459, pupils 26,121; universities (1949) 3, students 10,400, professors and lecturers 601; institutions of higher education 5, students 3,379, professors and lecturers 367.

**Finance and Banking.**—Budget: (1949) revenue 125,981,000,000 markkaa, expenditure 132,827,000,000 markkaa; (1950 est.) revenue 104,463,000,000 markkaa, expenditure 104,379,000,000 markkaa. National debt (July 1950) 137,369,000,000 markkaa. Currency circulation (Sept. 1950) 34,500,000,000 markkaa. Gold and foreign exchange (Aug. 1950) U.S. \$66,000,000. Bank deposits (Sept. 1950) 30,000,000,000 markkaa. Monetary unit: markka with an exchange rate of 231 markkaa to the U.S. dollar.

**Foreign Trade.**—Imports (1949) 66,278,000,000 markkaa, exports 65,606,000,000 markkaa, excluding reparations of 12,226,000,000 markkaa.

**Transport and Communications.**—Roads (1947) 36,641 mi. Licensed motor vehicles (Dec. 1949): cars 13,570; commercial 32,261. Railways (1949): 3,533 mi.; passenger journeys 43,000,000; freight net ton-miles 1,872,000,000. Shipping (July 1949): number of merchant vessels of 100 gross tons and more 319; total tonnage 493,970. Air transport (1949): passenger-miles 13,900,000; cargo net ton-miles 280,000. Telephones (1949) 302,104. Radio receiving set licences (1949) 662,000.

**Agriculture.**—Main crops (metric tons, 1949): wheat 324,000; barley 181,000; oats 725,000; rye 219,000; potatoes 1,047,000; sugar, raw value, 23,000; hemp and flax fibre 4,000. Livestock (March 1949): cattle 1,538,000; sheep 1,067,000; pigs 409,000; horses 402,000. Fisheries: total catch (1949) 65,700 metric tons.

**Industry.**—Industrial establishments (1947): 5,999; persons employed 249,936. Electricity production (1949) 3,480,000,000 kw.hr. Raw materials: steel, rolled (metric tons, 1949) 90,000; steel castings (metric tons, nine months, 1949) 7,500; copper (metric tons, 1949) 20,640. Forest products (1949): sawed goods 850,000 standards; cellulose 1,015,000 metric tons; mechanical pulp 146,000 metric tons; newsprint 382,000 metric tons; other paper 183,000 metric tons; boards and cardboards 104,000 metric tons; plywood 231,000 cu.m.



**Finletter, Thomas Knight** (1893— ), U.S. secretary of the air force, was born on Nov. 11 in Philadelphia, Pa. He studied at the University of Pennsylvania, where he received his bachelor's degree in 1915 and law degree in 1920, and practised law in New York city from 1920 to 1941.

From 1941 to 1944 Finletter served as an adviser to the state department on international economic affairs. He again came into public service in July 1947, when Pres. Harry S. Truman appointed him chairman of a five-man air policy commission to study aerial defense needs. The commission's report, "Survival in the Air Age," recommended a 70-group air force. In 1948 and 1949 Finletter served as chief of the European Co-operation administration mission to England. President Truman selected him to succeed W. Stuart Symington as air force secretary in April 1950.

**Fires and Fire Losses.** Losses by fire in the United States were 3.1% higher in 1950 than in 1949. The total was \$688,460,000, according to the National Board of Fire Underwriters, based on reports by member companies with allowance for uninsured and unreported losses. This amount was \$22,654,000 below the all-time high in 1948. Only the months of February, August and September showed losses below the corresponding months in 1949, and March produced the largest volume of loss, as it had for several years.

The outstanding fire loss of 1950 occurred May 19 from the explosion in South Amboy, N.J., and the resultant fires in South Amboy and Perth Amboy. Approximately 10,000 properties suffered damage exceeding \$10,000,000.

Aggregate fire losses in the United States had shown a constant upward trend since 1942, except for a slight drop in 1949. Even in that year the destruction amounted to \$667,536,000. Part of the loss increase might be accounted for by the increase in labour and material costs which affected all structures and their contents. Sound value, which is replacement cost less depreciation, had increased more rapidly than the percentage in-

crease in fire losses. (See also DISASTERS; FORESTS.)

(L. E. F.)

**Fish and Wildlife Service:** see FISHERIES; WILDLIFE CONSERVATION.

**Fisheries.** The world catch of fish during 1950 was estimated to have exceeded 40,000,000,000 lb. Expansion of the fisheries continued in many areas throughout the world. In the Union of South Africa, an estimated 140,000 tons of pilchard and maasbankers were sent to reduction plants that virtually did not exist four years earlier. In Iceland, a number of large trawlers engaged for the first time in fishing for rosefish for use in the manufacture of fish meal and oil. Catches of approximately 1,000,000 lb. were made by several vessels in trips lasting only seven to ten days. Studies of the tremendous number of rosefish fry found in the waters of the North Atlantic led investigators to believe that this species is far more abundant than the better known cod and herring. While the rosefish had become the leading food fish taken by United States fishermen on the Atlantic coast, the European catch of this fish was still relatively unimportant.

The Mexican shrimp fishery continued to expand. New shrimp freezers were built, a large number of fishing craft were added to the fleet, a shrimp cannery was constructed and increased use was made of aeroplanes to fly shrimp to markets in the United States.

In May, Gen. Douglas MacArthur authorized mother-ship type tuna operations by the Japanese in waters which include the area in the United States trust territory around the Caroline Islands, the Marianas and the Marshall Islands. Two fleets of vessels operated in the equatorial tuna fishery in 1950. Both were highly successful. In Australia, rapid strides were made in developing a tuna fishery, and there was continued expansion of lobster fishery.

It was expected that the total 1950 Norwegian fish catch, consisting principally of herring and cod, would reach a new record of 2,785,000,000 lb.

Iceland suffered another of a series of disastrously poor herring seasons. Since most of the catch is used to produce salted

FLAMES ROARING through the psychiatric ward of Mercy hospital in Davenport, Ia., Jan. 7, 1950. Forty-one women, nearly all of whom were patients, died in the blaze





herring and herring meal and oil for export, the failure of the fish to appear in normal quantities seriously affected the economy of the country. During 1950, Russian fishermen, operating off Iceland, found herring considerably north of the grounds on which they were normally taken. Available information indicated that the Russian catch was the largest of any of the six nations participating in the fishery.

**Technical Improvements and Research.**—Increased use was made during 1950 of echo sounding equipment to locate and even to determine the species of fish swimming below the surface. It was found possible to study the behaviour of trawlnets operating on the bottom of the sea through the use of echo sounders. A German inventor designed a new fillet machine which, it was claimed, would permit four persons to fillet from 1,200 to 1,800 fish per hour. Both German and Russian inventors claimed to have developed methods for electrically catching fish without the use of nets.

Norwegian chemists reported development of a satisfactory method of producing albumin from fish and fish waste which does not retain the odour of fish. A Danish inventor perfected a floating trawl for use in taking fish at various depths between the bottom and the surface. In the United States, the packing of solid pack tuna was rapidly being taken over by specially designed canning machinery. The use of nylon nets continued to increase; it was demonstrated that, under certain conditions, nets made of this material were many times more effective than nets of cotton or linen.

Evidence of the increased interest of maritime nations in studying and developing the fishery resources available to their fishermen was shown by the number of large fishery research vessels built or converted for this purpose since World War II. The newest of these craft included the Union of South Africa's 200-ft. "Africana II," the United Kingdom's 175-ft. "Ernest Holt," Norway's 170-ft. "G. O. Sars," Denmark's 95-ft. "Jens Vaever," Iceland's 100-ft. "Maria Julia" and the United States 93-ft. "John N. Cobb." These craft, as well as most of an additional 27 research vessels known to have been outfitted for fishery research since 1945, were equipped with the most modern devices to facilitate the study of the ocean and its life.

Early in 1950, the Food and Agriculture organization of the United Nations began publication of a companion periodical to its *Fisheries Bulletin* entitled *World Fisheries Abstracts*. The publication, printed bimonthly in English, French and Spanish editions, is for the purpose of assisting persons engaged in the fishing industry, or in fisheries research, to keep informed of the latest developments in the fields of fisheries technology. (See also MARINE BIOLOGY; OCEANOGRAPHY.)

**Jurisdiction.**—The question of the jurisdiction of nations over the fisheries off their coasts continued to receive the attention of many governments during the year. In the North sea, the Baltic and the Gulf of Mexico and in other areas, foreign vessels were seized for fishing within waters claimed to lie within territorial limits of the nations off whose coast they were operating. However, despite the great interest in the problem, the scope of territorial waters was still far from settlement. Denmark and Great Britain, for example, claimed jurisdiction out to 3 mi. off the coast, Norway and Sweden to 4 mi. and Russia to 12 mi.

Other nations claimed jurisdiction out to the edge of the continental shelf and others all waters within a line 200 mi. off and parallel to the coast.

**International Fishery Conferences.**—The Indo-Pacific Fisheries council held its second annual meeting in Cronulla, Austr., in April. As a result of the meeting, arrangements were made for co-ordinating the work of the Pacific tuna investigations and for furthering the expansion of fish culture in the Indo-Pacific

region.

The International Whaling commission held its second annual meeting in Oslo, Nor., in July, where problems of whaling regulation and research were considered. Certain amendments to its schedule of regulations were approved and recommendations were issued designed to increase the amount of scientific research being conducted on whales.

The Inter-American Tropical Tuna commission, which was established in March 1950 by Costa Rica and the United States for the scientific investigation of the yellowfin and skipjack tuna and bait fishes in the eastern Pacific ocean, held its first meeting at Coronado, Calif. in July. Temporary headquarters were established at Los Angeles, Calif., a general program was adopted and arrangements were made to select a director of investigations.

The Gulf and Caribbean Fishery institute held its third annual session at Miami Beach, Fla. in November. Scientists, administrators, fish processors, fish dealers and fishermen presented papers and discussed problems dealing with biological and technological research, economies of the fisheries, gear development, exploratory fishing and related subjects.

The International Council for the Exploration of the Sea held its 38th annual meeting in Copenhagen, Den., in October.

**The United States Industry.**—The catch by United States fishermen in 1950 was somewhat larger than in the previous year, and was expected to total nearly 5,000,000,000 lb., making it the largest catch in history. The catch was made by about 165,000 fishermen, operating 10,000 vessels of five net tons and over, 45,000 motorboats and 35,000 other craft. Menhaden continued to be the principal species taken with respect to volume, with landings of about 900,000,000 lb. This was less than the record 1949 catch of these fish, which amounted to 1,073,000,000 lb. The California pilchard, which had held first place for many years until the disastrous decline following the 1945 season, yielded an estimated catch of about 700,000,000 lb., two and one-half times the low 1947 production, but still far below the 1935-39 average of 1,232,000,000 lb. The pack of canned pilchards, which are normally canned as "California sardines," was expected to reach about 5,000,000 cases, possibly a new record.

Landings of tuna and tunalike fishes and the canned pack of these fish broke all previous records. The pack of canned tuna and tunalike fishes produced from fish caught by United States fishermen, and imported frozen fish received principally from Central and South America and Japan, was expected to reach about 9,000,000 cases compared with 7,290,000 cases in 1949. The 1950 pack was the sixth successive record pack. In addition to the large domestic tuna pack, imports of canned tuna and tunalike fishes were expected to reach about 1,500,000 cases compared with less than 600,000 cases in 1949. While the market for canned tuna in the United States had increased phenomenally in recent years, it was unable to absorb the large 1950 pack and imports. Late in the year, California tuna canners notified fishermen that it would be necessary to suspend fishing until stocks were reduced.

The United States and Alaskan salmon pack, which totalled only 3,900,000 cases in 1950, was the smallest since 1921, when economic conditions prevented normal cannery operations. The small pack resulted from reduced runs of pink\*salmon in central and southeastern Alaska, the normal absence of these fish from Puget sound in even-numbered years, and the unexpected failure of the run of Fraser river sockeye salmon.

The Maine sardine industry had a good season and a pack of about 4,000,000 cases was canned. This was about 1,000,000 cases more than the previous year's production and was the largest pack in history. Rosefish continued to hold first place in the catch of food fish on the Atlantic coast; however, largely as a result of a two-month wage dispute between plant operators and



seafood workers at Gloucester, Mass., the catch was estimated to have totalled only 210,000,000 lb. compared with 237,000,000 lb in the previous year.

The Atlantic mackerel fishery continued at a low ebb, and the catch was even less than the small 1949 production. However, late in the year, unusually large quantities of these fish were found off New Jersey and fishermen made large catches for winter months.

Continued expansion of the shrimp fishery off the lower Texas coast, the discovery of important shrimp beds off Key West, Fla., and large catches of these crustaceans in the normally productive central Gulf of Mexico area resulted in a record shrimp catch in 1950.

The California catch of jack mackerel, which is used principally for canning, amounted to 108,000,000 lb. in the first ten months of the year compared with 33,000,000 lb. in the same period in 1949. In Alaska, the catch of herring totalled about 175,000,000 lb. compared with less than 40,000,000 lb. in the previous year. In 1949, many of the herring reduction plants failed to operate because of the low price for fish oils, which had declined from a peak of 24 cents per pound in 1948 to only 5 cents per pound in 1950.

The important shark fisheries developed in the past 20 years as sources of natural vitamin A were forced to cease operations under the impact of low cost synthetic vitamin A and large imports of cheap livers and liver oils. Fish-meal manufacturers were forced to compete with the new vitamin B<sub>12</sub> animal feed supplement derived from the manufacture of antibiotic products.

A total of 60,090 fur sealskins were taken on the Pribilof Islands during 1950 under the supervision of the United States government. This was 10,801 less than in the previous year. At public auction in St. Louis, Mo., in April and October, 55,497 dressed and dyed skins were sold for \$4,367,049—an average of \$78.69 per skin. This was \$20.55 per skin above the price received in 1949.

Late in 1950, a Defense Fisheries administration was established in the fish and wildlife service, of the department of the interior, to carry out the functions concerning the fishing industry vested in the secretary of the interior under the Defense Production act of 1950. The Defense Fisheries administration was given responsibility for encouraging production of fishery commodities to fulfil requirements for military, essential civilian and foreign needs. Activities in which the administration would operate included certain priority, allocation, claimant, requisitioning and other functions as related to fish production. Essentially the same activities were handled by the co-ordinator of fisheries during World War II. (See also CANNING INDUSTRY.) (E. A. PR.)

**Canada.**—On March 24, 1950, Canada signed a convention with the United States allowing reciprocal port privileges for halibut vessels, and on June 1 parliament approved the International Northwest Atlantic Fisheries convention for the development and protection of the fisheries resources of that area.

The federal government called a dominion-provincial conference on April 24 on the new fish inspection act, out of which came a joint federal-provincial working committee to unify government operations in the protection, inspection and development of fisheries. The federal fisheries department revamped its east coast administrative machinery, with the formal establishment of a conservation and development service, and an inspection and consumer service. Whitefish inspection was stepped up, and the Great Slave lake fisheries were more closely supervised to assure their perpetuation.

Canadian members of the Pacific International Salmon Fisheries commission urged extension of Canadian territorial waters to 100 mi. out to sea, instead of 3 mi., to provide greater control of offshore fishing. Reports that European trawlers were damaging



FISHERY WORKERS preparing shrimp for shipment in Key West, Fla., where the shrimp industry enjoyed a sudden expansion in 1950. Rich new fishing beds were being tapped by setting nets down at night to catch a type of jumbo shrimp which buries itself by day and feeds at night

Canadian trawlers' gear off the Grand Banks brought the Canadian government vessel "Cygnus" to the area to investigate.

After five years of research, scientists discovered surface-floating goldeye eggs in Lake Claire, Alta., which gave the first clue to the spawning habits of that threatened species. Canadian caviar was successfully produced in northern Saskatchewan. By cultivating suckers, Ontario fish scientists were able to increase food supplies of hatchery maskinonge and thus step up the number of maskinonge fingerlings for game-fish distribution.

FILMS OF 1950.—*It's the Maine Sardine* (U.S. Fish and Wildlife Service, Dept. of the Interior); *Salmon Story*, (Encyclopædia Britannica Films Inc.); *Story of Tuna* (Association Films, Inc.). (C. Cy.)

**Fishing:** see ANGLING.

**Flax:** see LINEN AND FLAX.

**Floods and Flood Control.** The U.S. flood control act, approved Sept. 6, 1950, provided \$421,627,150 for flood control work during the fiscal year ending June 30, 1951. The funds were classified as follows: flood control general, \$355,060,250; emergency fund, \$2,700,000; lower Mississippi river, \$61,400,400; Sacramento river, \$2,016,500; Mississippi river emergency fund, \$450,000. Of the flood control general fund \$337,494,750 was specified for new construction; \$2,900,000 for advance planning; and \$5,350,000 for preliminary examinations, surveys and contingencies. Exclusive of the lower Mississippi river and the Sacramento river, flood control construction was continued or begun on 101 projects in 33 states. The \$61,400,400 funds allotted the lower Mississippi river project were designated for work in seven states: Kentucky, Illinois, Tennessee, Louisiana, Missouri, Arkansas and Mississippi.

Congress also passed a supplemental appropriation act, providing \$2,900,000 for the flood control project at Albeni Falls, Ida., and a \$6,000,000 emergency fund.





RED RIVER FLOODWATERS coursing through a residential section of Winnipeg, Man., late in May 1950, when 17% of the city was under water

At the end of June 1950, approximately 290 flood control projects were in operation; 34 were new projects placed in operation. Reservoirs placed in operation during the fiscal year included the Cherry Creek reservoir, Colo.; Allatoona reservoir, Ga.; Lac qui Parle reservoir, Minn.; Edward MacDowell reservoir, N.H.; East Sidney reservoir, N.Y.; and the Heyburn reservoir, Okla. Major local protection projects placed in operation during the fiscal year included the projects at Riverdale, Mass.; Harrisonville and Ivy Landing, Drainage and Levee District No. 2, Ill.; Elkport, Ia.; Lacey Langellier, West Matanzos and Kerton Valley Drainage and Levee district, Ill.; Coal Creek Drainage and Levee district, Ill.; and Syracuse, N.Y.

Channel improvement of the Mississippi river proper was continued during 1950 at a number of places below Cairo, Ill. Additional levee construction authorized by congress brought the total system to about 3,000 mi. of levees. Completed levee construction totalled approximately 1,600 mi. of main-stem levees, extending from near Head of Passes, La., to Rock Island, Ill. Co-ordinated with the main-stem levees were 1,400 mi. of tributary levees, about 50% complete in 1950. Below Cairo work continued on river bank protection.

Revetment in place totalled approximately 200 mi. of river bank.

Damaging floods occurred on the Wabash river and lower Ohio river basin in Jan. and Feb. 1950, flooding approximately 3,000,-

000 ac. of agricultural land, and causing a total damage of approximately \$19,000,000.

A series of storms beginning in the lower Mississippi river basin in early January and continuing at intervals of from one to three days in various sections until the middle of Feb. 1950 caused flooding on the lower Mississippi river and its tributaries, the Red, Ouachita, Atchafalaya basins in Louisiana, and the Yazoo river in Mississippi. The flood was one of the greatest of record, with water at Cairo reaching the third highest stage of record, and at New Orleans the highest level since 1927. Principal damage resulted from evacuation of 16,500 people from the Birds point-New Madrid floodway from southeastern Missouri and minor levee breaks in the Red-Ouachita, Louisiana break-water areas. An estimated 1,470,000 ac. were flooded, with a total damage of \$17,159,000. Flood control works in existence prevented approximately \$700,000,000 damage.

In April and May 1950, the Red river of the north, in Minnesota and North Dakota, exceeded all previous flood records for this basin; five lives were lost, 1,127,000 ac. were flooded and total damage was \$32,670,000.

The unusual rapid melting of heavy snows on the upper James river basin in North Dakota forced 2,500 people from their homes, inundated approximately 50 city blocks in Jamestown, N.D., washed out 79 highway crossings and 1 railroad and caused a total loss of \$1,580,000. Passing down stream, the same flood caused approximately \$1,000,000 damage in South Dakota.

In April and May 1950, rapid snow melting and rainfall caused the Missouri river and its tributaries to flood, inundating approximately 250,000 ac. between Mobridge, S.D., and Leavenworth, Kan. The crest of the flood at Rulo, Neb., on April 30 set a new record of 21.6 ft. Total damage for the basin was \$19,776,000, with 572,000 ac. flooded, 23 towns flooded, 5,704 people evacuated and 1 life lost.

On May 9, 1950, a flash flood caused by 12 in. of rain in less than 4 hours in the Salt creek basin in Nebraska took a total of 22 lives and did \$9,000,000 property damage.

Damaging flash floods caused by intense rain occurred in West Virginia on June 25-26, 1950; 33 lives were lost and property damage totalled approximately \$5,000,000.

In Nov. 1950, warm, heavy rains softened the snow cap on the Sierra mountains between California and Nevada, causing the river valleys to flood. The Truckee river caused \$3,000,000 damages in Reno, Nev., and an additional \$3,000,000 to agricultural lands. In California, from the Yuba river in the north to the Kern river in the south, water flooded agricultural lands. At Marysville, Calif., 6,000 people were driven from their homes. The American river drove 500 families from their homes in Sacramento. Near Laton 1,000 people were made homeless and turkeys valued at \$100,000 were drowned. Total damage was largest in California's history; 9 lives were lost, 325,000 ac. were flooded and property damage was estimated at \$19,000,000. (G. HB.)

**Great Britain.**—There were no serious or prolonged floods in Great Britain during 1950. Further progress was made in the execution of control work previously planned: in particular, the River Great Ouse Catchment board installed an additional pump unit at the St. Germans pumping station which would make this station's output larger than any in the country, by draining an area of 178,000 ac. At Nottingham more than one-fifth of the protection scheme on either side of Trent lane was completed during the year; the cost, part of the River Trent Catchment board's five-year program amounting to £1,832,000, was estimated at £520,000.

**Coast Erosion and Protection.**—Considerable progress was made on sea defense works, largely as a consequence of the Coast Protection act, 1949. A scheme for a sea wall and groynes to protect the 70-ft. limestone cliffs near Seaham, County Durham,



estimated to cost £140,000, was submitted for the approval of the ministry of health. In Norfolk work was in progress at Sheringham, Cromer and Caister, comprising steel sheet piling and a concrete apron and toe to protect the existing sea walls.

New works were carried out at Herne bay and Whitstable in Kent, and a scheme was prepared for stabilizing a further length of cliff east of Herne bay, at an estimated cost of more than £300,000. Work was also being done at St. Margaret's bay and Folkestone.

The strengthening of the sea wall was continued at Seaford, Sus., and a scheme was prepared (cost estimated at more than £1,000,000) for the protection of Selsey, where the coastline had been eroded in places at the rate of 20 ft. a year. At Llandudno sea defense works (estimated cost £123,000) were begun on the west shore to repair 3,000 ft. of defenses that had been seriously damaged in severe storms during the past two years. The operations to protect the central part of the town and to rehabilitate the harbour works at Aberystwyth were completed at a cost of £80,000.

**Australia.**—For the second year in succession central Australia suffered severe floods. The Cooper creek near Lake Eyre was extended to a width of 2-3 mi., reached a depth of 25-30 ft. and flowed at a rate of 8-10 m.p.h. In Queensland many sheep were lost, and food had to be dropped from aircraft to graziers and flood-bound townspeople. Millions of pounds' worth of damage was done in many parts of New South Wales after torrential rains accompanied by a 90-m.p.h. cyclone caused the worst floods experienced in 50 years: a coastal strip 200 mi. long and 60 mi. wide, comprising rich dairy, banana and tomato country, became a series of lakes.

**Canada.**—After serious flooding in North Dakota, the Red river began on April 19 to rise to a dangerous level north of the U.S.-Canadian border and within six days reached a height of more than 44 ft. at Emerson on the frontier, 60 mi. south of Winnipeg. By May 7 there were expanses of water 14 mi. wide in some places; and on May 19, when the flood was at its height, it was estimated that 600 sq.mi. were under water. All towns and villages in the river valley south of Winnipeg were evacuated, and many inhabitants of isolated farms were rescued by the royal Canadian mounted police. An appeal was made on May 10 that as many women and children as possible should leave Winnipeg, whose population had been greatly increased by the influx of 40,000 refugees from the flooded rural areas; and about 110,000 people, out of a normal population of 350,000, left during the succeeding week.

The maximum depth reached at Winnipeg was 30.3 ft. The damage was estimated at about \$26,000,000, and nearly 10,000 houses in Winnipeg were affected.

**India and Pakistan.**—Flooding of the Kosi river and its tributaries was caused by heavy rain in August, and resulted in a major catastrophe in northeastern Bihar, India. Devastation affected more than 400 villages and involved 70% of the corn crop. The Bhagalpur division, embracing the flat country north of the Ganges, also suffered heavily. About 4,000 sq.mi. in the west Punjab, including several thousand villages, were flooded; road and rail links between Karachi and northern Pakistan were cut, and many other towns were isolated. The damage was estimated at approximately £35,000,000.

**Japan.**—Serious floods occurred in Japan as a result of breaks in the embankment of the Kokai river on the border of the Chiba and Ibaraki prefectures: 6,500 houses were damaged and 40,000 people rendered homeless; the flood waters extended over a width of nearly 2½ mi. (See also DAMS; DISASTERS; IRRIGATION; METEOROLOGY; SOIL EROSION AND SOIL CONSERVATION; TENNESSEE VALLEY AUTHORITY.)

FILMS OF 1950.—*Ohio River—Lower Valley*; *Ohio River—Upper Valley* (Academy Films). (J. KD.)

**Florida.** The extreme southeastern state of the United States, Florida, the 27th state, was admitted into the union in 1845. It is called the "Sunshine state" because of its sunshine, and the "Peninsula state" because of its peculiar outline. Its coast line, not taking into account the numerous bays and indentations, is greater than that of any other state, extending 472 mi. along the Atlantic and 674 mi. along the Gulf of Mexico. Area: 58,560 sq.mi., of which 4,298 sq.mi. are water surface; population (official 1950 U.S. census) 2,771,305, an increase of 873,891 or 46.1% over the 1940 census. The 14 largest cities with their population (preliminary est. 1950 U.S. census) are: Miami, 246,983; Jacksonville, 203,404; Tampa, 124,973; St. Petersburg, 95,712; Orlando, 51,826; Miami Beach, 45,541; Pensacola, 43,293; West Palm Beach, 43,053; Fort Lauderdale, 36,000; Lakeland, 30,846; Daytona Beach, 29,254; Tallahassee (the capital) 27,158; Gainesville, 26,577; Panama City, 26,248.

**History.**—The state elective administrative officers in 1950 whose terms expire in Jan. 1953 were: Fuller Warren, governor; R. A. Gray, secretary of state; Richard W. Ervin, attorney general; C. M. Gay, comptroller; J. Edwin Larson, state treasurer; Thomas D. Bailey, superintendent of public instruction; Nathan Mayo, commissioner of agriculture.

In the U.S. senatorial election of 1950 Rep. George A. Smathers of Miami was elected to succeed Sen. Claude Pepper who was eliminated in the Democratic primary in May.

Five amendments were added to the state constitution in 1950, three of which concerned matters of state-wide interest, and two of lesser interest. The first one provided for the establishment of juvenile courts; the second eliminated the state census of population; the third provided that each law enacted in the legislature should embrace but one subject and matter properly connected therewith; the fourth created an additional judicial circuit; the fifth provided for an additional county judge when the population of a county exceeds 250,000.

**Education.**—Enrolment in the public schools for the year 1949-50 through grades 1-12 was as follows: white, 371,102; Negro, 120,103; total 491,205. Kindergartens, white 2,893; Negro, 131; total 3,024. Junior colleges (grades 13 and 14), white, 1,300; Negro, 134; total 1,434. There were 1,401 elementary, 744 secondary public schools, 51 kindergartens, and 5 junior colleges in the state of which there were 787 white and 614 Negro elementary schools, 498 white and 246 Negro secondary schools, 49 white and 2 Negro kindergartens, 4 white and 1 Negro junior colleges. These schools had instructional staffs (exclusive of 189 supervisors) of 17,027 teachers and 767 principals, of whom 12,913 teachers and 628 principals taught in schools for whites and 4,114 teachers and 139 principals in schools for Negroes.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Florida disbursed for state welfare through the state welfare board \$49,849,486.53 in 1949-50. From grants by the federal government the state received in 1949-50 for old-age assistance \$20,087,898.20; for dependent children \$9,026,991.44; and for aid to the blind \$1,004,394.13; total \$30,119,283.77. Disbursements for old-age assistance were \$32,140,298.28; for dependent children \$13,629,651.86; and for the blind \$1,626,651.80; total \$47,396,601.94. Administration and other welfare services amounted to \$2,452,884.59. The unemployment benefit receipts were \$9,032,342.40 with net benefit payments of \$10,619,846.

The appropriations for various prisons and other institutions for 1950-51 were: the prison at Raiford \$1,077,450 with \$23,260 contingent fund; the prison farm at Belle Glade \$247,000; the industrial school for boys at Marianna \$376,728; the industrial school for girls at Ocala \$120,000 with \$600 contingent fund; the Apalachee Correctional Institution \$181,960 with \$8,000 contingent fund. The state also supports a state hospital for the insane at Chattahoochee, the Florida Farm colony for the feeble-minded at Gainesville, and the Florida School for the Deaf and Blind at St. Augustine. The appropriations for these institutions for 1950-51 carried the sums of \$5,070,311 with \$125,000 contingent fund; \$474,840 with \$101,280 contingent fund; and \$505,410 respectively.

**Communications.**—The total highway and street mileage in the state at the end of the year 1950 was 51,086 mi., of which 21,075 were paved and 3,946 were hard-surfaced with gravel or stone. Disbursements for the calendar year 1950 were \$39,566,899.74 for construction and \$8,987,250.72 for maintenance. The state road department's tentative budget for 1951 was \$90,411,651 for construction and \$7,033,547.67 for maintenance. Florida in 1948, the latest report available at the close of 1950, had approximately 5,000 mi. of railroads, exclusive of yard tracks.

**Banking and Finance.**—On June 30, 1950, there was a total balance in the state treasury of \$58,599,273.33 with outstanding warrants and ad-



justments of \$12,094,563.31. The state is constitutionally forbidden to incur a debt by borrowing except to put down insurrection and repel invasion. The constitution also prohibits the legislature from levying an income tax, forbids any state ad valorem tax on real estate and exempts homesteads from taxation by local taxing units up to the value of \$5,000.

On June 30, 1950, there were within the state 62 national banks with deposits amounting to \$1,291,445,000 and 135 state banks and trust companies with deposits of \$603,626,211.16, representing total deposits of \$1,895,071,211.16, a gain of \$211,870,242.44 in the fiscal year.

**Agriculture.**—The citrus production for the season 1949–50 and the estimates for 1950–51, respectively, were as follows: oranges (including tangerines) 63,500,000 and 65,800,000 boxes; grapefruit 24,200,000 and 31,000,000 boxes; limes 260,000 and 280,000 boxes.

The sale of truck crops including strawberries for the year 1949 was estimated at \$110,634,000.

On Jan. 1, 1950, the livestock resources of the state were as follows: 1,099,000 beef cattle and calves, 152,000 milk cows, 619,000 swine, 12,000 sheep, 23,000 horses and 28,000 mules.

#### Principal Agricultural Products of Florida

Crop	1950	1949	Average, 1939-48
Corn, bu. . . . .	9,968,000	8,983,000	7,527,000
Tobacco, lb. . . . .	22,700,000	25,063,000	19,157,000
Potatoes, bu. . . . .	5,664,000	5,428,000	4,150,000
Sugar cane, short tons. . . . .	1,267,000	1,164,000	904,000

**Manufacturing.**—In 1947, according to the census of manufactures, the latest report available, there were 2,807 manufacturing establishments in Florida. There were 701 food products plants employing 19,565 persons and having a total annual pay roll of \$42,976,000. Lumber, rough and dressed, mill work, furniture and fixtures, wooden boxes, pulp, paper and gum and wood naval stores employed approximately 25,000 persons in 656 plants with a pay roll of nearly \$50,000,000. Wood pulp and paper manufactured in Florida in 1948 were valued at approximately \$103,000,000. The eight mills in Florida in 1948 manufacturing pulp, paper and paper board employed about 6,000 persons in 1948, had a pay roll of approximately \$25,000,000, and used about 1,600,000 cords of wood, about one-half of it coming from Florida forests. Florida wood-pulp production in 1949 was 1,036,000 standard cords.

In 1947 about 700 saw mills cut 517,000,000 bd.ft. of lumber, and the Florida Forest service estimated that the 1950 lumber production would be around 600,000,000 bd.ft. The pulp wood cut was expected to total 1,200,000 standard cords or about 20% above that of 1949. The total estimated value of wood products for Florida for 1949 was about \$155,000,000.

In 1947, the latest report available, there were 74 plants manufacturing cigars in Florida with products shipped valued at \$45,901,000. These plants employed 8,613 persons and had an annual pay roll of \$13,085,000.

**Mineral Production.**—Florida has limited resources in minerals, but has large and rich deposits of phosphates, lime and limestone, and less extensive though highly valuable deposits of kaolin, and fuller's earth. The value of the state's mineral production for the year 1948 was \$53,877,000, the estimated value for 1949 was \$55,000,000, and the estimated value for 1950 was also \$55,000,000.

**FILMS OF 1950.**—*Exploring Old St. Augustine* (Cornell Associates). (A. N. P.)

**Flour.** Statistical data on civilian per capita consumption of wheat flour in the U.S. for the years 1935–49 indicated that after the end of World War II flour usage resumed its gradual prewar downward trend. Per capita consumption increased from 149.61 lb. in the year beginning July 1941 to a peak of 161.2 lb. in the following year. Per capita usage thereafter decreased to an estimated 135.6 lb. for the year beginning July 1949.

Paralleling the decline in per capita consumption of flour, there was a significant shift in the uses of flour. During 1949 and 1950 the trend from flour packed for home baking to the packaging of ready-mixed items and various prebaked breads, rolls and sweet goods grew in commercial importance. In the field of prebaked cereal products, the "brown and serve" bakery items came into outstanding prominence in 1949 and appeared to have found ready acceptance. Cake mixes, biscuit mixes, ready-to-bake biscuits and various prepared pancake, waffle and doughnut mixes accounted for a large and increasing utilization of soft wheat flours. An expanding cookie, cracker and sweet biscuit industry had also become a very large consumer of various grades of winter wheat flours.

Flour production statistics for the United States during 1950, with comparative figures for the past few years, are shown in the tables.

**Flour Technology.**—A survey of flours from 589 samples representing ten varieties of hard red spring wheats grown for four

Table I.—U.S. Wheat Flour Production for Aug. 1950, Aug. 1949 and the 12 months' average

Month and year	Production wheat flour (thousand cwt.)	Feed (all offal) tons	Capacity per 24 hr. wheat flour (thousand cwt.)	Wheat flour production in percent of capacity	Pounds of wheat per sack of flour	Flour extraction rate %
Aug. 1950 . . . . .	21,079	422,168	1,151	79.6	139.8	71.5
Aug. 1949 . . . . .	19,826	404,598	1,173	73.5	140.3	71.3
Average for 12 months preceding Aug. 1950	18,944	382,900	1,169	76.3	139.9	71.5

Table II.—U.S. Wheat Flour Production for Ten Leading States

State	(In thousands of sacks)				
	Aug. 1950	July 1950	Monthly average production 1949	1948	1947
Kansas . . . . .	3,178	2,962	3,057	4,260	4,344
Minnesota . . . . .	2,957	2,282	2,343	2,588	3,340
Missouri . . . . .	2,043	1,682	1,826	2,208	2,281
New York . . . . .	1,789	2,335	2,436	2,515	2,706
Illinois . . . . .	1,296	996	1,007	1,183	1,193
Texas . . . . .	1,230	1,140	1,222	1,634	1,801
Oklahoma . . . . .	1,014	963	896	1,096	1,192
Washington . . . . .	955	877	794	983	1,053
Ohio . . . . .	924	693	796	800	762
Nebraska . . . . .	559	529	481	666	710
All others . . . . .	5,134	4,511	4,671	5,328	6,076
Total, all states . . . . .	21,079	18,970	19,529	23,261	25,458

crop years under a wide range of climate and soil conditions was reported by C. C. Fifield of the U.S. department of agriculture. Differences in loaf volume as correlated with protein content indicated significant differences in the protein quality of the different flours.

The general use of chlorine dioxide as a bleaching agent, replacing nitrogen trichloride, proved generally satisfactory in terms of baking quality of the bleached flour. Chlorine dioxide appeared to be slightly less effective than nitrogen trichloride as a colour-reducing agent, but seemed to be substantially equal in its oxidizing or flour-maturing effects. The need for oxidation of flours in general appeared to be somewhat less, a result attributed by millers to new wheat varieties. There had been some increased usage of bromates, particularly in the treatment of the longer-extraction and clear-type flours. Other oxidizing agents, such as ammonium persulfate, received extensive testing by Aaron Arnold and Frans C. Goble, who found this material quite harmless to test animals even when fed at levels 200 times the amount which would be present in commercially treated flour.

Flour from the 1950 crop of hard southwestern wheat was evaluated by cereal chemists and commercial bakers who reported as follows: (1) the protein level was the same to slightly higher than the 1949 crop flour; (2) fermentation tolerances were good; (3) slightly less mixing time was required; (4) absorption had dropped 1% or 2%; (5) slightly less yeast food or diastatic malt or both was needed; (6) loaf volume was about the same as for the previous year's flour.

**Milling and Flour Handling.**—Pneumatic air-stream handling of flours and milling streams in flour mills had completely replaced conventional conveyor and elevator handling in several newly constructed mills in Great Britain and on the European continent. This method was meeting with some interest in the U.S. where a limited application of the air-stream method of handling was in use in many mills and elevators. This method of conveying millstocks had demonstrated an improvement in flour mill sanitation, especially with respect to the reduction of infestation in elevators, conveyors and other conventional flour handling devices.

Storage of wheat in inert gases (such as nitrogen and carbon dioxide) prior to milling indicated great promise toward the elimination of insects common to wheat.

Shipment of flour in bulk hopper cars combined with pneumatic unloading and bulk bin storage in larger bakeries had contributed substantial economies in flour handling as well as in



sanitation and reduction of flour losses. (See also BREAD AND BAKERY PRODUCTS; WHEAT.)

BIBLIOGRAPHY.—C. C. Fifield, Ray Weaver and J. F. Hayes, *Cereal Chemistry*, p. 383 (Sept. 1950); Aaron Arnold and Frans C. Goble, *Cereal Chemistry*, p. 375 (Sept. 1950); *Bakers' Helper*, p. 102 (Oct. 14, 1950). General References: *The Northwestern Miller*; *The Southwestern Miller*; *Bakers' Helper*; *Bakers Weekly*; *American Baker*; *Baker's Digest*; *Cereal Chemistry*; *Chemical Abstracts*. (H. Bd.)

**Food and Agriculture Organization:** see FOOD SUPPLY OF THE WORLD.

**Food and Drug Administration:** see DRUG ADMINISTRATION, U.S.

**Food Supply of the World.** The world in 1950 faced a new period of hostilities with its food situation in better order than at any time since the end of World War II. In a few sectors that had been regarded as burdensome surpluses a scant year before were now regarded as essential margins of safety in a troubled and uncertain world. More than that, the psychology and official action were reoriented in the direction of all-out food production, particularly of storables. In great contrast with the uneasy, if not actually dangerous, food situation of the world in the early part of 1948, the wide-spread favourable harvests of 1948 and 1949 were followed by still further expanded food supplies in 1950 in most major regions except the United States. Prospects for meeting the effective demand for food in the 1950-51 consumption year, short of all-out war, were brighter than in any of the preceding post-World War II years, although a large proportion of the world's population nevertheless would not be and had not been adequately nourished by some standards. Food rationing and other restrictions were widely relaxed or abandoned, though the meat ration was further restricted in the United Kingdom, and there was much concern about possible price ceilings on foods in the U.S. early in 1951.

The improved situation was not so much the result of extremely large crops in one or two areas (as had previously been true in regard to the U.S.) nor enormous outturn of one major crop, but rather a general improvement in many categories, but particularly bread grains, rice, sugar, livestock products and vegetables. Carryover grain stocks in the four principal exporting countries on July 1, 1950, were 74,100,000 tons, only slightly larger than the 73,700,000 tons of 1949, but about 70% larger than the small stocks of 1948. A very large part, 78% of the total, was in the United States.

Though crops were not very poor in any large area, famine, or near famine, returned to some parts of the world. A very bad drought situation in north China early in the year (deaths unofficially estimated as high as 10,000,000) was followed by floods in some sectors, but apparently the situation was greatly relaxed by summer and autumn harvests. The Danube basin, especially Yugoslavia, was hard hit by drought and the resulting near failure of the corn (maize) crop. Food aid to Yugoslavia,



KOREAN MOTHER with black market rice for sale. Although supposedly strictly rationed in 1950, rice was available in many South Korean villages, at a price

totalling nearly \$100,000,000 from the United States and some from the United Kingdom, was in process late in the year. Some neighbouring areas restored rationing. A serious situation in parts of India (where hunger and malnutrition are endemic, but which had partial crop failure locally in 1950) came to the attention of the public late in the year with a request for 2,000,000 tons of wheat from the U.S. in addition to grain sorghums previously arranged for. (See AGRICULTURE.)

The world food supply situation by commodities and areas is summarized in Table I.

**Bread Grains, Wheat and Rye.**—World bread grain production estimates for 1950 were set at 239,000,000 short tons, larger than the 233,000,000 tons of 1949 and above the average 229,000,000 tons of 1935-39. The world wheat crop, the best since World War II, was finally placed at 6,405,000,000 bu., a figure well above the 6,270,000,000 bu. of 1949 and substantially in excess of the 6,010,000,000-bu. average for 1935-39. The increase was widespread, many areas sharing the abundance. The Canadian crop was about 100,000,000 bu. larger than the 1949 harvest and 150,000,000 bu. in excess of the prewar average, but the quality was much damaged by early frost. The U.S. crop was the seventh consecutive crop of more than 1,000,000,000 bu. The European crop was slightly larger than that of 1949, and that of Asia substantially improved. The wheat crop of the U.S.S.R. of 1,110,000,000 bu. was near that of 1949, but below the 1,240,000,000-bu. average for 1935-39.

The world rye crop of 1950 totalled 1,665,000,000 bu., as compared with 1,715,000,000 bu. in 1949 and the 1,730,000,000-bu. prewar average (1935-39). The decrease was largely in Europe, that continent in 1950 producing 685,000,000 bu. compared with 710,000,000 bu. in 1949 and the 765,000,000-bu. prewar average. The rye crop of the U.S.S.R., where it is a major food grain, was indicated at 910,000,000 bu., compared with 950,000,000 bu. in 1949 and an 885,000,000-bu. prewar average.

Table I.—World Food Production by Commodities and by Areas Compared with Prewar

Food commodity	1947-48	(Per cent of prewar) 1948-49	1949-50	1950-51*
Bread grains . . . . .	96	102	101	104
Rice . . . . .	93	97	98	101
Coarse grains . . . . .	97	110	104	102
Fats and oils . . . . .	88	94	100	101
Sugar . . . . .	92	108	106	120
Meat . . . . .	93	94	97	98
Dairy products . . . . .	87	90	95	97
Potatoes . . . . .	83	105	96	101
Area				
Far east . . . . .	92	95	96	97
Europe (excluding the U.S.S.R.) . . . . .	79	89	93	97
U.S. and Canada . . . . .	128	138	133	135
Latin America . . . . .	114	118	118	121
Australia and New Zealand . . . . .	109	106	107	108
Africa and near east . . . . .	101	116	117	119
World average (excluding the U.S.S.R.) . . . . .	97	104	105	109

\*Preliminary estimate.



The favourable situation of bread grains gave preliminary promise at the end of 1950 of continuing. Near the end of the year early in 1951, and because of reduced production of corn in the U.S. However, a record carryover of corn in the U.S., plus substantial amounts of other feed grain supplies and a record hay supply per consuming animal, made the problem not one of any immediate supply deficit, but rather a question of whether feed supplies would continue to support the expanding trend in livestock population. In other words, there appeared the likelihood that the rapid buildup in livestock, particularly in the U.S. and western Europe, under a very favourable demand and price situation to producers, was about to overreach its support potential. The corn (maize) crop for the world amounted to about 5,285,000,000 bu., compared with a crop of 5,580,000,000 bu. in 1949-50 but much in excess of the prewar average of 4,750,000,000 bu. Other feed grains, oats, barley and grain sorghums, yielded abundantly in 1950. The world oat crop was estimated at 4,230,000,000 bu., an increase of 5% as compared with 4,020,000,000 bu. in 1949. Europe's 1,350,000,000 bu. was slightly less than in 1949 and about 15% less than the prewar average. The world barley crop was estimated at 2,430,000,000 bu., compared with 2,260,000,000 bu. in 1949 and nearly 100,000,000 bu. more than the prewar average.

**Feed Grains.**—Feed grains were not quite so abundant in 1950, largely because of drought damage to the Argentinian crop early in 1950, and because of reduced production of corn in the U.S. However, a record carryover of corn in the U.S., plus substantial amounts of other feed grain supplies and a record hay supply per consuming animal, made the problem not one of any immediate supply deficit, but rather a question of whether feed supplies would continue to support the expanding trend in livestock population. In other words, there appeared the likelihood that the rapid buildup in livestock, particularly in the U.S. and western Europe, under a very favourable demand and price situation to producers, was about to overreach its support potential. The corn (maize) crop for the world amounted to about 5,285,000,000 bu., compared with a crop of 5,580,000,000 bu. in 1949-50 but much in excess of the prewar average of 4,750,000,000 bu. Other feed grains, oats, barley and grain sorghums, yielded abundantly in 1950. The world oat crop was estimated at 4,230,000,000 bu., an increase of 5% as compared with 4,020,000,000 bu. in 1949. Europe's 1,350,000,000 bu. was slightly less than in 1949 and about 15% less than the prewar average. The world barley crop was estimated at 2,430,000,000 bu., compared with 2,260,000,000 bu. in 1949 and nearly 100,000,000 bu. more than the prewar average.

Exports of feed grains from the U.S. in 1949-50 were 9,669,000,000 lb., slightly larger than in 1948-49 and more than three times the prewar average. These exports were based primarily on the record corn supply and went largely to western Europe.

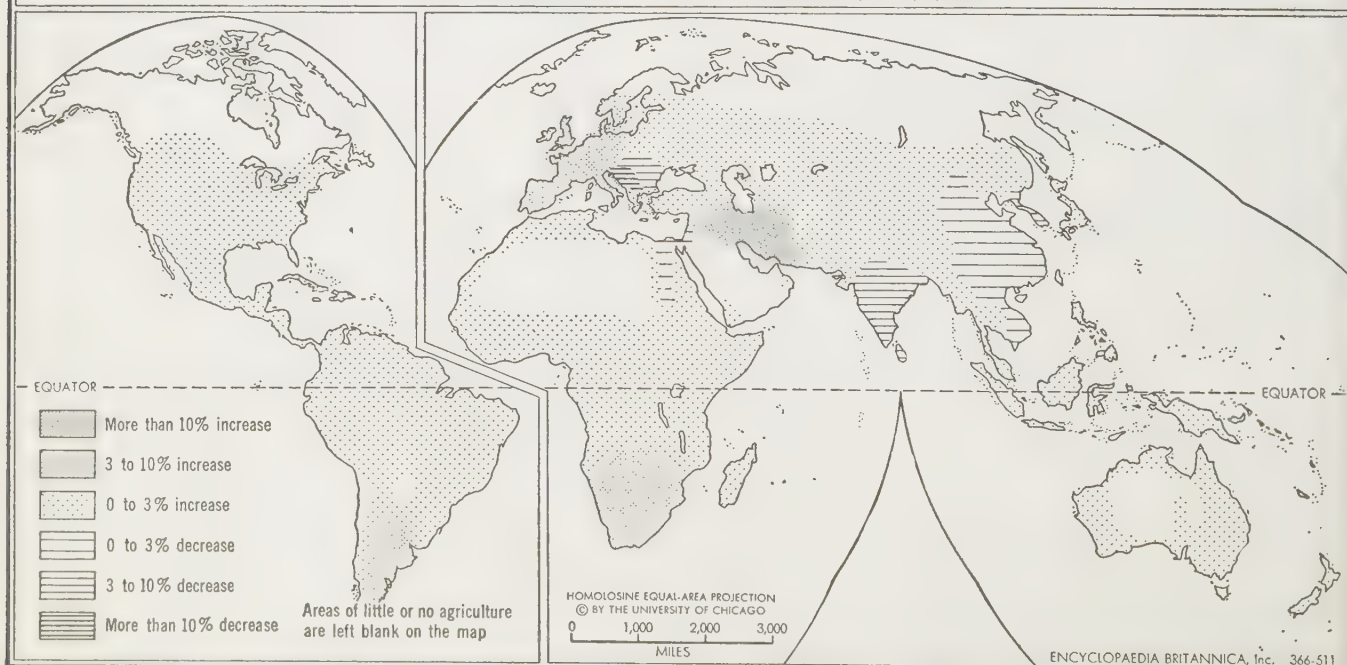
**Rice.**—The world's greatest food crop for direct human consumption, in terms of the number of people preferring that staple, is rice. In terms of total world production it regained prewar levels; the estimated crop was 343,000,000,000 lb. (paddy) in 1950-51, 3% higher than the 333,000,000,000 lb. of the previous year and slightly above the prewar period. Nearly 93% of production was in Asia. The U.S. crop of 37,971,000 bags (100 lb.) was 7% less than the record crop of 1949. There were higher per acre yields in China. Moderate increases were

forecast for Formosa, the Philippines, Thailand (Siam) and Pakistan. Japan harvested a good crop of 25,700,000,000 lb., but smaller than the large crop of 1949-50 and slightly below the prewar average. The Korean crop apparently was a good one and was mostly harvested in spite of war. Unsettled conditions in the main surplus-producing areas of southeast Asia apparently resulted in a reduced total, though the crop of Thailand was reported as favourable.

**Potatoes.**—The 1950-51 crop was about 8,580,000,000 bu., 6% more than the 1949-50 crop and comparable with the 8,764,000,000 bu. in 1948-49 and the 8,300,000,000-bu. average in the prewar years 1935-39. The European crop (excluding the U.S.S.R.), in particular, increased sharply to 4,860,041,000 bu., compared with 4,418,296,000 bu. in 1949, but was slightly below prewar. The U.S.S.R. crop was indicated at 2,850,000,000 bu., a little more than in 1949 and slightly above prewar. The Canadian crop, as well as that of the U.S., was again large, creating one of the major surplus problems of the year. In spite of a record low acreage in the U.S. the 1950 crop nevertheless was excessive by nearly 100,000,000 bu., and the government support program, though reduced to 60% of parity (90% in 1949) was expected to become by late spring 1951 a large and costly program. Under law existing at the year's end there would be no support of 1951 potato prices.

**Sugar.**—World production of centrifugal beet- and cane-sugar for the 1950-51 season was indicated at 35,380,000 short tons, raw value, 10% more than the record large crop of the previous year and about 22% more than the prewar (1935-39) average. In addition there was an estimated production of 5,700,000 tons of noncentrifugal sugar, mostly in Asia and South America. World beet-sugar production, largely in Europe, increased to 13,499,000 tons, compared with 11,625,000 tons in 1949 and 11,027,000 tons prewar. Meanwhile, world centrifugal cane-sugar production was 21,387,000 short tons, compared with 20,430,000 tons in 1949 and 17,310,000 tons prewar. Increases were rather general. Cuba increased to 6,300,000 tons from 6,126,000 tons in the previous year. Formosa, however, showed a decline, and the Philippines had not sufficiently reconstructed to be able to provide all the export quota to the U.S. Per capita consump-

### GENERALIZED ESTIMATES OF FOOD SITUATION BY AREAS, 1950-1951 AS COMPARED WITH PREVIOUS YEAR





tion continued highly divergent among the various countries, ranging from about 100 lb. per capita in the U.S. in 1950 to only a very few pounds per person for more than one-half the world's population.

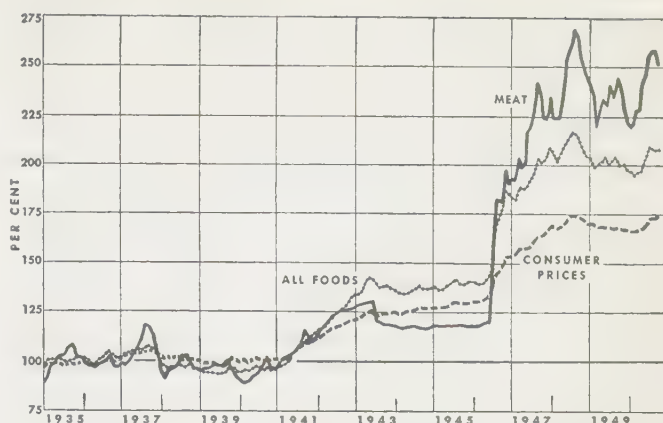
**Meat.**—The meat supply situation was generally easier in 1950. Pork, poultry, high quality beef and fish especially were in more abundant supply. Lamb was relatively scarce. Total meat consumption per person in the U.S. was expected to approximate 145 lb., compared with 144 lb. in 1949, a record 155 lb. in 1947 and a prewar average of 126 lb. Lamb consumption, however, was only 95% of 1949, whereas chickens (103%) and turkeys were consumed at an increased rate, 22% above 1949. Numbers of livestock in the U.S., excepting sheep, had completed the declining phase of their cycle in 1949 and were expanding in 1950, hogs and beef cattle especially.

Because of generally improved feed conditions in 1949 and continuing favourable production in 1950, output of meat increased in most producing areas; Argentina and South Africa were hard hit by drought and Argentine meat exports, particularly to the United Kingdom, were cut back sharply in mid-1950. As a result, the British slashed thin meat rations to a very low level late in 1950. World cattle numbers, for beef as well as milk, were increased above the record 761,000,000 head at the beginning of 1949. Hogs, which in Europe are fed largely on potatoes and barley, along with poultry were increased in number. Meat exports from Canada, Australia and New Zealand continued in fair volume to western Europe, particularly to the United Kingdom.

**Fats and Oils.**—Expansion in the production of most kinds of fats and oils continued in 1950 with consequent easing of the supply situation. Prices turned much firmer after June. Although significant differences existed among areas and types, the over-all supply approximated the prewar level. On a per capita basis the supply continued below prewar, Germany and Japan being especially low with a consumption level about half that of prewar. Production of fats and oils in the U.S. was near the 1949 record level, but much dependent on the very large soybean crop; the cottonseed crop was only about two-thirds as large as that of 1949; hogs were marketed in larger numbers than in 1949 and at heavier weights. Palm oil and coconut oil also became available in larger amounts from tropical areas. The olive oil crop of the Mediterranean basin was a short one. As a result, world exports of this composite item were expected to be much the same as in 1949. Exports of edible fats and oils, including butter, from the U.S. were especially large, reaching a record of 1,122,000,000 lb. in 1949-50 as compared with the 186,000,000-lb. prewar average.

**Food Prices and Trade.**—Food prices, particularly those of food raw materials such as grains and fats and oils, which reached their postwar peaks in the free markets of the world early in 1948 and had subsequently declined sharply but irregularly, reversed the downward trend in early 1950 and after the Korean outbreak moved rapidly upward. Most products, however, did not reach the old 1948 highs. The over-all rise amounted to at least 10% and for a few items amounted to much more.

Because of cheapness, storability, availability and widespread acceptability, the bulk of food moving in world trade continued to be grains. In 1949-50 world exports of grain and grain products were about 35,800,000 metric tons, compared with 38,100,000 tons in 1948-49, which was the largest since 1931-32, but still less than the record 40,600,000 tons moved in 1928-29. Of the 1949-50 total, about 23,000,000 tons were bread grains. In 1949-50 (mostly from 1949 crops) grain supplies carried over at year's end in the four principal exporting countries increased substantially as compared with 1948-49. Exportable supplies



CONSUMER PRICES and retail prices of meat and of all foods in the U.S., 1935-50 (1935-39=100), based on bureau of labour statistics data for moderate-income families in 56 large cities (Source: Bureau of Agricultural Economics)

were in surplus compared with provisional import programs, a fact which is well-illustrated by the importing countries not taking their full quota of wheat under the International Wheat agreement, the price remaining at the maximum, though that was well below U.S. domestic prices.

Estimated exports in 1950-51 included about 11,000,000 short tons of sugar, of which about 80% came from the western hemisphere, compared with less than 50% before the war. World supply and demand continued in balance despite a record crop. Prices were rather sharply up compared with 1949, Cuban raws rising to a little less than six cents per pound.

Table II.—Supplies of Major Foodstuffs Entering World Trade

Commodity	(In millions of metric tons)				
	Prewar	1947-48	1948-49	1949-50	1950-51*
Cereals (excluding rice) . . . . .	29.4	35.0	38.1	35.8	34.0
Rice (milled) . . . . .	7.8	3.8	3.9	3.8	3.7
Fats and oilseeds (fat content) . . . . .	5.9	4.0	4.8	5.2	5.5
Sugar (raw basis) . . . . .	11.5	9.0	10.7	10.0	11.0
Meat . . . . .	1.9	2.0	1.9	2.0	1.8

\*Preliminary estimate.

**Food Situation by Areas.**—European food production in 1950 was significantly improved over the 1949 situation. The 1950 bread grain harvests averaged above the previous year, though the Danube basin harvests probably dropped below that of 1949. The corn (maize) crop was definitely hard hit by drought in much of eastern Europe, and the situation in Yugoslavia was reported as a serious one—outside aid from the U.S. and some European areas was supplied in substantial amounts. Potatoes and sugar increased, as did fats and oils, livestock and dairy products. Nevertheless, the domestic food supply of Europe in 1950 was still somewhat less than prewar levels, and population had increased. The major food item, bread grains, was near the prewar average. Domestic supplies of meat, dairy products and poultry were still low compared with prewar, but coming up. Nevertheless, the situation had relaxed sufficiently to permit decontrol of most rationing in most areas, though Yugoslavia and some other Danube basin areas reinstated rationing, and the United Kingdom reduced its meat ration sharply because of the reduction in imports from the Argentine. Stock piles of grain were increased. A disturbing feature was the extent to which the world import requirements of food, particularly into Europe, had come to depend so overwhelmingly on the vast but unstable production of North America. Efforts at Geneva, Switz., in November to secure larger quantities of grain from eastern Europe, as was the case in prewar days, were apparently largely unavailing, though the United Kingdom prior to the Geneva meeting executed a contract for 800,000 tons of coarse grains from the U.S.S.R. Western Germany again increased its production.



The food situation in the U.S.S.R. appeared to be not quite so favourable as in 1949, but 1950 was near the best of the postwar years. Root crops were favourable and livestock increased.

The 1950 grain crops of Japan were about as good as in 1949, and Japan, prior to the Korean outbreak, was faced with the largest grain carryover in its history, partly imported. The situation in China was less clear because of warfare as well as drought and floods early in the year. Natural conditions for the rice crop, the major cereal item of the diet, were believed to have been more favourable than in 1949. Civil disturbances in Burma continued to restrict the movement of the 1949 rice crop and the production of the 1950 crop. Supplies available for export from Indochina continued to be small, although some increase occurred in the Thai crop.

India had local food difficulties and late in the year was asking for import grains.

Food crops in the southern hemisphere, harvested during 1950-51, were more than average, particularly in Australia. Serious drought in the Union of South Africa and Argentina late in 1949 and early 1950 was relieved with probable favourable outturn of 1950-51 crops. Exportable supplies of dairy products had increased somewhat in Australia and New Zealand, and there were also moderate increases in meat supplies from some southern hemisphere countries.

The food situation, both as to production and consumption, was excellent in North America in 1950, partly because of large crop production but more because of an upturn in livestock and its products. Crops in the U.S. yielded about 132% of prewar (as compared with 152% in 1948), and livestock production was 141% of prewar. Canadian crops were larger than in 1949, though the quality of the abundant wheat crop was damaged by early frost; that country began to search for wider markets for its exportable foods, even in the U.S., in the face of a cutback in contracts with the United Kingdom.

**World Food Organization.**—The United Nations Food and Agriculture organization (F.A.O.) continued to occupy the centre of the international agricultural stage during 1950. During the year, Norris E. Dodd of the U.S. continued as director general. The permanent headquarters were to be moved to Rome, It., in 1951. The results of its world census of agriculture were not yet available, but it did publish a special survey of world agricultural land use which indicated that of a total area of 13,406,000,000 ha., 3,350,000,000 ha. were in some sense agricultural, 3,523,000,000 ha. were forests and 6,533,000,000 ha. consisted of wasteland and other. Of the agricultural areas, 1,217,000,000 ha. were classed as arable and the remaining 2,133,000,000 ha. as permanent meadows and pastures. Of the world's 2,352,000,000 total population, 1,377,000,000 were classed as agricultural.

**The International Wheat Agreement.**—The first of four years of anticipated operation under the agreement was completed Aug. 1, 1950. Actual purchases and sales thereunder amounted to 432,139,000 bu., more than half of the total moving in international trade during the year and compared with a quota of guaranteed quantities which was adjusted to 525,104,000 bu. when western Germany was admitted during the year. The price for the standard grade of wheat remained at the maximum of \$1.80 per bushel, and somewhat below prices otherwise prevailing in the world, hence the shortfall in actual takings as compared with guaranteed quantities was probably to be explained only in terms of shortages of dollars in some importing countries. The United Kingdom took practically its full quota. The U.S. exported nearly 163,000,000 bu. under the agreement, as compared with an adjusted yearly quota of 235,858,000 bu. and an effective quota (reduced mostly because of Germany's being a mem-

ber only part of the year) of 197,000,000 bu. An average export subsidy of 54 cents per bushel was required on wheat moving out of the U.S. under the agreement—to bridge the gap between maximum prices under the agreement and higher domestic support prices. The U.S. export quota for 1950-51 was 228,105,000 bu.; Canada's was 218,037,000 bu. The maximum price continued at \$1.80 per bushel; the minimum price dropped to \$1.40 per bushel.

At the year's end it appeared that export from the U.S. under the agreement was approximately up to schedule to move the full quota during 1950-51. (J. K. R.)

**Football.** Only two college teams playing a major schedule finished the 1950 football season with a perfect record, and neither Notre Dame nor Army was one of them. The two powers that had so rarely known defeat in recent years and that had been leading rivals for national honours season after season both came to the end of long sequences of invincibility.

Notre Dame, after going through 39 games without defeat, beginning in 1946, lost to Purdue and then was beaten three times more and tied once. On the final day of the season, as the Fighting Irish suffered their fourth setback, against a Southern California eleven that had been vanquished five times, disaster overtook Army for the first time in 29 games dating from 1947. A Navy team that had lost six of eight games perpetrated the most stunning surprise of the year by administering a thoroughly convincing licking to the heavily favoured cadets by the score of 14-2.

The defeat of Army, which had last previously been beaten (by Notre Dame) in 1947 and did not lose a game in 1944, 1945, 1946, 1948 or 1949, left Oklahoma and Princeton as the only two teams playing major schedules with perfect records for the 1950 season. Wyoming and Lehigh also won all their games and California, Clemson and the University of Miami (Fla.) went through without a loss, though each was tied once.

Oklahoma, which extended its winning streak to 31 games, was ranked first in the national poll of the Associated Press. The vote was taken prior to Army's defeat by Navy, and the West Point eleven was placed second. Then followed Texas, Tennessee, California, Princeton, Kentucky, Michigan State, Michigan and Clemson. The final poll of the United Press, taken among coaches after the cadets were beaten, rated the teams in this order: Oklahoma, Texas, Tennessee, California, Army, Michigan, Kentucky, Princeton, Michigan State and Ohio State.

The feeling was that Princeton did not receive its just deserts in either poll. It was the first Tiger eleven to finish with a perfect record since 1935. It won the Ivy league honours, defeated Harvard and Yale by record scores to become the second team in history to take Big Three honours for four successive years, and ousted Army as the winner of the Lambert trophy, emblematic of eastern supremacy.

Oklahoma retained the Big Seven championship. Texas lost only to Oklahoma, by a point after touchdown, and won the Southwestern conference title, and Tennessee was the victim of an early season upset as its only setback. California was tied in its last game by Stanford, and won the Pacific Coast conference crown for the third year in a row. Kentucky was on the verge of its first perfect season when it lost to Tennessee in the snow. It won the Southeastern conference title. Michigan State defeated Michigan and all other opponents except Maryland.

Michigan, with a comeback at the end of the season, nipped Ohio State for the Big Ten crown, defeating the Buckeyes in a snowstorm.

By winning the Big Ten championship Michigan qualified to go to the Rose Bowl at Pasadena. There, on New Year's day, it played California and defeated Lynn Waldorf's Bears by the



score of 14 to 6. In the Sugar Bowl at New Orleans Oklahoma and Kentucky were the opposing teams and the latter won, 13 to 7. Texas and Tennessee met in the Cotton Bowl at Dallas. Tennessee was the victor, 20 to 14. In the Orange Bowl at Miami, Fla., Miami and Clemson, both unbeaten but tied, clashed and Clemson won, 15 to 14. Washington and Lee, which won the Southern conference championship, played Wyoming in the 'Gator Bowl at Jacksonville, Fla., the decision going to Wyoming by the score of 20 to 7.

Ohio State's Vic Janowicz, a back, was voted the Heisman trophy as the outstanding player of the year. Following him in the poll were Kyle Rote of Southern Methodist, Vito (Babe) Parilli of Kentucky, Bob Reynolds of Nebraska, Bob Williams of Notre Dame, Leon Heath of Oklahoma and Dan Foldberg of Army. Janowicz and Foldberg, an end, were unanimous selections on the various all-American teams, as was Lewis McFadin, Texas guard. Also widely picked were Bob Gain, Kentucky tackle, Bill McColl, Stanford end, Jim Weatherall, Oklahoma tackle, Ted Daffer, Tennessee guard, and Williams, Rote and Reynolds, all backs.

Charles Caldwell of Princeton was voted the coach of the year by a big margin. Lynn Waldorf, California coach, placed second for the third successive season and Bud Wilkinson of Oklahoma was third.

There were no marked innovations in the technique of football. The two-platoon system was used a little more extensively. The T formation continued to be most widely used, but the single wing had a large following, including such teams as Tennessee, Michigan, Princeton, Michigan State, Ohio State and Pennsylvania.

**Professional Football.**—The All-America conference, after four years of operation, went out of existence at the end of the 1949 season and the National Football league had the field all to itself in 1950. With a 13-club circuit, including 3 of the defunct All-America conference, the old organization enjoyed a year of comparative financial success. The league was divided into the National and American conferences, instead of Eastern and Western divisions as previously. For the first time, a tie for first place resulted in both sections and a double play-off was necessary. The winners of these play-offs then met for the cham-

pionship of the league in what was referred to as the world series of football.

The New York Giants and the Cleveland Browns tied for first place in the American conference, and the Chicago Bears and the Los Angeles Rams tied in the National conference. The Browns were one of the three teams taken in from the All-America conference, the other two being the San Francisco Forty-Niners and the Baltimore Colts. The Browns had won the championship of the All-America conference the four years it was in existence.

The Giants defeated the Browns the two times they met during the regular season, marking the first time any opponent had done that to the Browns in their five years of operation. The first time, the Giants won by 6-0, which was the first occasion on which the Cleveland eleven had ever been held scoreless. In the play-off, at Cleveland, on a frozen field the Browns turned the tables on the Giants, defeating them 8-3 for the sectional honours. The Bears and the Rams met at Los Angeles in the National conference play-off and the Rams won by 24-14. In the final play-off between the two conference winners for the league championship, the Browns defeated the Rams 30-28.

Norman van Brocklin of the Rams, Marion Motley of the Browns and Doak Walker, rookie back of the Detroit Lions, won the top individual honours in the league. Van Brocklin was the leading passer, with 127 completions of 233 passes attempted, for a total gain of 2,061 yd. Otto Graham of Cleveland was second. Motley was the leading ground gainer, making 810 yd. in 140 rushes. Walker took scoring honours with 128 points.

**Canada.**—The Toronto Argonauts won the Canadian football championship for the eighth time when they defeated the Winnipeg Blue Bombers, 13-0, before a record Canadian football crowd of 27,100 in Toronto in the Grey cup East-West final. The game was played on a field of mud under difficult conditions.

The Argos, after finishing on top in their own league, the Big Four, earned the right to represent the East by winning from the Toronto Balmy Beach team, champion of the Ontario Rugby Football union. The Blue Bombers defeated the Edmonton Eskimos in the Western Canada union to qualify for the Grey cup play-off.

The University of Western Ontario Mustangs won the college championship for the second successive year, defeating the McGill Redmen in a play-off, 24-2, in Molson stadium at Montreal. College teams do not compete for the Grey cup.

United States players were more numerous than ever in Ca-

**PURDUE PASS** by Dale Samuels (extreme left) which gained 14 yards over Notre Dame in the first quarter of the game at South Bend, Ind., Oct. 7, 1950. Purdue won by a score of 28 to 14, giving Notre Dame its first defeat on the gridiron since Dec. 1945





nadian football. With the dissolution of the All-America conference in the United States and the end of the rivalry for players with the National league, numerous professional stars crossed the border to find places on Canadian teams. The number of "imports" allowed on a team was increased from five to seven and all the clubs took advantage of the change. All the major teams with one exception had United States coaches. Frank Clair, with the University of Buffalo in 1949, coached the Argonauts. The quarterback was Allen Dekdebrun, former Cornell university star.

The All-Canadian team was virtually all-American, but the Jeff Russell Memorial trophy, awarded to the player in the Big Four who best combines good sportsmanship with effective play, went to Canadian-born Dob Loney, centre of the Ottawa Rough Riders. Lindy Berry, former Texas Christian quarterback with the Edmonton Eskimos, was named the most valuable player in the Western Canada union.

FILMS OF 1950.—*Football Kicking Techniques* (Athena Films, Inc.) (A. DA.)

**Great Britain.**—*Association.*—The fourth World cup association football (soccer) tournament was decided in Brazil during 1950. England competed for the first time, but lost 1-0 to the United States and 1-0 to Spain and beat Chile 2-0. The championship was won by Uruguay, with Brazil second, Sweden third and Spain fourth. In international games before the visit to Brazil England had been lucky to beat Italy 2-0 at Tottenham, Portugal 5-3 in Lisbon and Belgium 4-1 in Brussels.

The Football league championship was won for the second year in succession by Portsmouth. The Glasgow Rangers won both the Scottish cup (for the third year in succession) and the Scottish league title. The Football Association (F.A.) cup was won by Arsenal for the third time. England and Scotland drew 0-0 in their amateur international and Oxford and Cambridge drew 2-2 in the university game. During the 1949-50 season, transfer fees rose rapidly; Preston North End paid the record sum of £26,000 to Sheffield Wednesday for E. Quigley, an inside forward, and Sunderland paid £30,000 to Aston Villa for T. Ford, a Welsh international centre-forward. (For association football in the U.S., see the article SOCCER.)

*Rugby Union.*—A Rugby union team drawn from all parts of the British Isles visited New Zealand and Australia in 1950. New Zealand won three of the four international games by 8-0, 6-3 and 11-8, after drawing in the first 9-9. In Australia the British team won the two international matches 14-6 and 24-3.

Wales won the mythical triple crown in 1950 for the first time since 1911 and also beat France. Wales beat England 11-5 at Twickenham and Scotland 12-0 at Swansea and then in the crucial match at Belfast beat Ireland 6-3. Finally, France was beaten 21-0 at Cardiff. Ireland drew with France and lost by the only try to England, but routed Scotland 21-0. England lost 3-6 in Paris and then was beaten 13-11 at Murrayfield, where Scotland had already beaten France 8-5.

The county championship was won by Cheshire for the first time.

*Rugby League.*—The 1949-50 Rugby league season was a notable one in many ways. Great Britain's touring team in Australasia won the first test at Sydney 4-2, but Australia won the second test at Brisbane 15-3 and the third test 5-3 at Sydney, winning the rubber for the first time since 1920. New Zealand won the two tests 16-10 and 20-13.

The Rugby League Challenge cup was won by Warrington, which beat Widnes 19-0 in the final at Wembley. The home international season resulted in England's beating Wales and France, Other Nationalities beating England and Wales, Wales beating France and France beating Other Nationalities. England was first on points average and France last. (LA. M.)

**Ford Foundation:** see SOCIETIES AND ASSOCIATIONS.

**Foreign Exchange:** see EXCHANGE CONTROL AND EXCHANGE RATES.

**Foreign Investments.** **United States Investments Abroad.**—The value of United States investments in foreign countries (and international organizations) was approximately \$32,700,000,000 at the beginning of 1950 and aggregated roughly \$500,000,000 more at the middle of the year. The flow of private and United States government investments abroad during the first half of 1950 was at a diminished rate compared with the volume of United States foreign investments made during 1949, although there were indications that an increasing volume of new investments was made in the second half of 1950. The growth in the total value of United States investments abroad during 1950, therefore, probably compared favourably with the rise of \$1,500,000,000 recorded for 1948.

The quarterly estimates of the balance of payments of the United States prepared by the United States department of commerce indicated that new investments and claims on foreigners of the United States government increased by about \$100,000,000 during the first half of 1950. The bulk of the growth in the value of United States assets abroad was, therefore, for the account of private organizations and individuals, as it was in 1949. In previous postwar years, the government had supplied 88% of the long-term capital loaned or invested abroad.

Data published by the same source showed that investments abroad in enterprises controlled in the United States (direct investments) continued to be the primary manner in which United States lenders invested abroad during the first half of 1950. Preliminary reports placed the outflow of direct-investment capital at about \$330,000,000 for this period. In addition, probably \$250,000,000 of foreign earnings were reinvested in such enterprises.

About \$200,000,000 of new foreign loans were offered to United States investors during the first six months of the year, as usual by borrowers whose credit standings were very high. In Jan. 1950 the International Bank for Reconstruction and Development went to the United States capital market for the second time in its existence and sold \$100,000,000 of securities, and Canadian provinces and companies placed a similar volume of obligations in the United States. However, in the aggregate, foreigners repaid United States lenders slightly more on outstanding indebtedness than they borrowed with new obligations, so that there was a small net withdrawal of United States portfolio funds from abroad.

*Private Direct Investments.*—Political and economic conditions in large portions of the world remained unfavourable for new investments and United States investors were generally cautious about placing their funds abroad. Such loans as were made went to preferred borrowers, as indicated, while the scope of direct investments also continued to be relatively narrow. Most of the capital going into the latter undoubtedly went into petroleum enterprises, as in earlier postwar years, although there were indications that new investments in other extractive industries, particularly mining, were growing in importance.

Because of generally continuing exchange difficulties and the consequent problems of remitting income to the United States, the United States firms which made sizable investments abroad appeared to be those who could market in the United States the products of their foreign operations and thus obtain dollars, those who wished to complete projects already started, and those who found attractive investment opportunities in countries that permitted dollar transfers to the United States of foreign earnings. Many of the highly industrialized countries and



petroleum producing areas were in the latter category.

Early in 1950 the United States petroleum industry expressed public concern over the future of its foreign investments. These were valued at approximately \$2,400,000,000 at the beginning of 1948 and had earned about \$600,000,000 during the same year. The industry feared that steps taken by certain foreign countries to combat a shortage of dollars would result in curtailed markets for foreign produced oil and in reduced dividend payments to the United States.

In their struggles to overcome a critical foreign trade situation, Great Britain and other countries were engaging in exchange restrictions and restrictive trade practices in order to close the gap between their dollar receipts and their dollar expenditures for foreign commodities. As part of its policy of limiting all imports to essentials, the United Kingdom had earlier curtailed oil imports from whatever source. This step was generally accepted as stemming from harsh necessity as long as it was applied to all importers.

However, early in 1950 the United Kingdom took action which deprived United States companies selling oil in the sterling area of prospective sales of 4,000,000 tons of the approximately 13,000,000 tons of United States oil marketed in this area. During the course of the year the potential loss of markets was substantially reduced as a result of agreements between the British government and United States oil companies whereby the dollar costs of oil produced abroad by United States companies would be reduced.

On the other hand, in Canada where exchange restrictions presented no serious problem to the petroleum industry, United States-owned enterprises were actively engaged in providing for increased production. This included the construction of a pipe line that would carry petroleum from the Alberta producing fields to the Great Lakes for eastern Canadian consumption. It was expected that with the completion of this line, in 1951, one-third of Canadian crude oil consumption would be provided by these fields.

Several underdeveloped countries made efforts during the year to attract United States direct-investment capital. Among these were three relatively small lands, Trinidad, Israel and Turkey. In March the Aid to Pioneer Industries act was passed granting income tax and customs concessions to new enterprises in approved fields in Trinidad. A change in British policy respecting investments in colonial possessions also took place. Previously, investments in British colonies could not be taken out or liquidated in less than ten years. In 1950 it was made possible to liquidate the full investment and income at any time and secure dollars, except for capital gains. While formerly capital investments in Trinidad were permitted if they resulted in dollar earnings or savings, they became permissible in 1950 if in the opinion of the authorities they would promote the economy of the colony. As a result, new capital was expected from the United States (and other countries) for a wide range of enterprises including a cotton textile mill, tourist hotel, flour mill, cement factory, knit goods and baking powder and yeast factories.

The Israeli government invited United States oil interests to visit that country for the purpose of establishing a large refinery and to explore the country's oil possibilities. The offer included offshore drilling in ad-

dition to the Negeb desert and other potential areas. Other enterprises were also asked to invest in Israel.

The Turkish government announced that foreign investors could transfer their Turkish currency profits back to the original currency of investment.

Other developments during the year included an invitation to United States businessmen to participate in the ten-year, \$1,000,000,000 plan for the development of the Belgian Congo. The British government also announced that it would sell part of its holdings of shares in African uranium and copper mines to a United States group. The object of these steps was to interest United States capital in the development of African territories.

*Other Private Investments.*—Several portfolio loans and investments were made to foreigners during the third quarter of 1950. The French government obtained a stabilization loan of \$225,000,000 in the United States. The republic of Panamá redeemed its outstanding long-term dollar debt with the issuance of \$10,500,000 of 3% bonds. The new bonds were reported to be secured by the irrevocable assignment by the republic of the annual remittance of \$430,000 by the United States for the use, occupancy and control of the Canal Zone under the treaty of 1936. Anticipating a rise in the value of the Canadian dollar, United States investors were reported to have made large investments in Canadian securities during the third quarter of the year.

*United States Government.*—The decline in long-term loans to foreign governments by the United States government from \$401,000,000 during the first six months of 1949 to \$93,000,000 during the same period a year later reflected primarily a decline of credits under the European Recovery program. Aid under this program was expected to be primarily in the form of outright grants and involve smaller credits after the middle of 1950. During the latter part of the year the Economic Cooperation administration indicated that a loan to Spain appeared imminent, following congressional approval for a credit of \$62,500,000. In May the Export-Import bank authorized a credit of \$125,000,000 to Argentina to assist that country in the liquidation of its past due commercial indebtedness to United States private and government exporters.

*Foreign Investments in the United States.*—The value of foreign investments in the United States aggregated approximately \$18,816,000,000 on June 30, 1950, or about \$1,200,000,000 higher than at the end of 1949. Preliminary data prepared by the United States department of commerce indicated that a further large rise took place in the third quarter of the year. Changes in other postwar years had been moderate, amounting, in 1949, to a rise of about \$500,000,000.

Increases in the value of foreign investments and claims on the United States during the latter part of 1949 and 1950 largely

Table I.—Estimated Value of U.S. Investments Abroad, by Type and Area

(In millions of dollars; direct investments at book value, other investments at market or stated value)  
Dec. 31, 1949

Type of investment	Canada	American republics	ERP countries	ERP dependencies	Other Europe	Other countries	International institutions	Total	June 30, 1950, total
Total	6,211	6,306	12,372	659	1,098	2,425	3,658	32,729	33,243
Private	6,203	5,850	3,933	593	659	1,710	250	19,198	19,606
Long-term	6,056	5,292	3,514	576	570	1,518	250	17,776	18,371
Direct	3,408	4,783	2,128	552	341	1,251	—	12,463	13,047
Foreign dollar bonds	1,132	151	76	—	21	104	250	1,734	1,719
Securities payable in local currencies	1,323	104	509	2	20	87	—	2,045	2,025
Other	193	254	801	22	188	76	—	1,534	1,580
Short-term	147	558	419	17	89	192	—	1,422	1,235
Deposits	92	48	193	6	37	32	—	408	430
Other	55	510	226	11	52	160	—	1,014	805
United States government	8	456	8,439	66	439	715	3,408	13,531	13,637
Long-term*	7	410	8,286	64	439	610	3,408	13,224	13,316
Short-term	1	46	153	2	—	105	—	307	321

\*Government long-term investments exclude commercial bank loans guaranteed by the Export-Import bank. The latter are included under other private long-term investments. Only the outstanding amount of government loans, rather than the authorized amount, are included in government long-term investments.

Source: U.S. Department of Commerce.



reflected a pronounced improvement in the international financial position of many foreign countries. To a lesser extent, rising security prices in the United States contributed to the over-all increase in the value of foreign claims on that country. The improved position of foreign countries was noted in increased (short-term) foreign exchange claims of about \$590,000,000 on the United States and a reduction of \$232,000,000 in the gold stock of the United States in the first half of 1950, and resulted primarily from the following: (1) United States government aid (mainly under the European Recovery program) to foreign countries at an annual rate of more than \$4,500,000,000; (2) high imports into the United States resulting from the rising trend of business activity in that country; (3) the ability of foreign countries to shift their purchases from the United States to other countries (and thereby pay out fewer dollars); and (4) the devaluation of foreign currencies in Sept. 1949.

The recovery in foreign balances, which began in 1948 following large-scale aid to European Recovery program countries and which was interrupted during 1949 by the financial crisis of foreign countries, continued beyond the first half of 1950. During the third quarter of the year foreigners increased their banking balances and other short-term claims on the United States by roughly \$570,000,000 and United States gold sales to foreigners approximated an additional \$700,000,000, although not all of the increase in this quarter necessarily reflected economic recovery. During the first nine months of the year foreigners were thus accumulating dollars and gold from the United States at an annual rate of approximately \$2,800,000,000. In addition, foreign gold production during the year (excluding the U.S.S.R.) could have added close to \$800,000,000 to foreign exchange reserves.

The change in foreign short-term claims on the United States during the first half of the year was somewhat larger for foreign official institutions than for private organizations and individuals. The largest increase, one of about \$340,000,000, was for the United Kingdom. Lesser increases were recorded for France, the Netherlands, Switzerland and Germany. Italy and most of the remaining European countries showed declines (or only moderate rises) in their short-term United States assets. Latin-American countries generally reduced their United States banking assets in this period. The reverse was true for Asiatic countries, Japanese assets rising by about \$125,000,000 largely as a result of United States aid to that country.

During the third quarter of 1950 the increased United States short-term liability to foreigners reflected in part the counterpart of the movement of United States funds to Canada (and probably elsewhere) in anticipation of a rise in the value of foreign currencies in terms of the United States dollar. Such a movement was reflected in a rise in foreign holdings of United States dollar balances, given in exchange for the foreign currencies. Part of the rise in United States liabilities was accounted for by the \$225,000,000 stabilization loan to France by 25 United States banks which required that as collateral the French stabilization fund would deposit with the bankers funds or securities in amounts equal to the drawings on the loan.

However, the major portion of the improved dollar and gold position of foreign countries during the quarter was probably directly related to the receipt of

United States capital and to better economic conditions abroad. The dollar balances of Canada and Latin America rose by about \$505,000,000 and \$165,000,000 respectively, and while balances of the United Kingdom declined about \$165,000,000, it appeared that the British had utilized these and dollars earned during the quarter to purchase about \$580,000,000 of gold from the United States.

The increase in the value of foreign long-term investments in the United States totalled about \$600,000,000 during the first half of 1950. However, about \$215,000,000 of this rise reflected an increase in quoted market prices for the shares of United States corporations. About \$270,000,000 represented net purchases of securities issued by the United States government and the value of foreign-controlled enterprises in the United States rose by approximately \$120,000,000. Of the latter figure, approximately \$75,000,000 represented the plowing back of earnings of the United States companies and therefore involved no direct movement of foreign capital to the United States.

For several reasons, particularly because of foreign-exchange controls, foreign transactions in the stocks and bonds of United States securities were limited during the first half of 1950, as in 1949. In earlier years, countries in Europe and Asia had sold substantial amounts of such securities as a means of financing their balance of payments deficits with the United States. Since no large-scale liquidations of foreign holdings of United States securities had taken place during the critical second and third quarters of 1949, when foreign countries were in great need of dollars, it was generally assumed that certain foreign countries had exhausted their portfolio of dollar securities. The absence of foreign purchases of such securities during 1950, when both foreign reserves and security prices in the United States were rising, further indicated that foreign governments generally were exercising rigid controls over the use of dollars.

However, foreigners did purchase about \$270,000,000 of United States government bonds during the first six months of the year, as noted. The value of foreign holdings of United States securities increased further in the third quarter, mainly as a result of a 7% rise in share prices.

Although the reported volume of new foreign capital invested in directly controlled United States enterprises was small, several new ventures were initiated and plans for others were announced. Other large capital expenditures of enterprises in the United States controlled abroad were financed mainly from earnings of the United States firms which were not paid out to shareholders but which were used for further investment, and with funds borrowed in the United States.

In February the Office of Alien Property of the United States announced the revocation of general licence no. 32A under which limited remittances had been authorized from blocked accounts in the United States to persons within Bulgaria, Hungary and Rumania who were citizens or subjects of these coun-

Table II.—Estimated Value of Foreign Investments in the United States, by Type and Area

(In millions of dollars; direct investments at book value, other investments at market or stated value)  
Dec. 31, 1949

Type of investment	Canada	American republics	ERP countries	ERP dependencies	Other Europe	Other countries	International institutions	Total	June 30, 1950, total
Total	2,469	2,347	7,975	429	278	1,418	1,896	17,624	18,816
Private obligations	1,885	2,254	7,502	380	225	1,144	394	13,784	14,433
Long-term	1,528	756	4,982	185	113	279	—	7,843	8,176
Direct	760	140	2,056	18	25	74	—	3,073	3,194
Corporate stocks	552	346	1,647	63	11	113	—	2,732	2,947
Corporate bonds*	76	52	296	20	27	4	—	475	474
Other	140	218	983	84	50	88	—	1,563	1,561
Short-term	357	1,498	2,520	195	112	865	394	5,941	6,257
Deposits	333	1,407	2,273	172	100	837	339	5,461	5,703
Other	24	91	247	23	12	28	55	480	554
U.S. government obligations	584	93	473	49	53	274	1,502	3,840	4,383
Long-term	21	48	118	37	11	50	170	455	723
Short-term	563	45	355	12	42	224	1,332	3,385†	3,660†

\*Includes an estimated \$95,000,000 of state and municipal bonds.

†Includes \$812,000,000 of U.S. currency estimated to be held abroad at the end of 1949 but not allocable by area.  
Source: U.S. Department of Commerce.



tries and who were the beneficial owners of such accounts. The order was revoked in order to preserve, as far as possible, the blocked assets of these nationals, pending a United States government decision regarding the disposition to be made of the assets in accordance with the treaties of peace with the three countries. Subsequently it was stated that the unblocked United States assets of the nationals of these countries were not affected by the order.

Later in the year, it was announced that the United States government had agreed to pay three Swedish firms \$2,600,000 for their claims to the control of a United States company valued at about \$8,000,000. The government had contended that the shares, which it had seized under its powers in dealing with the enemy, were in reality German-owned but had been transferred by a German company to the Swedish firms with an option to repurchase them two years after the armistice. (See also EUROPEAN RECOVERY PROGRAM; EXCHANGE CONTROL AND EXCHANGE RATES; EXPORT-IMPORT BANK OF WASHINGTON; INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT; INTERNATIONAL MONETARY FUND.) (M. AB.)

**Foreign Loans, U.S.:** see UNITED STATES: *Foreign Credits of the United States Government.*

**Foreign Ministers' Conferences:** see GERMANY.

**Foreign Missions:** see MISSIONS, FOREIGN (RELIGIOUS).

**Foreign Trade:** see INTERNATIONAL TRADE.

**Forests.** The Society of American Foresters observed its 50th anniversary in 1950. The golden anniversary meeting was held Dec. 13-16 in Washington, D.C., where the society was founded in 1900 by a small group of pioneer foresters under the leadership of Gifford Pinchot, then chief of the department of agriculture's division of forestry. At the 1950 meeting, a half century of growth of the forestry profession in the United States was reviewed and its future problems and prospects considered. In 1900 there was only a handful of American foresters; in 1950 the Society of American Foresters had a membership of more than 6,000 professional foresters. Courses leading to a degree in forestry were being offered by more than 30 American colleges and universities, and some 1,650 forestry degrees were conferred in 1950.

By executive order, Pres. Harry S. Truman in January established a water resources policy commission to "study and make recommendations to the President with respect to Federal responsibility for and participation in the development and conservation of water resources, including related land uses and other public purposes to the extent that they are directly concerned with water resources." Members of the commission were: Morris L. Cooke, Washington, D.C., chairman; Paul S. Burgess, dean, college of agriculture, University of Arizona; Lewis W. Jones, president, University of Arkansas; Samuel B. Morris, Los Angeles department of water and power; Leland Olds, former federal power commissioner, Washington, D.C.; R. R. Renne, president, Montana State college; and Gilbert White, president, Haverford college. The commission gave much attention to forests and forestry in their relation to water supply and control of runoff. Reports on forest conditions in the major watersheds were prepared by the forest service for its study.

Work began during the year on the rehabilitation of the vast Tillamook burn area in northwestern Oregon. Reforestation and development of this area was authorized by the state legislature through enactment of the Oregon Forest Rehabilitation act. More than 250,000 ac. of heavily timbered land in Tillamook county, Ore., was burned over in 1933 in one of the biggest forest fires of recent times. Much of the same area was

ravaged by fire again in 1939 and 1945.

The rehabilitation program called for ultimate expenditure of about \$10,000,000. A huge task of tree planting and seeding was involved, as well as intensified fire protection which would require the felling of millions of standing dead trees.

The U.S. congress enacted the Cooperative Forest Management act, which authorizes the secretary of agriculture to co-operate with state forestry agencies in providing technical services to private forest land owners and to processors of primary forest products. The new act amplifies and supersedes provisions of the Cooperative Farm Forestry act of 1937, under which the forest service of the department of agriculture was co-operating with a number of states in the employment of foresters to give on-the-ground technical assistance to small woodland owners. The technical services authorized in the new act are with respect to the management of forest lands, and the harvesting, marketing and processing of forest products. An annual federal appropriation of \$2,500,000 is authorized, but the amount paid by the federal government to any state cannot exceed the amount expended by the state for the co-operative program.

The congress also passed the Granger-Thye act to facilitate and simplify the work of the forest service. The act amended or repealed a number of acts under which the forest service had operated, and conferred certain additional authorizations. Most of the provisions had to do with administration of the national forests.

Four bills proposing the re-establishment of a civilian conservation corps were introduced in the congress during the year. These bills sought the conservation and development of the natural and human resources of the nation through the employment of useful public work. No action was taken on the bills before adjournment of the 81st congress.

The area of national forests and other conservation lands under administration of the forest service on June 30, 1950, totalled 181,204,638 ac. During the fiscal year 26,907 timber sales were made. The cut of national forest timber amounted to 3,501,937,000 bd.ft. A total of 45,428 ac. of national forest land, mainly areas denuded by past fires, was reforested during the year.

**BIBLIOGRAPHY.**—Nelson C. Brown, *Forest Products*; Guy-Harold Smith, ed., *The Conservation of Natural Resources*; Mont H. Sanderson, *Western Land and Water Use*; Bernard Frank and Anthony Netboy, *Water, Land, and People*; "Management of Natural Slash Pine," U.S. Department of Agriculture Circular 845; "Forest Plantations in the Lake States," U.S. Department of Agriculture Tech. Bul. 1010. (C. E. R.)

**Canada.**—The forestry branch (created 1949) of the federal department of resources and development was active during 1950. It was organized (with federal 1950-51 grants in parentheses) into administrative (\$70,000), forest research (\$819,675), forest operations (\$61,290) and forest products (\$644,450) divisions. In addition, parliament granted \$211,080 to the eastern Rockies forest conservation board, established in 1947.

A United Nations report declared that Canada could double its output of forest products by systematic forest management and by opening 215,600,000 ac. of forest classed (in 1950) as inaccessible.

The most serious 1950 threat to Canada's forest wealth was the spruce budworm, which in the 1910-50 period destroyed an estimated 400,000,000 cords of wood, and which by 1950 infested some 200,000 ac. of Ontario-Quebec forests and was moving into New Brunswick. The main attack on the pest began with the opening in 1950 of a \$1,000,000 dominion laboratory of insect pathology at Sault Ste. Marie, from which 45 scientists undertook to infect the spruce budworm with a virus disease and thus make the insects kill themselves off.

A photographic survey was made of 165,000 sq.mi. of the



province of Ontario for the most detailed forest inventory ever undertaken in North America. A special research study was made of the yellow birch, Ontario's most valuable common hardwood, survival of which was problematical by 1950. Provincial nurseries distributed 20,000,000 young trees free during the year, and increased their capacities to an annual output of 60,000,000 trees. A professorship in forest entomology was set up at the University of Toronto. The provincial government set up a committee on forestry to advise the minister of lands and forests.

(C. Cy.)

**Great Britain.**—Because of heavy overfelling from 1939 to 1949, the total volume of timber licensed to be felled in Great Britain in 1950 was strictly limited.

During the year the Forestry commission offered special grants for the planting of poplars for timber production. The governments of France, Italy and Belgium had long encouraged poplar planting on suitable sites, particularly along river banks and roadsides. This considerably altered the general landscape, particularly in northern Belgium and in the Rhône valley in France but it appeared doubtful if plantations of poplars would ever be seen on the same scale in Great Britain.

The Dutch elm disease continued to spread over several southern and midland English counties during the year and induced the felling of much hedgerow timber. Disease-resistant varieties of elm were imported from the continent during the year.

The new Imperial Forestry institute at Oxford was opened by Princess Margaret in October.

**Commonwealth.**—A special forestry conference in Australia called attention to the need for a more adequate knowledge of the forest resources of the country. Aerial photography was increasingly used for the mapping of forest types, and research was continued in the identification of eucalyptus species from air photographs. Special protective measures against forest fires were introduced and public interest in fire protection was aroused by films and other methods of propaganda.

In both east and west Africa there was considerable progress during the year in the use and export of the lesser known secondary tropical hardwoods. This was largely the result of tests carried out by the Forest Products Research laboratory, at Princes Risborough, England, which convinced the timber trade that many of the new timbers could be marketed.

In Tanganyika the granting of large forest concessions for timber exploitation, under the strict condition that the areas would be completely regenerated, was one of the chief events of the year. The Colonial Development corporation acquired 30,000 ac. for a wattle-growing scheme which was expected to revolutionize the economy of that part of Tanganyika.

In Kenya a forestry commission was established with complete financial responsibility for developing the existing forests and for the planting of large areas of exotic species; and in Southern Rhodesia a comprehensive forest act was passed to facilitate the settlement and management of the forests.

Important developments in the opening up of new forest areas were recorded from British Guiana by the Colonial Development corporation and logging operations were started. The pine forests of British Honduras were put under more intensive operation and up-to-date machinery introduced to improve output.

**Europe.**—Because of the great damage done by bark beetles in central European coniferous forests in 1947–50, special efforts were made to limit the damage by felling the trees attacked and also to destroy or trap the beetles.

In Germany, reparation fellings were discontinued during the year in the western zones. Timber felling in the eastern zone during 1950 was restricted to 92% of the 1949 cut, and

the planting of 80,000 ha. was planned. Fast-growing poplars were used to a great extent and special nurseries were established for their propagation. Afforestation in Greece steadily increased during 1947–50 and 75 state-operated nurseries were established to supply the necessary transplants. Forty-five million trees were supplied from these nurseries during 1949 and 1950.

The planting of tree windbreaks was started on a large scale in the arid regions of southwestern Rumania to protect farmlands from wind erosion and roads and railways from snow drifts. A four-year plan was laid down and the training of the necessary experts was begun during the year.

A new type of mechanically operated cableway for timber extraction from mountainous forests was invented in Switzerland during World War II and was later widely used for softwood extraction in several European countries and in Canada. In 1950 a heavier type of machine was produced and at the end of the year this new "Wyssen" system was being installed in Africa. It was thought that it might enable extensive areas of tropical hardwood forests to be exploited which were formerly considered to be economically inaccessible.

**U.S.S.R.**—Aerial forest surveys had been much used for determining the extent, location and character of the vast unexplored forests of the U.S.S.R. and, up to 1950, about 410,000,000 ha. of forests had been covered by the surveys. The survey of the forests in the basins of the Mezen and the Pechora in the European part of the union was completed. Experiments to determine the possibility of large-scale planting of eucalypts for timber production and essential oils showed successful results in the Uzbek republic and an important three-year planting scheme was started.

**FILMS OF 1950.**—*Oklahoma Forestry* (Photographic Service Department, University of Oklahoma); *Spare That Tree* (Princeton Film Center); *Unto the Hundredth Generation* (National Film Board of Canada). (A. H. Ld.)

**Formosa** (TAIWAN or T'AI-WAN). Formosa is a large island in the western Pacific, separated from China to the west by the Straits of Formosa and from the Philippines to the south by the Bashi and Balingtang channels. Area 14,589 sq.mi., including Pescadores and neighbouring islands. Pop. (mid-1950 est.) 7,500,000, including Chinese nationalist troops and refugees from the mainland. The capital is Taipei (formerly Taihoku) (pop. 326,407 in 1940); other large cities include Kao-hsiung (formerly Takao) (152,265), Tainan (142,133) and Chi-lung (formerly Keelung or Kiirun) (100,511). Principal religions are Buddhism, Confucianism and Taoism. Governor, 1950: K. C. Wu.

**History.**—Formosa, the only territory remaining in the control of the Chinese nationalist government after the conquest of the mainland by the Chinese Communists, was converted into a nationalist military stronghold in 1949 and 1950. The capital of the nationalist government was moved to Taipei, Formosa's capital, on Dec. 8, 1949. To clarify the position of the U.S. government on the question of giving Formosa aid for its defense against the Chinese Communists, Pres. Harry S. Truman issued a statement on Jan. 5, 1950, which said that the United States would not interfere in any conflict between the Communist and nationalist governments and that the United States would not provide military aid to the nationalist forces on Formosa. As a result of the Communist invasion of the Republic of Korea, however, President Truman on June 27, 1950, ordered the United States navy to prevent any Communist attack on Formosa since it would endanger the security of U.S. forces in the far east. At the same time the president called upon the Chinese nationalist government to cease all operations against the Communist-held mainland. He also stated the U.S. government's position that "The determination of the future status of Formosa must await





FORMOSAN LABOURERS laying a new airstrip for Chinese nationalist defense needs in 1950. The Formosan airfield was originally built by the Japanese but was destroyed by U.S. bombers during World War II

the restoration of security in the Pacific, a peace settlement with Japan, or consideration by the United Nations."

**Education.**—In 1941 there were 1,000 primary schools with 12,076 teachers and 740,693 students; 6 normal schools with 225 teachers and 2,507 students; 4 colleges with 236 teachers and 1,385 students; and 1 university with 345 students.

**Finance.**—Upon taking over the administration of the island, the Chinese issued a special currency for Formosa, the Taiwan dollar, based on the former Japanese yen notes. In June 1949 a new currency, the new Taiwan yuan, was issued and the Taiwan dollar was eliminated. On Oct. 31, 1950, the total note issue was 223,000,000 new Taiwan yuan. It was reported that the gold and silver of the nationalist government's treasury was sent to Formosa during 1949. Revenues in 1949 totalled 80,000,000 new Taiwan yuan and expenditures totalled 74,000,000.

**Trade.**—Formosa's chief exports in 1949 and 1950 were sugar, coal, salt, cement, tea and fruits. The chief imports were raw cotton and machinery. In 1949 exports amounted to the equivalent of U.S. \$33,900,000, while imports totalled U.S. \$26,000,000, excluding Economic Cooperation administration aid. During the first eight months of 1950, exports totalled U.S. \$60,864,000, of which sugar represented U.S. \$52,714,000, and imports totalled U.S. \$51,749,000.

**Transportation and Communications.**—In 1946 there were 981 mi. of government railroads, more than 1,500 mi. of private railroads and 500 mi. of tramways; there were 10,000 mi. of roads of all types, of which 2,200 mi. were main highways. In 1939 there were 220 telegraph offices, 195 post offices and 123 telephone exchanges.

**Agriculture.**—Estimated 1950 agricultural production in metric tons amounted to: rice, 1,400,000; sugar cane 5,436,000; refined sugar and products, 613,000; tea, 14,000; pineapples, 49,000; bananas, 128,000; citrus fruits, 29,000; tobacco, 6,000; jute, 18,000; sweet potatoes, 2,350,000; and peanuts, 65,000. The cultivated area in 1949 was estimated at 2,055,000 ac. or 23% of the total land area.

**Industry.**—The island's chief industries, which were developed by the Japanese, are electric power, soda ash, cement, paper and textiles. Formosa has a few important natural resources—water power, coal, copper and petroleum. All important industries are government-managed. The hydroelectric potential of Formosa is 2,500,000 kw.; in 1950 an estimated 1,000,000,000 kw.hr. were generated. Estimated industrial production in 1950 in metric tons (unless otherwise stated) amounted to: coal, 1,630,000; cement, 400,000; chemical fertilizers, 60,000; cotton yarn, 2,155; and cotton cloth, 10,551,000 metres. (S. N.R.)

**Foster, William Chapman** (1897— ), U.S. administrator for economic co-operation, was born on April 27 in Westfield, N.J. He studied at the Massachusetts Institute of Technology, served as a pilot in the U.S. army air force in World War I, entered business and became president of the Pressed and Welded Steel Products Corp. of Long Island City, N.Y. He served as a civilian aid in the war department during World War II, and on Nov. 29, 1946,

was appointed undersecretary of commerce. In April 1948 he became deputy to William Averell Harriman, who was the U.S. special representative of the Economic Cooperation administration in Europe.

On May 31, 1949, he was named deputy ECA administrator, and when ECA Administrator Paul G. Hoffman resigned, effective Sept. 30, 1950, Pres. Harry S. Truman chose Foster to succeed him.

**Foundations:** see COMMUNITY TRUSTS; DONATIONS AND BEQUESTS; SOCIETIES AND ASSOCIATIONS.

**Four-H Clubs.** Membership in the 4-H clubs of the United States reached its highest point during 1950 with a total of 1,886,214 rural boys and girls. The number enrolled for the first time was estimated to be about 700,000. Of the total enrolment, about 320,000 were Negro boys and girls.

Percentage of completion of all 4-H projects undertaken also increased slightly to a record of 77.8 for the membership in all states, Alaska, Hawaii and Puerto Rico. Completion of a project consists in the performance of some farming or home-making activity according to latest scientific methods, in making reports to the club at regular monthly meetings on the methods being used and the progress noted, exhibiting the finished product at a local or county fair and submitting a written report on the project to the club leader at the end of the club year.

Paralleling roughly the increase in enrolment, the number of volunteer local leaders of 4-H clubs showed a similar increase. During 1940–1950, the number of older youth serving as local leaders of 4-H clubs had grown from 45,744 to 59,306, and the number of adult leaders from 108,798 to 192,244.

Projects in which at least 5% of all 4-H club members enrolled fell into 14 main headings: clothing activities, such as making or remodelling garments; food selection and preparation; home gardening; food preservation; home health; swine; poultry; home furnishings and room improvement; corn; dairy cattle; beautification of home grounds; beef cattle; home industries; and home management.

Interest of other countries in the basic principles of the 4-H club work conducted in the United States continued in 1950.



A number of state extension service 4-H staff members were invited during the year to visit other countries for the purpose of discussing methods of organizing and conducting agricultural and homemaking extension work groups of rural youth. Seventeen official leaders of rural youth groups, representing seven countries, spent five or more months in the United States on an "Open House" invitation of the co-operative extension service to study the functioning of the 4-H clubs and other rural youth extension programs. The 4-H clubs participated for the third year in the International Farm Youth Exchange project through which rural youth interested in rural-life activities live, on invitation, with farm families of co-operating countries during summer and autumn months in an effort to contribute to the development of an informed farm leadership of the future. The extension service of the U.S. department of agriculture is the co-ordinating agency for extension youth program participation. The 4-H clubs sent 42 representatives in 1950 and were hosts to 43 from other co-operating countries. (See also FAIRS AND EXHIBITIONS.) (M. L. W.)

**France.** A republic of western Europe, France is bounded north by the English channel, east by Belgium, Luxembourg, Germany, Switzerland and Italy, south by the Mediterranean sea, southwest by Spain and west by the Atlantic ocean. Area: 213,010 sq.mi., including the Mediterranean island of Corsica (3,367 sq.mi.) and small Alpine territories ceded by Italy in 1947 (273 sq.mi.). Pop. (Dec. 31, 1949, est.): 42,000,000. Language: French is almost universally spoken but there are also other regional languages or dialects: German, Breton, Flemish, Provençal, Catalan, Basque and Italian. Religion: mainly Roman Catholic with c. 1,000,000 Protestants and more than 230,000 Jews. Chief towns (pop., 1946 census): Paris (cap., 2,725,374); Marseilles (636,264); Lyon (460,748); Toulouse (264,411); Bordeaux (253,751); Nice (211,165); Nantes (200,265). President of the republic: Vincent Auriol (*q.v.*); premiers in 1950: Georges Bidault, Henri Queuille (June 30–July 10) and René Pleven (*q.v.*).

**History.**—When the year 1950 opened the main preoccupation of French public men was still the stabilization of national economy, which had almost been achieved, but the struggle with communism at home, which in the first half of the year took violent forms both inside and outside parliament, was from the start a powerful second preoccupation; in the course of the year it merged with the dominant one of peace and war. French foreign policy was marked by a series of initiatives for the creation of supranational forms of organizations either in connection with the North Atlantic treaty or with the Council of Europe. The anxiety of France to strengthen militarily both itself and the alliances of which it was a member was paralleled by its desire to avoid any step that might increase the danger of war.

In spite of these dominant preoccupations, France's governments had constantly to struggle to maintain their majorities, which were usually narrow. After the Communists left the government in the spring of 1947 all governments had to rely on a majority extending from the Socialists to the "moderate republicans" or Conservatives. The parties of this majority were necessarily preoccupied with the elections which could not occur later than Oct. 1951 and in which the Socialists would be disputing votes with the Communists, while the Christian Democrats (M.R.P.) would have to fight the right-wing Party of Republican Liberty and the Gaullists with their program of presidential government. The Socialists were necessarily concerned with wage levels, the right wing of the coalition with keeping down taxes.

The Bidault government's hope of getting a skeleton budget (that is, prescribing the maximum to be spent by each ministry)

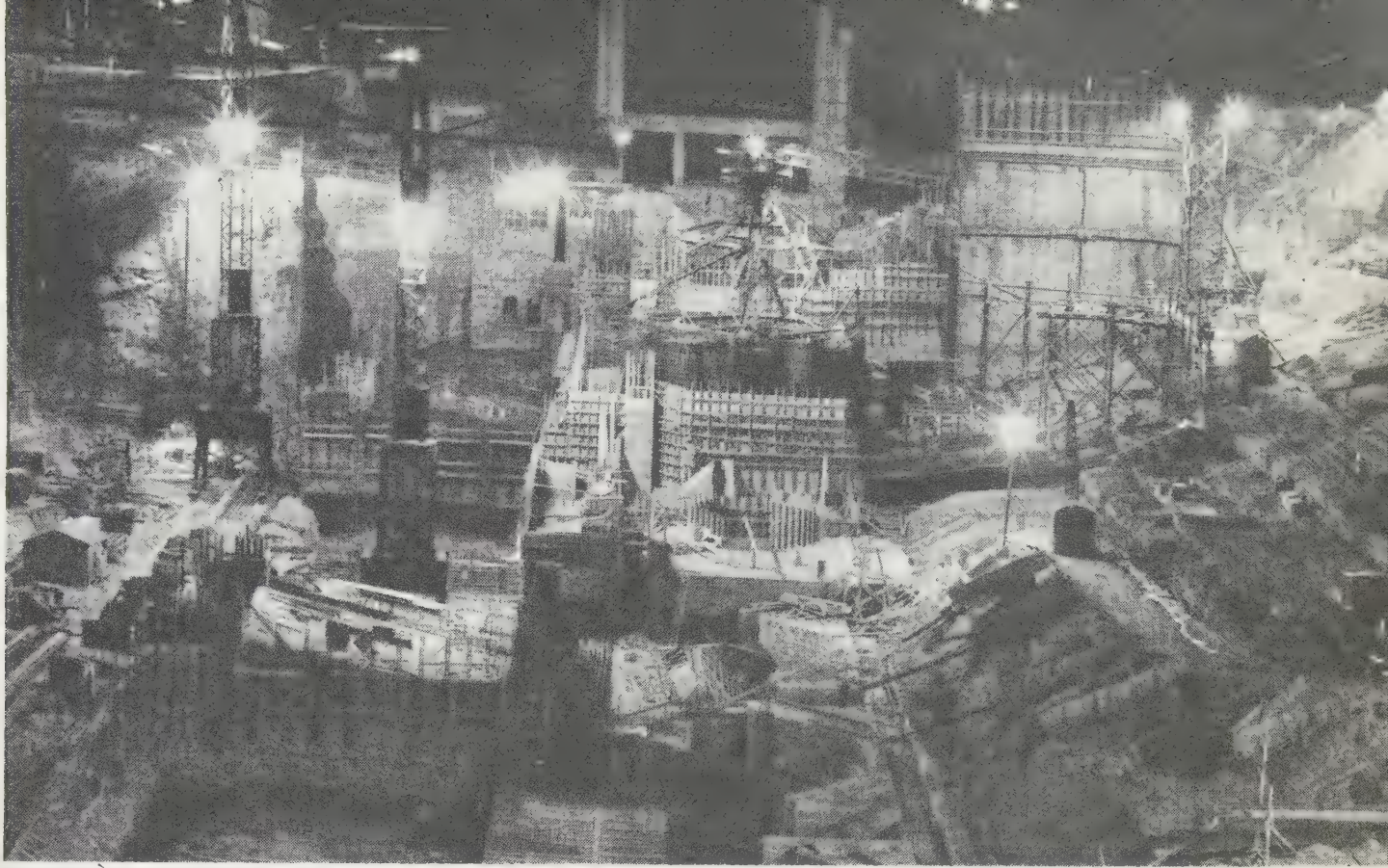
through parliament by Jan. 1, 1950, had to be abandoned because of resistance to the government's proposals, and a "provisional 12th" was voted for January. This skeleton budget was passed by the meagre majority of 300 to 284 on Jan. 31; the detailed examination of credits for each ministry was left till later. The government struggled through with majorities of two and four and once with a drawn vote. Already a new difficulty loomed up; namely, the Socialist demand made on Jan. 6 for a second "non-recurring" wage bonus to make up for the fact that there was delay in passing the bill restoring collective bargaining. The government's decision that such a bonus should be spread over three months led to the Socialists' resignation from the cabinet on Feb. 3. This did not mean, their leaders stated, going over to the opposition, but the party abstained when faced with Bidault's repatched government, which therefore got a majority of only 225 to 185 on Feb. 7.

Similar problems, namely the rise in the cost of living and a demand for the regrading of officials' salaries, finally led the Socialists to vote against the government at the end of June. They did not participate in the abortive Queuille government against which they voted on the ground that the right was too strongly represented. The Socialists returned to office in the Pleven government which was formed after a mission for investigation and negotiation between the parties had been entrusted by President Auriol to Guy Mollet, the secretary-general of the Socialist party. This unusual method of preparing the solution of the crisis was adopted because the Socialists were responsible for successive crises, but a Socialist premier would not have been acceptable to other parties. Pleven accepted a salary-regrading scheme very close to the Socialists' demands and promised to loosen the deflationary screws.

**Electoral Reform.**—Proposals for electoral reform and the Catholic schools question were linked, since in both cases it was the M.R.P. which was at variance with its coalition partners. Flanked by two anticlerical parties, the Socialists and Radicals, the M.R.P. was unable to secure concessions interesting its Catholic supporters from either and considered that the Socialists ill repayed their solidarity with them in social reforms and nationalizations. Unable to force concessions in the Catholic schools question, the M.R.P. could at least block the demand for the abandonment of the present system of proportional representation. This system suited the Communists and the M.R.P. who together had a majority in the national assembly. The right wing of the coalition and the Socialists would have liked to see a return to something similar to the prewar single-member constituencies, with a second ballot whenever no candidate gained an absolute majority at the first. This system would be unfavourable to parties whose supporters were widely but often thinly spread in the country (M.R.P. and Communists), but it was the system that would most favour the centre of the assembly against its two extremes. The leaders of the M.R.P. tried to induce their followers to accept a compromise, but the backbenchers, knowing that theirs were the seats most threatened by Gaullists, were hard to persuade. Meanwhile the Radicals, a much smaller group but essential to any majority, insisted on the inclusion of electoral reform in the government's program as a necessary step to the reduction of Communist parliamentary representation. Paul Reynaud (right Independent) called it a matter of national defense.

**Communist Activities.**—Until the Communist party congress in April, the party's propaganda called on the workers to interfere with arms transport to Indochina, with the importation of arms and with their manufacture. To begin with, this propaganda had some notable results. Strike action in Marseilles delayed the departure of a troopship for Indochina during two days in January. On Feb. 14, 2,000 workers at Nice abandoned their





THE DONZÈRE-MONDRAGON power plant under construction in the lower Rhône valley, one unit of a giant hydroelectric project under way in 1950 to increase French power output to twice its pre-World War II level

jobs, concentrated on the port, rushed a police guard of 200 and pushed huge crates containing parts of a V-2 ramp over the quayside. (It was alleged they were to be sent to Yugoslavia whereas they were being sent to a practice range in the Sahara.) But the Communists did not control every port. The Cherbourg dockers declared their readiness to load and unload arms. In Marseilles the Communists soon lost control of the port workers. The government everywhere took energetic measures, reinforcing the port police and using troops to load and unload arms when the dockers refused. The new scale of penalties for sabotaging national defense rendered them more easily applicable. The first shipload of U.S. arms was unloaded at Cherbourg on April 13 without any hitch. About this time Communist activity suddenly took a new turn, being directed against newspapers that the party disliked, principally *Le Figaro*, and newsstands that sold them. This campaign also dwindled away. For the rest of the year Communist external activity was mainly directed to the "peace campaign."

On April 28 the French government dismissed Frédéric Joliot-Curie from his post of high commissioner for atomic energy because of his membership in the Communist party. On two occasions the French government took massive action against foreign Communists in France. In Dec. 1949 and Jan. and Feb. 1950 arrests of French citizens in Poland were made the occasion for expulsion of Polish Communists and dissolution of many Communist-controlled Polish organizations. In September 404 foreign Communists were expelled or (in the case of Spaniards who did not wish to go to soviet-controlled territories) assigned residence in Corsica and Algeria. A number of foreign-language Communist newspapers in Polish, Spanish and Armenian were banned. French planning to deal with the potential Communist fifth column was pushed ahead during the year. Jules Moch, minister of defense, told the assembly that as part of the mobilization of the gendarmery would have to be increased fourfold or fivefold.

*Foreign Policy.*—The year opened with a bitter dispute in progress between France and Poland about the arrest and expulsion of nationals and consular officials in the two countries. This was followed by the first grave diplomatic incident between France and the Soviet Union. Moscow recognized Ho Chi Minh (*q.v.*) as head of an independent Viêt-Nam. France protested vigorously by a note to the soviet ambassador, who sent it back by messenger boy. Schuman repeated the protest verbally to the ambassador in an interview lasting four minutes. That France was seeking means to improve its relations with western Germany, the natural corollary of worsening relations with the Soviet Union, was made evident by Schuman's decision to visit Bonn and Berlin. The moment chosen turned out to be one when Franco-German relations were at least superficially strained. The negotiations for a Franco-Saar economic agreement (*see SAAR*) were approaching their conclusion and German speeches on the subject aroused anger in France. Reassurances were received from Germany, but to Konrad Adenauer's suggestion of Franco-German union there was in many quarters an irritated and at best a cautious response, almost the least cautious being that of Gen. Charles de Gaulle. Schuman in a speech to his party's congress on March 27, though reserved, did not refuse to look along the road suggested by the German chancellor but said that political difficulties should not be concealed behind economic negotiations. The entry of Germany into the Council of Europe would facilitate understanding with Germany. The Saar should not constitute an obstacle. The Saar would have to be considered at the German peace conference when all factors including the will of the inhabitants would be taken into account. On the same occasion Schuman spoke of an Atlantic community in which joint economic and political agencies should supplement the North Atlantic treaty's too strictly military character. Proposals for the creation of such bodies were put forward in May at the meeting of the foreign ministers of Great Britain, France and the U.S.

On May 9, just before going to London for three-power conversations, Schuman suddenly announced a French proposal to

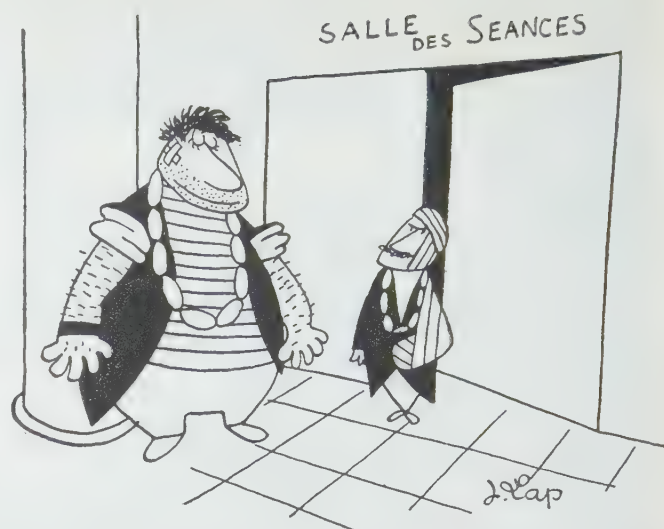


make a Franco-German war "forever" impossible and unthinkable, by submitting the two nations' steel and coal industries to a common authority, which would assure modernization, provision of coal and steel under identical conditions on a common market, development of exports and equalization of living conditions by levelling up. The proposal was open to all other nations who wished to join and it was obvious from the first that the proposal would not have been made without the strong hope that others would, especially Great Britain. There was great disappointment that Britain refused to accept the fundamental conception of a supranational authority. But the French government insisted that if Europe was to be united (and this was a step on that path) there must be some surrender of authority. The French Socialists were very much disturbed about the danger of a coal and steel pool without Socialist Britain. Nonetheless, a conference of France, Germany, Italy and the Benelux countries was opened in Paris on June 20 and negotiations were still proceeding with hope of success in December, although events greatly increasing the demand for steel made agreement with Germany more difficult. (See EUROPEAN UNION.)

When the Korean war speeded up rearmament, French ideas on supplementing joint defense plans with joint financial and economic plans came to the fore again. On July 25 Pleven said that the necessary expansion of France's national defense would need outside financing. France reiterated this need when in reply to the U.S. request to state its rearmament plans, it offered to produce 15 new divisions (20 in all) within three years.

The problem of how to include Germany in a western European defense scheme again brought France back to the European idea. Strongly opposed to the creation of a German national army, the French government drew up a plan, announced to the assembly on Oct. 24, by which the national military unit in Europe should be kept as small as possible (less than a division was the original conception), that a European general staff should be created under a European minister of defense, responsible to some assembly, perhaps that of Strasbourg, and administering a European defense budget. The spokesman of the Quai d'Orsay, interpreting this scheme, insisted that it meant that as far as its European territories were concerned France was prepared to surrender the identity of the French national army and merge its own general staff with those of other nations. It was not proposing to apply one measure to itself and another to Germany. Pleven argued that a German national army must be inspired by the ambition to reconquer eastern territories and have an influence on German policy. Its existence, a Socialist spokesman argued, must alarm the western Slavs. It would therefore endanger peace more than it strengthened defense.

The French proposals for a supranational authority of various kinds stemmed from a sense of relative weakness. The proposals for a European army, though they were to prove popular at the European consultative assembly, isolated France at the November conference of North Atlantic national defense ministers at New York city where it was represented by Moch. There began to be some anxiety that through its policy France was losing influence in the inner Atlantic councils, for which Moch was sharply criticized. The anxiety was all the greater because the desire was stronger than in either Great Britain or the U.S. to see that any possibility of negotiation that arose should be exhaustively examined for any hope, so long as rearmament was not held up in consequence. This coloured France's attitude both toward the soviet proposal for a four-power conference and toward the question of the 38th parallel in Korea. This attitude was due in part to the fact that its frontiers were still open to invasion and in part to the necessity of combating Communist propaganda which affected a much larger percentage of the population than in either Great Britain or the U.S. For this



"I'M THE NEW USHER," a 1950 cartoon published in *Franc-Tireur* (Paris), following debate in the French national assembly which ended in fist fights. Subject of the debate was a bill to outlaw sabotage strikes; it was subsequently passed on March 8

reason the visit of Pleven and Schuman to London before British Prime Minister Clement R. Attlee set off for Washington, D.C., was of great importance in French eyes since it provided evidence that on this occasion the French point of view was heard and indeed shared by one of the Allies.

On Oct. 27 France prolonged military service from one year to 18 months and abolished all grounds of exemption save strictly medical ones. Moch said that the aim was to have armed forces of 900,000 men in 1953, 10 divisions in 1951, 15 in 1952 and 20 in 1953. (See also FRENCH UNION; NORTH ATLANTIC COMMUNITY.) (D. R. GL.)

**Education.**—(1948-49) Total elementary schools 84,640, pupils 5,541,416; total secondary schools 947, pupils 420,003. Lower professional schools numbered more than 220 with more than 80,000 pupils in 1948. Higher education: state universities 17, students (July 31, 1948) 128,754. There were 10 other state institutions of higher education, 6 free (Catholic) universities and more than 80 state and private institutions of higher technical education.

**Finance.**—Budget: (1949 est.) revenue 1,440,800,000,000 fr., expenditure 1,870,000,000,000 fr.; (1950 est.) revenue 2,218,000,000,000 fr., expenditure 2,217,500,000,000 fr.; (1951 est.) revenue 1,975,000,000,000 fr., expenditure 2,615,000,000,000 fr. Public debt (Sept. 30, 1949): internal 2,662,900,000,000 fr., external 1,181,900,000,000 fr. Currency circulation (Dec. 1950) 1,511,700,000,000 fr. Gold reserves (Dec. 1950): 182,700,000,000 fr. Unit of currency is the franc. Official exchange rate (1950): U.S. \$1 = 350 fr.

**Foreign Trade.**—The value of imports and exports in millions of francs, for various years, was as follows:

	1938	1946	1949*	1950*
Imports . . . . .	46,068	234,042	921,794	1,072,850
Exports . . . . .	30,588	101,406	782,022	1,072,620
Adverse balance . . . . .	15,480	132,636	139,772	230

\*Including the Saar.

**Transport and Communications.**—Roads (1949) 715,170 km.; railways (1949) 41,130 km., including 3,630 km. electrified; passengers carried, monthly average (1949) 2,456,000,000 passenger-kilometres; freight carried, monthly average (1949) 3,420,000,000 ton-kilometres.

Navigable inland waterways (1948) 8,488 km.; cargo carried, monthly average (1949) loaded 2,794,000 metric tons, unloaded 2,852,000 metric tons. Shipping (Nov. 1950): merchant vessels 692, gross tonnage 2,905,703. Cargo in external trade, monthly average (metric tons, 1949) loaded 1,234,000, unloaded 2,969,000. Air transport, monthly average (1949) 82,100,000 passenger-kilometres, 3,300,000 ton-kilometres. Telephones (Jan. 1949) 2,232,336. Radio receiving set licences (1947) 5,728,000.

**Agriculture.**—Production for 1950 (metric tons): wheat 7,332,000; rye 591,000; barley 1,572,000; oats 3,215,000; maize 321,000; potatoes 13,000,000. Wine production in 1950 was 61,300,000 hl. Livestock (Oct. 1949): cattle 15,432,000; pigs 6,424,000; sheep 7,510,000; goats 1,282,000; horses 2,418,000. Foodstuff production (metric tons, 1949): meat 1,749,000; butter 183,000; sugar, raw value, 881,000; milk 125,000,000 hl.

**Industry and Production.**—Estimated total for 1950: coal 50,300,000 metric tons; gas 2,350,000,000 cu.m.; electricity 30,000,000,000 kw.hr.; pig iron 7,404,000 metric tons; steel 8,190,000 metric tons; cement 7,150,000 metric tons; motor cars 236,600; trucks 88,000; woven cot-



ton fabrics 170,000 metric tons; wool yarn 122,000 metric tons. The index of employment (1937=100) was 113 in 1950; the index of industrial production was 112.

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**Franco, Francisco** (1892– ), Spanish army officer and statesman, was born at El Ferrol, Galicia, Dec. 4. He graduated from the military academy of Toledo in 1910. (For his early career, see *Encyclopædia Britannica*.) On the outbreak of civil war in July 1936 he became leader of the rebels. After a bitter three-year struggle, he emerged as the *caudillo y generalísimo* of Spain. During World War II, although his sympathies were pro-German and anti-soviet, he remained neutral. On June 7, 1947, the *cortes* passed unanimously the Succession act making Spain a nominal kingdom, confirming Franco in office as chief of the state for life, according him the right to nominate his successor and stipulating that the candidate to the Spanish crown must be at least 30 years old.

Speaking in May 1950 of the need to increase food production, Franco said that in many parts of Spain the climate made the breaking up of large estates impracticable. Irrigation was the key to the problem, and Spanish prosperity depended on the government's success in developing hydraulic power, the production of fertilizers and technical methods of cultivation.

In Sept. 1950, Franco received Antonio de Oliveira Salazar, the Portuguese prime minister, near La Coruña, and also spent some time with him in Portugal. Franco later visited the Canary Islands and the African colonies Ifni and Rio de Oro.

**Franklin Institute:** see SOCIETIES AND ASSOCIATIONS.

**Freemasonry:** see SOCIETIES AND ASSOCIATIONS.

**Freer Gallery of Art:** see SMITHSONIAN INSTITUTION.

**French Colonial Empire:** see FRENCH UNION.

**French Equatorial Africa.** This federation of four colonies, described since 1946 as overseas territories of the French Union, is situated in central Africa. The southeastern part of the former German colony of Kamerun (Cameroun), under French trusteeship, is administered with French Equatorial Africa. Areas and populations (1946 census) are: Gabon, area 103,089 sq.mi., pop. 422,904; Middle Congo, area 132,046 sq.mi., pop. 631,151; Ubangi-Shari, area 238,224 sq.mi., pop. 1,065,390; Chad, area 495,752 sq.mi., pop. 2,011,494. Total 969,111 sq.mi., pop. 4,130,939. Cameroun has an area of 170,230 sq.mi. and a pop. of 2,819,000. In 1950 the total population was estimated at 4,346,000 including 17,440 Europeans (5,825 French); the population of Cameroun was estimated at 3,011,000 including 7,536 French. The natives are mainly Bantu but the northern savannah districts are peopled by semi-Hamitic semi-Negroid pastoralists. Religion: pagan, with Moslem communities. Chief towns: Brazzaville, capital of French Equatorial Africa (pop., mid-1949 est., 83,579, including 4,353 Europeans); Bangui (pop., 1948 est., 41,000); Fort Lamy (18,300); Libreville (12,600); Yaoundé, capital of Cameroun (pop., 1946 est., 50,000). High commissioner in French Equatorial Africa, Governor General Bernard Cornut-Gentile. Governors: Gabon, Pierre Pellieu; Middle Congo, Hippolyte Le Layec; Ubangi-Shari, Ignace Colombani; Chad, Charles Hanin. High commissioner in Cameroun, Jean Soucadaux.

**History.**—French Equatorial Africa, after long neglect, had begun by 1950 to develop its economy. There was a distinct increase in the exploitation of timber in Gabon, and of palm oil and palm kernels. As nine-tenths of the stock farming was concentrated in the Chad territory, it had not yet been possible to provide Ubangi-Shari and Gabon with normal supplies of meat.

Four hundred engineers and 20,000 native workers were employed in copper and oil prospecting in the Niari valley and Gabon respectively. In the first nine months of 1950 exports of coffee and cocoa exceeded the figures for the whole of 1949; the export of cotton increased by 15% and that of sisal was more than doubled. Notable strides were taken in the modernizing of Brazzaville and Pointe Noire, but there were complaints that Fort Lamy was being denied such benefits.

An increasing part in the affairs of the trust territory of Cameroun was taken by France during 1950, including the provision of 72% in weight of goods (55% in 1949) and 80% in value (75% in 1949) and the supply of 45% of sea transport (30% in 1949). Trial planting of cinchona by the experimental station produced a ton of quinine. New sawmills raised the annual capacity of sawed timber to more than 100,000 cu.m. The inquiry commission of the U.N. trusteeship council was, on the whole, favourably impressed by conditions in the territory.

**French Equatorial Africa.—Finance.**—Budget (1949 actual): balanced at 3,928,100,000 fr. C.F.A.; (1951 est.) balanced at 7,710,300,000 fr. C.F.A. Monetary unit: franc C.F.A. (Colonies Françaises d'Afrique)=2 metropolitan francs. Exchange rate Nov. 1950: 349.85 M.fr. per U.S. dollar.

**Foreign Trade.**—(1949) Imports 11,309,500,000 fr. C.F.A.; exports 6,313,000,000 fr. C.F.A.

**Transport and Communications.**—Railways (1946): 512 km. Roads (1949): 38,087 km. Motor vehicles licensed (1948): cars 640, commercial 2,600. Shipping (1949, metric tons, cargo unloaded; loaded in parentheses): Pointe Noire 193,000 (71,000); Brazzaville 54,700 (53,000); Port Gentil 41,100 (96,300); Libreville 27,200 (99,000). Passengers (1949, all ports): arrivals 8,179; departures 7,025. Air transport (1949): aircraft landed 572; passengers flown: arrivals 6,020; departures 5,885; freight carried (metric tons): unloaded 743.7; loaded 517.

**Agriculture.**—Main crops (metric tons, 1949): millet 550,000; cassava 390,000; bananas 347,000; palm oil 4,500; palm kernels 6,400; cotton 23,300. Livestock (1949): cattle 4,000,000; sheep 3,500,000; goats 2,500,000; pigs 5,000; horses 10,000. Timber (Gabon) 579,000 cu.m.

**Mineral Production.**—(1949) Gold 1,800 kg.; diamonds 122,928 carats.

**Cameroun.—Finance.**—Budget (1950 est.) balanced at 3,125,000,000 fr. C.F.A.; (1951 est.) balanced at 4,682,000,000 fr. C.F.A. excluding 2,700,000,000 fr. C.F.A. for development and equipment. Monetary unit: franc C.F.A. (Colonies Françaises d'Afrique)=M.fr. 2. Exchange rate: 349.85 M.fr. per U.S. dollar (1950).

**Foreign Trade.**—(1949) Imports 8,387,000,000 fr. C.F.A.; exports 6,661,000,000 fr. C.F.A.

**Transport and Communications.**—Railways (1949): 505 km. Roads (1948): 10,606 km. Ships entered (1949): 450; cargo (metric tons): unloaded 388,000, loaded 444,100. Air transport (1949): aircraft landed 557; passengers: arrivals 2,878; departures 4,010; cargo (metric tons): unloaded 50, loaded 52.9. Telephone subscribers (1949): 751.

**Agriculture.**—Main crops (metric tons, 1949): cassava 829,000; millet 412,000; maize 109,800; yams 70,000; bananas 383,500; rice 8,400; peanuts 69,600; palm oil 37,200; palm kernels 31,900; sugar cane 56,900; cacao 45,700; coffee 7,400; rubber 2,400. Livestock (1949): cattle 1,000,000; sheep 400,000; goats 600,000; pigs 100,000.

**Mineral Production.**—(1949) Tin 104 metric tons; gold 279 kg. (C. A. J.)

**French Guiana.** An overseas *département* of France on the northeastern coast of South America. French Guiana has an area, including the territory of Inini (30,301 sq.mi.) of 34,740 sq.mi. Pop.: (1946 census) 28,506, including Inini (4,993); (1949 est.) 29,000, excluding 6,000 Amerindians. The population, concentrated in great majority on the coastal lowland, is mainly coloured (Negro or mixed); the inhabitants of Inini are aboriginal Indians; the Europeans number about 5% of the total. Religion: mainly Roman Catholic. Capital and chief port, Cayenne (pop., 1948 est., 10,961). Prefect: Robert Vignon.

**History.**—Great efforts directed since 1948 toward the equipment of the country began to show results in 1950. The main improvements were in the field of electrification and water supply, and the road system also was being modernized. On Aug. 18 a 75% ad valorem duty was imposed by the general council of the territory on imported rum and tafia to protect the local rum industry against competition by Martinique products. Nineteen refugees from camps of the International Refugee organization in Germany left on Dec. 15 to join 174 similar settlers estab-



lished in 1949 at Saint Jean de Maroni in the old penitentiary abandoned since the abolition of the convict prison. An outstanding undertaking was the planning of a French Institute of Tropical America for which funds were made available.

**Finance.**—Budget 1950: *département*, balanced at 433,600,000 metropolitan fr.; territory of Inini balanced at 87,300,000 M.fr. Exchange rate Nov. 1950: 349.85 M.fr. per U.S. dollar.

**Foreign Trade.**—(1949) Imports 1,031,300,000 M.fr.; exports 219,300,000 M.fr. Main exports: tulipwood 2,300 kg.; gold 467.1 kg.; rum 254 hl.

**Agriculture.**—Main crops (metric tons, 1949): sugar cane 17,500; cassava 12,000; sweet potatoes 3,200; maize 250; bananas 250. Livestock (1949): cattle 3,000. (C. A. J.)

**French Guinea:** see FRENCH WEST AFRICA.

**French India.** This group of four settlements in India has a total area of 193 sq.mi. Pop.: (1948 est.) 317,300. The Bengali-speaking Chandernagor (4 sq.mi.; pop. 1948, 44,800) was transferred to India on May 2, 1950. The four Tamil-speaking southern settlements are Pondicherry, area 112 sq.mi., pop. (1948 est.) 222,600; Karikal, 52 sq.mi., pop. 70,500; Mahé, 23 sq.mi., pop. 18,300; Yanaon, 6 sq.mi., pop. 5,900. Chief town and seat of administration, Pondicherry (pop., 1948 est., 22,572). Commissioner: André Meynard.

**History.**—Since the transfer in 1950 of Chandernagor to India, which did not include it in western Bengal but undertook to administer it directly (May 9), French settlements in India constituting an overseas territory included only four provinces. On Dec. 6 Jawaharlal Nehru reaffirmed that no foreign possessions were to remain in India. This viewpoint was accepted by the Indian deputy to the French national assembly, Saravane Lambert, who proposed transfer pure and simple to India without recourse to a popular referendum. He found support among the members of the Ashram (hermitage) founded at Pondicherry by Aurobindo Ghose, high-caste Hindus and even the Roman Catholic intellectual élite. All claimed that the spread of France's cultural influence would continue unhampered. Taking into account the Chandernagor precedent, the French government took its stand on the 1946 constitution by which any cession of territory was to be subject to the consent of the population. Life was made difficult for the settlements by Indian customs requirements and limitation of supplies.

**Finance.**—Budget (1949 actual) balanced at Rs. 6,056,800. Monetary unit: rupee. Exchange rate (Dec. 1950): Rs. 1=21 cents U.S.

**Foreign Trade.**—(1948) Imports 3,214 metric tons valued at 147,100,000 fr.; exports 1,594 metric tons valued at 633,900,000 fr. (C. A. J.)

**French Indochina:** see INDOCHINA.

**French Literature.** Following upon the period of "literary commitment" rooted in the experience of World War II, a tendency to withdraw from political and social action, which was already noticeable among French writers during the preceding year, became more evident as 1950 advanced, and except for those who had linked their fate indissolubly to that of Russian Marxism (Louis Aragon, Paul Eluard, Tristan Tzara, Roger Vailland were the more prominent of these) there appeared to be little serious literary reaction to the acceleration of events on the world stage.

True, pleas signed by many of the best-known literary names in France were addressed by nonpartisan groups to the authorities in Prague, Athens and Istanbul urging clemency for certain condemned intellectuals. There was also a limited participation on the part of French writers—not the most representative, however—in the International Congress for the Defense of Culture that took place in Berlin early in the summer. And it goes without saying that at no time did the essential debate die down entirely in the literary reviews and journals.

The death of Emmanuel Mounier, the editor of *Esprit*, spirit-

ual heir of Charles Péguy and founder of the personalist philosophy, dealt a serious blow to liberal Catholic intellectuals, one that left them, despite the distinguished literary personality of Albert Béguin (who succeeded Mounier as director of *Esprit*) without a rallying force. In what might be termed, for the sake of convenience, the opposite camp, André Breton's genius for leadership seemed to lack both orientation and disciples, and his activities, confined as they were to a new, enlarged edition of *L'Humour noir* and a special number on surrealism published by the review *La Nef*, were more of a historic than a creative nature. André Malraux's attention seemed to be turned definitively to interpretation of the visual arts of past epochs and, finally, it was perhaps not without significance that Jean-Paul Sartre's chief contribution to the year's output should have been a long, almost metaphysical analysis of the work and personality of a rarely gifted fellow-writer, Jean Genêt, author of *Notre Dame des fleurs*, *Journal du voleur*, etc. The reiterated "too late" of Sartre's preface to the Spaniard Juan Hermanos' *La Fin de l'espoir*, a bitter summing up of the tragedy of republican Spain, was indicative of a general mood. Pessimism, nihilism, romanticism, occultism—all these were present in the French literature of the mid-20th century and there seemed to be few writers sufficiently attracted by the social and ethical realities proposed to them to be willing to sacrifice their intimate convictions.

In the field of the novel, impartial judgment would demand the mention of about 15 titles, for there appeared to be few marked preferences on the part of the public, and this despite the wide publicity accompanying the Goncourt, Théophraste Renaudot and Fémina prizes which were awarded respectively to *Les Jeux sauvages*, by Paul Colin; *Les Orgues de l'enfer*, by Pierre Molaine and *Une Femme sans passé*, by Serge Groussard. Hervé Bazin's avid story of possessive maternity which, because it was turned down by the Académie Goncourt, was wittily advertised as *Hors Goncourt*, was quite as popular as the prize-winners; and for many, the best novels of the year were André Dhôtel's strange, poetic *L'Homme de la scierie* and Marguerite Duras' *Barrage contre le Pacifique*, the latter set in Indochina. *Bon pied, bon oeil*, by Roger Vailland, and Louis Aragon's fourth volume of *Les Communistes* constituted good documentary accounts of certain political milieux, and *L'Affaire Bernan*, by Joseph Kessel, continued his contemporary chronicle, *Le Tour du malheur*, begun a few years back. Marcel Jouhandeau's unabashed *L'Imposteur*, part of a cycle entitled *Chroniques maritales*, gave a witty if cynical picture, that both shocked and amused, of the author's own stormy domestic life. Of the very large number of translations published, Graham Greene's novels were the most widely read and commented. Thomas Mann's *Dr. Faustus*, Malcolm Lowry's *Under the Volcano*, *The Ambassadors* by Henry James (presented as "the American Proust"), and the Italian Vasco Pratolini's *I Poveri Amati* also found great favour.

Although no poetry was published that could be called sensational—unless this term could be applied to Raymond Queneau's *Petite cosmogonie portative*—there appeared two volumes by René Char, *Les Matinaux* and *Art bref suivi de premières allusions*, both of which continued the humanistic, slightly moralistic tradition that had come to be associated with the work of this distinguished poet. *Passages*, by Henri Michaux, and *Connaissance du soir*, by Joë Bousquet (whose death occurred in November) were other high lights of a rather uninspired year. Among the younger poets, *Poésie zéro ou l'école sultan*, by Georges Schehadé, revealed a genuinely original talent; and the books of two still younger men, *Le Théâtre de la chrysalide*, by Romain Weingarten (author, in 1948, of a much discussed play, *Akara*), and *Derrière son double*, by Jean-Pierre Duprey (the latter volume



prefaced by André Breton), were well received. Finally, Jean Paulhan (awarded the 1950 City of Paris prize for the sum of his critical activities) devoted an entire number of his *Cahiers de la Pléiade* to a group tribute in honour of the poet, St. John Perse, author of *Anabase*, *Exil*, *Vents*, etc.

If examined in the perspective of literary creation, the theatrical year was an unusually lean one, and there was a general critical wail over the dearth of good new plays. The result was a season given over for the greater part to revivals and translations, with emphasis on the producer's art rather than on the play itself. It is therefore no exaggeration to say that, with only three exceptions—Marcel Aymé's *Clérambard*, Henry de Montherlant's *Malatesta* and the Kafka-like experiments of Arthur Adamov—none of the new plays presented (certain of which were signed by such well-known names as Jean Anouilh, Henry Bernstein, François Mauriac, Armand Salacrou and Albert Camus) obtained more than perfunctory critical notice.

The epoch being essentially one of militant philosophical renewal, this vein was both rich and productive. Emile Bréhier's *Transformation de la philosophie française* and Jean Wahl's article on philosophy, in the group manifestation entitled *Cinquante années de découvertes*, furnished important summaries of the philosophical currents of the first half of the century: increasing discredit of the notion of philosophical systems and, parallel with an apparently triumphant subjectivity, a return to the concrete with the perspective of a veritable offensive of rationalism. Louis Lavelle's two new works *Traité de valeurs* and *Introduction à l'ontologie* attracted considerable comment, as did Simone Weil's *Connaissance du surnaturel*. Other works to be noted were *La Nostalgie de l'être*, by Ferdinand Alquié; *Signification du rire*, by Francis Jeanson; and *Philosophie de la volonté*, by Paul Ricoeur. Jean-Paul Sartre was said to be working on a monumental *Traité de la morale*. Continued interest in German philosophical thought was evidenced by publication in translation of Edmund Husserl's *Idées directrices pour une phénoménologie* and *Méditations cartésiennes*, to which must be added two volumes devoted to Nietzsche: one from the pen of Karl Jaspers, with an introduction by Jean Wahl, and a group manifestation, *Etudes nietzschéennes*, commemorating the 50th anniversary of the poet-philosopher's death.

Evidence of increasing attentiveness to the social sciences was furnished by the publication of such volumes as *Sociologie et anthropologie*, by Marcel Mauss, with an introduction by Claude Lévy-Strauss; *La Mémoire collective*, by Maurice Halbwachs; *Sociologie du communisme*, by Jules Monnerot, and *L'Utopie et les Utopies*, by Raymond Ruyer. There was also a bewildering number of new works, by both French and foreign authors, treating of the many religious, aesthetic, political and economic problems of the day. Some of the more important titles were: (religion) *Emmaüs*, by Paul Claudel; *Dialogue des Carmélites*, by Georges Bernanos; *Eveils*, by Jean Schlumberger; *La Religion des Cathares*, by Hans Soderberg; *L'Occultisme*, by Robert Amadou; (aesthetics) *L'Artiste et sa conscience*, by René Leibowitz; *Précis de décomposition*, by E. M. Cioran; *Etudes sur le temps humain*, by Gaston Poulet; *Bâtons, chiffres et lettres*, by Raymond Queneau; *Les Fauves*, by Georges Duthuit; *Saturne, essai sur Goya*, by André Malraux; *La Littérature à l'estomac*, by Julien Gracq; (general) *La Renaissance orientale*, by René Schwob; *Le Mystique du Surhomme*, by Michel Carrouges; *Portrait de l'aventurier*, T. E. Lawrence, Malraux, von Salomon, by Roger Stéphane; *Genèse de la pensée moderne*, by Marcel Jean and Arpad Mézei; *Où va le peuple américain?* by Daniel Guérin. Three important anthologies: *Lumière du Graal*, *Le Romantisme allemand* (new, revised edition), *Aspects du génie d'Israël*, appeared in Marseille.

The year saw the appearance of two lively new literary re-

views, *Contemporains* and *Eléments*; the regrettable disappearance of two others, *Empédocle* and *Paru*; and the revival, after a year's silence of the sharply analytical *Critique*. (See also LITERARY PRIZES.)

FILMS OF 1950.—France: *Background for Literature* (Coronet Instructional Films); *Une Famille Bretonne* (Encyclopædia Britannica Films Inc.). (M. JOL.)

**French Overseas Territories:** see FRENCH UNION.

**French Pacific Islands:** see PACIFIC ISLANDS, FRENCH.

**French Union.** With the establishment, by the constitution of 1946, of the French union, in which are comprised both the mother country and the former empire, the old colonial terminology was abolished and for the colonies were substituted four categories of overseas regions. The older, completely assimilated colonies claimed recognition as French *départements* administered as in the mother country; the others became overseas territories (*territoires d'outre-mer*) which henceforward would elect representatives to parliament and would have their own local assemblies possessed of wide powers; the trust territories, to be known in future as *territoires associés*, were similar in structure to the overseas territories and had the same electoral privileges; lastly, there were the former protectorates, now styled *états associés*, which could belong to the union only by an act of voluntary accession. Total area of the overseas territories of the French union: approximately 4,602,028 sq.mi.; total population (1949 est.): 78,511,000. Certain essential information on the component parts of the French union is given in the table. (See also separate articles.)

French Union		
Country and area, sq. mi. (approx.)	Population* (000's omitted)	Capital, status, governors, rulers, etc.
AFRICA		
Algeria, 864,124 . . . . .	8,751	Algiers, group of three <i>départements</i> , Governor general: Marcel Edmond Naegelen.
Morocco, 153,870 . . . . .	8,594	Rabat, protectorate, Sultan: Mohammed ben Youssef III; Resident general: Gen. Alphonse Juin.
Tunisia 48,332 . . . . .	3,387	Tunis, protectorate, Bey: Mohammed el-Amin; Resident general: Louis Périllier.
French West Africa, 1,805,287 . . . . .	16,375†	Dakar, group of territories, High commissioner, governor general: Paul Béchard.
Mauritania, 364,092 . . . . .	524	Saint-Louis, overseas territory, Governor: Marie Rogué.
Senegal, 81,081 . . . . .	1,994	Saint-Louis, overseas territory, Governor: Camille Bailly.
Sudan, 461,389 . . . . .	3,137	Bamako, overseas territory, Governor: Edmond Louveau.
Upper Volta‡, 121,892 . . . . .	3,044	Ouagadougou, overseas territory, Governor: Albert Mouragues.
Ivory Coast, 129,807 . . . . .	2,031	Abidjan, overseas territory, Governor: Laurent Pechoux.
French Guinea, 108,455 . . . . .	2,130	Conakry, overseas territory, Governor: Paul Sirix.
Niger, 493,822 . . . . .	2,041	Niamey, overseas territory, Governor: Jean Toby.
Dahomey, 44,749 . . . . .	1,474	Porto Novo, overseas territory, Governor: Claude Valluy.
Togoland, 21,235 . . . . .	972	Lomé, trust territory, Commissioner: Jean Cédile.
Cameroun, 170,230 . . . . .	3,011	Yaoundé, trust territory, High commissioner: Jean Soucdaux.
French Equatorial Africa, 969,111 . . . . .	4,346	Brazzaville group of territories, High commissioner, governor general: Bernard Cornut-Gentile.
Gabon, 103,089 . . . . .	423§	Libreville, overseas territory, Governor: Pierre Pellieu.
Ubangi-Shari, 238,224 . . . . .	1,065§	Bangui, overseas territory, Governor: Ignace Colombani.
Middle Congo, 132,046 . . . . .	631§	Brazzaville, overseas territory, Governor: Hippolyte Le Layec.
Chad, 495,752 . . . . .	2,011§	Fort Lamy, overseas territory, Governor: Charles Hanin.
French Somaliland, 8,376 . . . . .	47	Jibuti, overseas territory, Governor: Numa Sadoul.
Madagascar and dependencies, 228,589 . . . . .	4,160†	Antananarivo, overseas territory, High commissioner, governor general: Robert Barges.
Comoro archipelago, 849 . . . . .	142†	Dzaoudzi (Mayotte), dependency, Ruler: Prince Saïd Hussein; Administrator: Pierre Coudert.
Réunion, 970 . . . . .	252	Saint-Denis, overseas <i>département</i> , Prefect: Roland Béchoff.
AMERICA		
Saint-Pierre and Miquelon, 93 . . . . .	4	Saint-Pierre, overseas territory, Administrator: Alain Alanjou.
French Guiana, 34,740 . . . . .	35	Cayenne, overseas <i>département</i> , Prefect: Robert Vignon.
Guadeloupe, 686 . . . . .	281	Basse-Terre, overseas <i>département</i> , Prefect: Maurice Philipson.
Martinique, 427 . . . . .	268	Fort-de-France, overseas <i>département</i> , Prefect: Christian Laigret.





FRENCH EXPEDITIONARY TROOPS from Morocco advancing through Communist-held ground in Indochina during 1950. The soldier at left is shown holding a few eggs he acquired somewhere en route to add to his rations

#### French Union (Continued)

Country and area, sq.mi. (approx.)	Population* (000's omitted)	Capital, status, governors, rulers, etc.
<b>ASIA</b>		
French India, 193 . . . . .	317†	Pondicherry, overseas territory, Commissioner: André Meynard.
State of Viêt-Nam, 126,608 . . . . .	22,973	Saigon, associated state, Ruler: Bao Dai; High commissioner, commander in chief: Gen. Jean de Lattre de Tassigny.
Cambodia, 69,866 . . . . .	3,279	Pnom-Penh, associated state, King: Norodom Sihanouk; Commissioner: Jean de Raymond.
Laos, 89,320 . . . . .	1,208	Vientiane, associated state, King: Sisavang Vong; Commissioner: Miguel de Pereira.
<b>OCEANIA</b>		
New Caledonia and dependencies, 7,654 . . . . .	50	Nouméa, overseas territory, General commissioner for the Pacific islands: Pierre Cournarie.
New Hebrides, 4,633 . . . . .	49	Vila, Franco-British condominium, High commissioners: Pierre Anthonioz and Sir Leslie Freeston.
French Pacific Islands, 1,545 . . . . .	59	Papeete, overseas territory, Governor: René Petitbón.

\*1949 est. if not otherwise stated.

†1948 est.

‡Upper Volta territory was formed on Jan. 4, 1947, from parts of French Sudan, Ivory Coast and Niger.

§1946 census.

On the Investment Fund for the Economic and Social Development of the Overseas Territories (F.I.D.E.S., or Fonds d'Investissement pour le Développement Economique et Social des Territoires d'Outre-Mer), set up in 1946, and on the corresponding reserve for the overseas *départements* (F.I.D.O.M.) was based all economic planning for the French union. This capital was provided from the French budget and territorial contributions voted by the local assemblies. In accordance with this, a committee presided over by René Pleven had drawn up in 1946-47 a comprehensive plan for the development of the overseas territories; in 1949 its procedure was modified. By Sept. 30, 1950, loans and grants extended by the state to the overseas territories and *départements* amounted to 86,723,300,000 fr. But the

limitations imposed on allocations for 1951 by the international situation and the heavy burden of rearmament meant that it would not be possible to continue the work in progress, and the economic expansion of the French union was in danger of being seriously retarded. (C. A. J.)

**French West Africa.** This group of eight colonies, described since 1946 as overseas territories of the French union, is situated in western Africa and is bounded west and south by the Atlantic ocean, north by the Spanish Sahara, the southern territories of Algeria and the Fezzan, and east by Chad and Nigeria. The eastern part of the former German colony of Togo, under French trusteeship, is administered with the A.O.F. (Afrique Occidentale Française). Areas and populations are:

	Area (sq. mi.)	Population (1936 census) (1948 est.)	
Mauritania . . . . .	364,092	383,000	524,000
Senegal* . . . . .	81,081	1,791,000	1,994,000
Sudan . . . . .	461,389	3,569,000	3,137,000
Upper Volta† . . . . .	121,892	—	3,044,000
Niger . . . . .	493,822	1,747,000	2,041,000
Ivory Coast . . . . .	129,807	3,850,000	2,031,000
French Guinea . . . . .	108,455	2,011,000	2,130,000
Dahomey . . . . .	44,749	1,351,000	1,474,000
Total . . . . .	1,805,287	14,702,000	16,375,000
Togoland . . . . .	21,235	781,000	953,000

\*Dakar was incorporated with Senegal in 1946.

†Territory of Upper Volta was formed on Jan. 4, 1947, from parts of Sudan, Ivory Coast and Niger.

The population is mainly Negro, but in the savannah lands there is much Arab and Berber admixture. Pop.: European (1948) 51,760 (including about 40,000 French) in the A.O.F., in Togoland 841. The population consists of multiple Negro ethnic groups which do not coincide with the linguistic groupings. Islam makes headway leaving undisturbed, however, the fundamental animism. Animists were estimated at 53.4%, Moslems 44.2% and Christians 2.4%. Mauritania was almost entirely Islamized



(99.4%); in the Niger valley, Senegal and French Guinea the majority of the population had turned to Islam (75%, 71% and 64%); the Sudan was deeply penetrated (43%), but the Ivory Coast, Upper Volta and Dahomey were little affected (9%–10%). Chief towns (pop., 1948 est.): Dakar, capital of the A.O.F. (185,000); Saint Louis (62,900); Bamako (70,492); Conakry (38,000); Abidjan (36,000); Porto Novo (31,000); Lomé, capital of Togoland (30,100). High commissioner in the A.O.F.: Governor General Paul Béchard. Governors: Mauritania, Marie Rogué; Senegal, Camille Bailly; Sudan, Edmond Louveau; Upper Volta, Albert Mouragues; Niger, Jean Toby; Ivory Coast, Laurent Pechoux; French Guinea, Paul Siriex; Dahomey, Claude Valluy; Togoland, Jean Cédile.

**History.**—Ugly incidents on the Ivory Coast were provoked by the Rassemblement Démocratique Africain (R.D.A.) which passed under Communist control. A demonstration at Dimbokro on Jan. 30, 1950, ended with 12 dead and 22 wounded among the natives and 22 wounded among the forces of law and order. Emergency measures taken by the government and the native leaders' fear of excesses brought about the disruption of the R.D.A.

The problem of unifying the Ewés distributed between the two Togolands was examined by the Trusteeship council which in its session of June–July decided to form a Franco-British consultative commission. The commission would formulate plans for carrying out the aims of the two territories. In October delegates of the French government presented to the Trusteeship council their replies to the two petitions of Alexandre de Souza, chairman of the Council of Notables of Lomé and founder of the Comité de l'Unité Congolaise, who stood for the union of the two Togolands and against the electoral procedure and "arbitrary arrests" on French territory. Only supporters of French trusteeship were appointed to the consultative commission as a result of the elections in French Togoland (Oct.–Nov.) by indirect suffrage. Discussion at the first session of the consultative commission held at Lomé (Nov. 8–10) under the joint chairmanship of Sir Charles Arden Clarke, governor of the Gold Coast, and Yves Digo, governor of Togoland, ended in the institution of a permanent commission charged with presenting a report on the points at issue.

**French West Africa.—Finance.**—Budget (1951 est.) balanced at 27,884,000,000 fr. C. F. A.

**Foreign Trade.**—(1949) Imports 34,479,700,000 fr. C. F. A., exports 27,400,700,000 fr. C. F. A. (Franc C. F. A. [Colonies Françaises d'Afrique] = 2 metropolitan francs. As of Nov. 1950, U.S. \$1.00 = 349.85 metropolitan francs.)

**Transport and Communications.**—Railways (1949): 3,918 km. Roads (1948): 75,799 km. Ships entered (1949): Dakar 2,234; Conakry 367; Port Bouet 152; Grand Bassam 194; Cotonou 194. Cargo (all ports, 1949): unloaded 1,726,000 metric tons, loaded 1,433,000 metric tons. Passengers (all ports, 1949): arrivals 41,146; departures 43,980. Air transport (1949, aircraft landed): transcontinental traffic, French lines 501, foreign lines 2,467; intercolonial traffic 441. Passengers (total): arrivals 20,344; departures 20,383; transit 44,005. Freight carried (total) 5,365 metric tons. Telephone subscribers (1948): 5,665.

**Agriculture.**—Main crops (metric tons, 1949): yams 1,459,000; peanuts 729,000; cassava 924,000; rice 505,000; maize 290,000; palm kernels 60,900; palm oil 12,100; bananas 480,800; coffee 52,000; cocoa 52,000; cotton 23,800. Livestock (1949): cattle 6,000,000; sheep 8,200,000; goats 6,200,000; pigs 260,000; horses (1948) 186,500; asses (1948) 561,700; camels (1948) 284,000.

**Mineral Production.**—(1949, metric tons) Phosphate alumina 5,675; ilmenite and zircons (1949, six months) 13,179; mineral oil (Senegal) 70,534; cement 43,918; diamonds 94,996 carats; gold 90.1 kg.

(C. A. J.)

**Togoland.—Finance.**—Budget (1949 actual) balanced at 555,500,000 fr. C. F. A.

**Foreign Trade.**—(1949) Imports 1,454,400,000 fr. C. F. A.; exports 844,700,000 fr. C. F. A.

**Transport and Communications.**—Railways (1948): 449 km. Roads (1948): 3,275 km. Ships entered (1949) 194; cargo (metric tons): unloaded 40,600; loaded 48,100.

**Agriculture.**—Main crops (metric tons, 1949): cassava 170,000; yams 200,000; millet 90,000; maize 53,000; peanuts 16,000; rice 5,200; palm kernels 4,400; palm oil 2,500; coffee 2,000; cocoa 2,500; cotton 1,300.

Livestock (1949): cattle 50,000; sheep 100,000; goats 100,000; pigs 10,000.

**Frequency Modulation:** see FEDERAL COMMUNICATIONS COMMISSION; RADIO.

**Friends, Religious Society of.** This Protestant sect, the members of which are also known as Quakers, originated in England about 1650 under the influence of George Fox. The 53 Yearly Meetings of Friends throughout the world today represent somewhat diverse views, but all share a belief in an inward divine Light which is in every man. In 1950 there were about 179,000 members of the Society of Friends. Of this total number 119,000 were in North America, 24,000 in the British Isles, 29,000 in Africa, and the remainder were scattered over many countries on all the continents.

In April 1950 Clarence Pickett, executive secretary of the American Friends Service committee for more than 20 years, retired to become honorary secretary, remaining on the staff to render special service to the committee. During his years of service the committee undertook such projects as establishing a co-operative mining community, institutes of international relations, civilian public service camps for conscientious objectors during World War II, a war relief program and operation under United Nations auspices of a relief program in Palestine.

Lewis Hoskins, director of personnel for the committee, succeeded Clarence Pickett as executive secretary.

After more than a year's preliminary work final arrangements were made for the beginning of a self-help slum clearance and housing project in Philadelphia, Pa., sponsored by the American section of the American Friends Service committee with the co-operation of the City Planning commission and the Federal Housing administration. A city block was to be redeveloped using as far as possible the labour of the residents.

In June the American Friends Service committee published a pamphlet, *Quaker Work with Arab Refugees, Undertaken for the United Nations*, a description of a year and a half of work with 200,000 Arab refugees near Gaza.

The Friends World Conference committee met at Oxford in July to plan for a world conference of Friends to be held at Oxford during the summer of 1952. This date would be the tercentenary of the rise of the Society of Friends. There had been two other such world gatherings of Friends, in 1920 at London and in 1937 at Swarthmore, Pa.

Thirty young people from eight countries met in July at Bièvres, Fr., for a young Friends international retreat. The biennial general conference of six American Yearly Meetings was held in June at Cape May, N.J., with an attendance of 1,900. In October more than 1,000 members of the 11 Yearly Meetings comprising the Five Years Meeting gathered at Richmond, Ind.

A conference representative of American Quakerism met at Richmond, Ind., Oct. 26 to 28, 1950, and drew up a statement on peace which it referred to the whole society for study and action. The conference reaffirmed a statement of a similar body published in 1948, which emphasized the society's historic opposition to war and preparations for war, and in addition suggested a six-point program for specific action for peace.

The American Friends Service committee and Friends in England sponsored an unofficial embassy at the general assembly of the United Nations in the fall of 1950, in the interest of international peace. An international team made up of Friends from England, Sweden, Mexico and the United States lived together in New York city and each day visited the sessions of the United Nations. They interpreted Friends views to delegates and through writing and speaking gave their impressions of the United



Nations to Friends and others. (See also CHURCH MEMBERSHIP.)  
(Ly. W. R.)

**Fruit.** The world fruit crop of 1950 was indicated as generally abundant, though probably somewhat smaller than in 1949. Apricots, cherries, peaches, plums and prunes totalled 6,200,000 tons, compared with 7,100,000 tons in 1949 and 6,600,000 tons prior to World War II. World apple production (including that for cider) was estimated at 585,200,000 bu., 8% larger than the 1949 crop and 18% higher than the prewar average. European production was 19% larger than in 1949. World pear production was indicated at 164,100,000 bu., 1% less than 1949 but 25% higher than prewar. The citrus crop appeared to be larger in most areas. Dried fruit packs were generally smaller, except for raisins.

The U.S. fruit crop in 1950 was about 12% smaller than in 1949 and about 5% less than average. The situation varied much among areas and kinds of fruits, because of winter damage and late spring freezes. Only the apricot and sour cherry crops of the stone fruits were larger than in 1949.

Prices for most fruits in 1950 were higher to the producers and, unlike 1949, almost all of the production was harvested and marketed. The rapidly expanding market for frozen concentrated orange juice became a major factor in orange utilization.

**Apples.**—The U.S. 1950 apple crop totalling 120,499,000 bu. was 10% smaller than the large 133,742,000 bu. crop of 1949 but 10% larger than average. The leading varieties, Delicious (27,000,000 bu.), Winesap (13,000,000 bu.), and McIntosh (13,000,000 bu.), were approximately as abundant as in 1949, whereas Jonathans were down 32% and York Imperial more abundant by 62%.

Table I.—U.S. Commercial Apple Production by Leading States

(In thousands of bushels)

State	1950	1949	Average 1939-48	State	1950	1949	Average 1939-48
Washington . . .	34,592	31,820	27,764	Oregon . . . . .	2,720	2,953	2,783
New York . . . .	17,625	20,090	14,399	New Jersey . . .	2,520	3,124	2,490
Virginia . . . . .	12,580	8,525	9,589	Connecticut . . .	1,406	1,640	1,188
Michigan . . . . .	7,020	11,735	6,776	Maine . . . . .	1,391	1,006	768
Pennsylvania . . .	6,930	9,680	7,300	Maryland . . . . .	1,352	1,251	1,526
California . . . .	6,496	9,445	7,814	North Carolina . .	1,296	448	982
West Virginia . . .	4,260	3,720	3,844	Idaho . . . . .	1,220	1,825	1,911
Massachusetts . . .	3,825	3,842	2,473	New Hampshire . .	1,100	1,056	732
Ohio . . . . .	3,534	5,446	3,828	Indiana . . . . .	1,020	1,715	1,333
Illinois . . . . .	2,852	4,176	3,125	Missouri . . . . .	1,020	1,548	1,260

The average price to producers for the crop was estimated at \$1.85 per bushel, compared with \$1.38 per bushel for the 1949 crop. It was estimated that only 2,400,000 bu. of the 1950 crop were not harvested because of low prices, as compared with 11,900,000 bu. of the 1949 crop. Purchase by the United Kingdom of 1,300,000 boxes of Canadian apples, as compared with about 6,000,000 pre-World War II, left Canadian producers, particularly those in Nova Scotia, with a serious surplus problem.

**Apricots.**—The 1950 crop in the commercial producing states, California, Washington and Utah, was 202,100 tons, compared with 197,600 tons in 1949, but 13% less than average for the decade. The world crop of 544,820 tons was 12% less than in 1949 and 15% below pre-World War II.

**Avocados.**—The U.S. production in 1950 was estimated at 25,200 tons, 31% more than in 1949, 39% above average. Production in California and in Florida was above 1949 and above average.

**Bananas.**—The U.S. supply, all imported, which accounted for one-sixth of the fresh fruit consumed, was expected to continue at about 20 lb. per capita in 1950, approximately the same as in previous years.

**Cherries.**—The 1950 U.S. commercial cherry crop was slightly smaller—242,010 tons, compared with 250,230 tons in 1949 but in excess of the average of 179,240 tons. Sour cherries, commercially produced mostly in Michigan, New York and Wisconsin, were a record crop of 160,350 tons, against 112,530 tons in 1949.

The sweet cherry crop, mostly produced in Washington, Oregon and California, was only 81,660 tons, 41% below 1949 and 5% below average. World production of 1,079,539 tons was a little less than 1949 but slightly above prewar.

**Cranberries.**—The U.S. 1950 crop was a record 980,300 bbl., compared with 840,400 bbl. in 1949 and an average for the decade of 714,580 bbl. Massachusetts produced 620,000 bbl., 63% of the total crop. The Wisconsin crop was 215,000 bbl., almost twice the average for the previous decade.

**Dates.**—The California date crop of 1950 was estimated at 15,100 tons, compared with 14,100 tons in 1949 and only 9,160 tons for the 1939-48 average.

**Figs.**—The 1950 fig crop of California and Texas was even smaller than in 1949. California produced 23,800 tons of dried figs in 1950 (24,800 tons in 1949) and 11,000 tons not dried, against an average for 1939-48 of 32,910 and 16,230 tons. Texas figs for preserving were estimated at 590 tons in 1950, compared with 934 tons average for the decade.

**Grapefruit.**—The 1950-51 U.S. grapefruit crop was indicated as a large one of 48,520,000 boxes, compared with 36,500,000 boxes in 1949-50, and an average of 50,722,000 boxes for the previous decade. The average price per box to producers was estimated at \$1.02, compared with \$1.82 in 1949.

**Grapes.**—The U.S. grape crop of 2,640,900 tons in 1950 was slightly less than the 2,662,100 tons of 1949 and the 2,776,885 tons average of the previous decade. The California crop, 2,411,000 tons of the total, was slightly below the 2,485,000 tons of 1949 and 5% below average. Raisin production was sharply reduced. The crop of the Great Lakes area was 43% more than in 1949 and one-third above average. The world crop was estimated at 37,500,000 tons, 2% more than in 1949 but 6% below the prewar total. Europe produced 63% of the total.

**Lemons.**—The indicated 1950-51 California lemon crop of 12,500,000 boxes was larger than the 11,630,000 boxes in the previous year; the ten-year average was 13,055,000 boxes. The price to producers was estimated at \$3.10 per box, against \$3.59 for the previous crop.

**Limes.**—The 1950-51 Florida crop of 280,000 boxes was large, compared with 260,000 boxes in 1949 and 168,000 boxes average for 1939-48.

**Olives.**—California in 1950 produced 43,000 tons, compared with 35,000 tons in 1949 and 47,900 tons average 1939-48. The Spanish pickled olive crop was about one-half of that of 1949.

**Oranges.**—The indicated U.S. crop for 1950-51 was 106,490,000 boxes, compared with 103,535,000 boxes in 1949 and 96,070,000 boxes average of 1939-48. Prices, estimated at \$1.63 per box for the crop, were lower than the \$2.16 of 1949.

Table II.—U.S. Orange Production by States

(In thousands of boxes*)					
State	1950	1949	Average 1939-48		
Florida					
Early and midseason . . . . .	34,000	33,600	23,250		
Valencias . . . . .	27,000	24,900	19,530		
Tangerines . . . . .	4,800	5,000	3,630		
California					
Navels and miscellaneous . . . . .	14,500	15,630	18,462		
Valencias . . . . .	25,900	26,300	29,991		
Texas					
Early and midseason . . . . .	2,100	1,120	2,285		
Valencias . . . . .	1,400	640	1,391		
Arizona					
Navels and miscellaneous . . . . .	650	585	427		
Valencias . . . . .	600	400	439		
Louisiana . . . . .	340	360	295		

\*Boxes hold 77 lb. in California and Arizona; 90 lb. in other states.

**Tangerines.**—The 1950 Florida crop was estimated at 4,800,000 boxes, somewhat less than the 5,000,000 boxes of 1949 but far above the 3,630,000 boxes average for the decade.

**Peaches.**—The U.S. 1950 peach crop was estimated at 52,573,000 bu., 30% below the 74,818,000 bu. 1949 crop and 25% be-



low the decade average. The estimated average price to producers of \$2.11 per bushel was comparable with \$1.54 per bushel for the 1949 crop. The world crop, estimated at 88,400,000 bu., was about average but 22% below 1949.

Table III.—U.S. Peach Production by Leading States

(In thousands of bushels)

State	1950	1949	Average 1939-48	State	1950	1949	Average 1939-48
California . . .	29,460	35,211	29,161	Missouri . . .	950	950	738
Michigan . . .	4,080	3,500	3,606	Ohio . . .	927	1,194	871
Pennsylvania . .	2,194	2,451	1,987	Virginia . . .	837	1,734	1,501
Arkansas . . .	1,980	2,412	2,203	Texas . . .	783	2,400	1,743
New Jersey . . .	1,810	1,948	1,416	Maryland . . .	563	714	544
Colorado . . .	1,219	2,109	1,901	West Virginia . .	557	529	531
Illinois . . .	1,155	2,307	1,524	North Carolina . .	548	1,428	2,167
New York . . .	1,023	1,428	1,330	South Carolina . .	468	2,340	3,789
Georgia . . .	975	2,040	5,044	Alabama . . .	440	792	1,400

**Plums and Prunes.**—The 1950 plum crop in California, estimated at 78,000 tons, was slightly above average but well below the 90,000 tons of 1949. California prune production of 147,000 tons was moderately below 1949 and about three-fourths of average. Low winter temperatures in the Pacific northwest reduced the crop of that area to less than one-third of 1949 or normal. World production of plums and prunes, estimated at 2,400,000 tons, was 7% below 1949 and 14% below the pre-World War II average.

**Pears.**—The 1950 pear crop of the U.S. was 31,263,000 bu., 14% less than the record high of 36,404,000 bu. in 1949 but above average for the decade. The decline was rather general as to type and area, except for a record crop of Anjous in Oregon. Price to producers was estimated at \$2.21 per bushel, compared with \$1.22 for the 1949 crop.

Table IV.—U.S. Pear Production by Leading States

(In thousands of bushels)

State	1950	1949	Average 1939-48	State	1950	1949	Average 1939-48
California . . .	12,793	14,335	10,017	New York . . .	1,066	1,195	841
Bartlett . . .	1,458	2,000	1,396	Michigan . . .	812	1,200	766
Washington . . .	4,216	5,175	5,238	Pennsylvania . .	359	385	360
Bartlett . . .	1,656	1,855	1,832	Texas . . .	270	484	374
Oregon . . .	1,960	2,681	1,868	Illinois . . .	244	410	389
Bartlett . . .	3,700	3,485	2,724	Georgia . . .	234	187	388
				Mississippi . . .	221	195	351
				Ohio . . .	205	272	300

**Pineapples.**—Florida pineapple production in 1950 was 6,500 boxes, compared with 5,000 boxes in 1949 and an average of 9,160 boxes (1939-48). A large part of U.S. consumption was imported, mostly from the Hawaiian Islands.

**Strawberries.**—The 1950 strawberry crop was a large one of 11,169,000 crates, compared with 8,795,000 crates in 1949 and a ten-year average (1939-48) of 9,163,000 crates. Acreage, yield and value were all above the previous year. (See also HORTICULTURE.)

**FILMS OF 1950.**—*Apples* (Encyclopædia Britannica Films Inc.); *Pineapple Culture* (Paul Hoefer Productions).

**Furniture Industry.** The 4,000 factories in the United States making wooden furniture during 1950 recorded a total dollar output for the year of approximately \$1,500,000,000, an all-time record, compared with \$1,175,000,000 in 1949 and \$1,335,000,000 in 1948, the previous peak year.

Much of this gain was the result of price increases, which totalled about 18%, but unit production also was stepped up about 12% without fully meeting the heavy demand for furniture. Because of the large number of factories in the industry, absolute accuracy in estimating total production value and price increases is impossible, but the above figures were thought to be within 3% of what final figures for 1950 from all factories would ultimately show.

At the close of the year the furniture factories had a 48% backlog of orders on their books, or about four months' production. Cancellations during the year were the lowest since 1943, many lines having gone on an allotment basis around midyear.

Pay rolls in the industry increased 30%, keeping pace with production value, and the number of employees increased approximately 12%. This indicated a total of approximately 200,000 employees, the highest in the industry's history, averaging 50 per plant. Average earnings rose from \$1.21 per hour in 1949 to \$1.26 in 1950. The work week was increased from 40 hr. to an average of 43.1 by the end of the year.

Modern furniture was in greatest demand during 1950, again leading the traditional styles in total sales and accounting for more than half the industry's production. Eighteenth-century English furniture, particularly Chippendale, Hepplewhite and Sheraton, was second in popularity with furniture buyers and French Provincial, Chinese, Regency and Empire designs were favoured in the high-style decorative field. So-called borax unstyled furniture, once predominating in the low-priced field, had all but disappeared because of the change to low-priced modern by manufacturers in the south.

The trend toward dual-purpose furniture continued to grow. Sofas that open into beds, cabinets that serve both living and dining room purposes, double dressers and swivel-top tables that serve several purposes outsold the conventional types.

During the year, the major furniture markets held semi-annually at Grand Rapids, Mich., Chicago, New York, High Point, N.C., Jamestown, N.Y., San Francisco and Los Angeles recorded the highest attendance of store buyers in history and buying was the heaviest ever recorded. This condition existed all year and was heightened in the fall by the war in Korea. By the end of the year most manufacturers had all the business on their books they could fill in four months and many were taking orders on an open price basis only.

Although retail furniture store volume slumped during the early winter because of the imposition of credit controls, buying from factories showed slight change because dealers were anxious to maintain full inventories to avoid being short-stocked if lumber should be rationed in 1951, as seemed possible. Many factories which had contracts for television cabinets were preparing at the end of the year to reconvert to furniture because metal controls indicated a sharp drop in the output of radio and television sets in 1951.

Imported furniture, which flooded the market in 1949, with England, Belgium, Sweden, Norway, Italy, Switzerland, Scotland and the Philippines competing for favour, was less apparent in 1950 and accounted for less than 3% of the total amount of furniture sold by dealers and decorators. This was offset by sales of U.S. factories to Canadian, Mexican and Hawaiian dealers. (See also INTERIOR DECORATION.)

(J. A. G.)

**Furs.** The fur industry in the United States showed improvement during the first eight months of 1950 but experienced a severe slump in the last quarter. Late in the year, retail prices were reduced extensively.

Ranch mink was the leading fur during the year. Approximately 2,800,000 skins entered the United States market. Most of these were produced in the United States and Canada. Norway, Sweden, Denmark, Finland and the U.S.S.R. produced a total of about 500,000 skins, the best of which went to the U.S. Breeding of mutation mink, or mink of many colour variations, increased and proved profitable. "Sapphire" mink was introduced, the colour of which is well described by the name.

Other furs in demand were wild mink, Alaska seal, Persian lamb, muskrat, ermine, white fox, red fox, black fox, marmot, beaver, sheared raccoon, seal-dyed muskrat, broadtail lamb,



sheared South American lamb (American broadtail), and, to a lesser extent, moleskin, China and Jap weasel, squirrel, otter, fitch, mouton, platinum fox and silver fox.

Many furs were dyed. New colours such as navy blue, sky blue, golden glow, dark brown, cinnamon brown, bottle green and cardinal red were introduced, and the blue shades met with considerable approval.

Early in 1950 raw fur prices advanced. Retail business was satisfactory during August but poor in the fall and early winter. A mild fall in the eastern half of the country forced fur apparel prices down. Reduced prices and wintry weather stimulated business slightly in December. Nevertheless, many firms, mostly manufacturers and retailers, became insolvent. Failures during the year totalled more than 200, with liabilities estimated at \$9,000,000. Most of them were in the New York city area.

The United States was the largest consumer of furs. The government collected approximately \$29,000,000 from the 20% retail fur tax during the first nine months of 1950 as compared with about \$33,000,000 for the corresponding period in 1949.

Business in Europe increased. The U.S.S.R., Canada, South Africa, the Scandinavian countries and the soviet satellites were the chief sources of supply. Up to the end of Sept. 1950, fur skin imports were valued at more than \$68,000,000, or about \$10,000,000 less than in the corresponding period in 1949. Fur skin exports from the United States during the same period totalled about \$25,000,000 in value, a decrease of about \$1,000,000 compared with 1949.

The London fur market increased its import and export business and served all European countries. It not only financed transactions in furs for all the world but once more became the greatest clearing house for fur skins regardless of their origin. It was the principal source through which Persian lambskins and other furs from the U.S.S.R., Afghanistan and South-West Africa were distributed.

The fur industry in western Germany, with headquarters in Frankfurt, steadily expanded its volume of business with surrounding European countries as well as with London and New York.

New York remained the world's leading fur processing and retailing centre. The New York fur fashion show and exhibition on June 5-6, attended by more than 5,000 people, was the most complete display of fur apparel ever presented.

There was marked consumer demand for capes, scarfs, stoles, shawls and jackets, especially in mink, induced by inflated prices for full-length coats. There was little change in fur fashions except for less sweep and a return of the pyramidal silhouette. Paris style influence dominated.

(W. J. Br.)

**Future Farmers of America:** see FAIRS AND EXHIBITIONS; SOCIETIES AND ASSOCIATIONS.

**Gaitskell, Hugh Todd Naylor** (1906- ), British cabinet member, was born in London, April 9. He was educated at Winchester and New college, Oxford. After lecturing in the department of adult education, University college, Nottingham, in 1928 he joined the staff of the department of economics, University college, London, becoming in 1938 head of the department and reader in political economy in London university. On the outbreak of World War II he joined the newly formed ministry of economic warfare, and later became head of the intelligence section for Germany. When Hugh Dalton became minister in 1940, Gaitskell became his principal private secretary and in 1942 accompanied him to the board of trade as principal assistant secretary. In the general election of 1945 Gaitskell was returned as Labour

member for South Leeds. In 1946 he became parliamentary secretary to the ministry of fuel and power and was made minister in 1947, when he was sworn of the privy council. After the general election of Feb. 1950 Gaitskell became minister of state for economic affairs, and began to take some of the burden of work from the chancellor of the exchequer, Sir Stafford Cripps. On Oct. 19 he was appointed to take Sir Stafford's place as chancellor of the exchequer.

**Galapagos Islands:** see ECUADOR.

**Gambia:** see BRITISH WEST AFRICA.

**Gambling:** see BETTING AND GAMBLING.

**Gas, Natural and Manufactured.** World production figures had never been compiled for the gaseous fuels, as data were lacking from many of the smaller countries. However, there were data available for most of the important producers.

**Natural Gas.**—In Table I are collected such figures as were available in 1950 on the production of natural gas in countries other than the United States where the quantity is significant.

Table I.—Natural Gas Production

(In millions of cubic feet)

	1946	1947	1948	1949	First half 1950
Venezuela . . . . .	331,991	402,585	470,388	499,205	256,524
Canada . . . . .	47,886	52,548	58,481	75,008	36,339
Mexico . . . . .	27,121	35,258	37,631	41,954	25,084
France . . . . .	3,899	5,170	6,145	8,052	4,446
Italy . . . . .	2,246	3,305	4,153	8,348	7,095

**United States.**—The United States has by far the world's largest production and consumption of natural gas, as reported by the U.S. bureau of mines and summarized in Table II.

Table II.—Production and Consumption of Natural Gas in the U.S.

(In thousands of millions of cubic feet)

	1944	1945	1946	1947	1948	1949*
Gross production . . . .	5,614.2	5,902.2	6,190.2	6,733.2	7,178.8	?
Loss and waste . . . .	1,010.3	896.2	1,020.0	1,067.9	810.2	?
Returned to ground† . .	892.9	1,087.3	1,057.6	1,092.8	1,220.6	?
Marketed . . . . .	3,711.0	3,918.7	4,095.0	4,582.2	5,148.0	5,486.6
Exports . . . . .	14.6	18.2	17.7	18.1	18.7	19.5
Consumption . . . . .	3,696.5	3,900.5	4,077.3	4,426.5	4,945.1	5,254.1
Domestic . . . . .	562.2	607.4	650.0	802.2	896.3	?
Commercial . . . . .	220.7	230.1	237.3	285.2	323.1	?
Field use . . . . .	855.2	917.0	960.0	933.8	1,021.5	?
Carbon black . . . . .	355.8	431.8	478.3	484.9	480.6	?
Oil refineries . . . . .	315.3	338.5	355.0	363.9	441.5	?
Cement plants . . . . .	35.6	38.3	57.7	60.5	72.1	?
Other industrial . . . .	1,351.7	1,337.4	1,339.0	1,496.1	1,710.0	?
Public utilities‡ . . . .	359.7	326.2	306.9	373.0	478.1	?
Interstate traffic . . . .	990.5	1,029.8	?	1,402.0	?	?

\*Preliminary. †Mostly for repressuring oil fields; small amounts of surplus gas are returned to the ground for storage. ‡Includes manufactured gas, and not included in the consumption total.

The only data on 1949 available at the close of 1950 were: marketed production 5,486,582,000,000 cu.ft.; consumption 5,254,082,000,000 cu.ft.; exports 19,500,000,000 cu.ft.

**Manufactured Gas.**—Where natural gas is not available, large amounts of manufactured gas are produced and used. Production data for the more important producing countries are shown in Table III.

Table III.—Manufactured Gas Production

(In millions of cubic feet)

	1946	1947	1948	1949	First Half 1950
Australia . . . . .	31,953	33,393	36,317	36,572	18,229
Austria . . . . .	8,136	8,475	11,950	12,671	6,537
Belgium . . . . .	28,266	31,698	59,964	57,633	25,765
Canada . . . . .	24,240	24,579	25,596	25,893	14,260
Denmark . . . . .	10,754	11,569	12,586	13,052	6,583
France . . . . .	86,450	86,450	88,992	86,450	43,507
Germany . . . . .	?	?	217,396	275,029	153,441
Japan . . . . .	11,315	17,417	26,274	32,249	18,713
Netherlands . . . . .	33,902	41,954	49,581	51,277	27,757
United Kingdom . . . .	469,965	494,967	508,104	522,089	278,278
United States . . . . .	553,872	597,097	584,807	563,195	325,175



The expansion of manufactured gas production in the areas not producing natural gas was greatly reduced in recent years by long distance pipe lines carrying natural gas from the producing areas to distant states. In 1948 more than one-third of the marketed output of natural gas was consumed outside of the state in which it was produced. For example, Texas natural gas was in 1950 piped to 30 other states and Mexico, from the Atlantic coast on the east to South Dakota on the north and California on the west.

(G. A. Ro.)

**Gasoline:** see PETROLEUM.

**Gasperi, Alcide de** (1881— ), Italian prime minister, was born on April 3 at Pieve Tesino, Trentino. After studying at the University of Vienna, he became editor of *Il Nuovo Trentino* and later was elected to the Austrian parliament as an Italian minority representative. After the union of his native province with Italy, he was elected deputy to the Italian parliament in 1921. He opposed Mussolini's dictatorship and in 1926 was sentenced to four years' imprisonment for anti-fascist activities. During World War II De Gasperi took part in the resistance movement in Rome and on June 9, 1944, joined the first Ivanoe Bonomi cabinet as minister without portfolio. Minister of foreign affairs of the second Bonomi (Dec. 10, 1944) and Ferruccio Parri (June 19, 1945) cabinets, he was elected leader of the reconstructed Christian Democratic party and on Dec. 9, 1945, became prime minister. On Feb. 11, 1949, the 20th anniversary of the signing of the Lateran treaty between Italy and the papacy, he made his first official call on Pope Pius XII. Following the withdrawal, on Oct. 31, 1949, of the Democratic Socialist ministers, De Gasperi resigned on Jan. 12, 1950, but on Jan. 27 succeeded in forming his sixth cabinet. In an Easter broadcast on April 8, he defended the Italian participation in the North Atlantic treaty; on May 3, in the senate, he demanded an "Italian solution" to the problem of Trieste (*q.v.*). (See also ITALY.)

**Gas Turbine:** see AUTOMOBILE INDUSTRY.

**Gem Stones.** There is no production of precious stones in the United States. There is a small diamond (*q.v.*) deposit near Murfreesboro, Ark., but several attempts to work it failed, the latest of these being in 1949. Sapphires of an industrial grade were mined at several localities in Montana, and some gem stones were found, but the mines had been closed. However, many types of semiprecious and ornamental stones were being produced during 1950, the most important being beryl, tourmaline, Kunzite, turquoise, nephrite jade and the various forms of silica, such as agate, rose quartz, jasper and petrified wood.

The U.S. commercial demand for gem stones is supplied by imports, as follows:

	1948		1949	
	Carats	Values	Carats	Values
Rough diamonds . . .	909,871	\$44,400,481	651,150	\$28,299,799
Cut diamonds . . .	388,499	56,244,934	335,487	41,427,718
Rough emeralds . . .	4,937	28,054	80,231	226,233
Cut emeralds . . .	11,213	286,565	13,723	284,578
Pearls, natural . . .		772,763		532,310
Pearls, cultured . . .		748,302		1,733,698
Marcasites . . .		244,693		178,207
Other varieties . . .		258,553		208,124
Rough . . .		3,160,778		2,045,476
Cut . . .		9,794,908		9,249,488
Imitation . . .				
Total . . .		\$115,940,031		\$84,185,631

Imports declined sharply in 1949, to the lowest point since 1944. The total value of imports during the decade 1940-49 was as follows:

1940 . . . . .	\$37,769,135
1941 . . . . .	33,777,215
1942 . . . . .	28,520,070
1943 . . . . .	72,109,788
1944 . . . . .	77,529,806

1945 . . . . .	\$114,435,231
1946 . . . . .	189,017,646
1947 . . . . .	110,076,029
1948 . . . . .	115,940,031
1949 . . . . .	84,185,631

(See also MINERALOGY.)

(G. A. Ro.)

**Genetics.** The Genetics Society of America sponsored in 1950 a "Golden Jubilee," celebrating the 50th anniversary of the rediscovery of J. G. Mendel's work. A program of 24 addresses by leading geneticists reviewed progress in both theoretical and applied genetics. Evening lectures by R. Goldschmidt on "The Impact of Genetics on Science," by L. H. Snyder on "Old and New Pathways in Human Genetics," and by Julian Huxley on "Genetics and Modern Thought" were of particular interest to the large audiences attending. This meeting was held at Ohio State university, Sept. 11-14, 1950.

At a symposium on the "Origin and Evolution of Man" held at Cold Spring Harbor, N.Y., June 9-17, a number of papers on human genetics were presented. A new book, *Genetics and the Races of Man* by W. C. Boyd, summarized for the first time the growing body of knowledge on human genetics as it relates to anthropology. W. N. Powell, J. G. Rodarte and J. V. Neel described a case of severe anaemia in which the patient had inherited a gene for thalassemia from the mother and a gene for sickle cell anaemia from the father. They suggested three alternative genetic explanations: factor interaction of two independent genes, neither of which has much effect alone; an unusual penetrance of the thalassemia gene in heterozygous condition; or that the two genes actually belong to a multiple allelic series. W. C. Boyd found that the so-called "taste" gene conditioning ability to taste the synthetic substance, phenylthiocarbamide, also conditioned ability to taste a naturally occurring antithyroid drug found in turnips and cabbage. He suggested that this gene may have some selective value in connection with diet and thyroid function.

**Mutation.**—G. Lefevre ran large-scale experiments on the effect of X-rays on *Drosophila* and found no reverse mutations from mutant to wild-type, either in germ cells or somatic cells. He concluded that X-rays produced only loss or rearrangement of chromatin and not changes in the genes or point mutations. R. P. Wagner, C. H. Haddox, R. Fuerst and W. S. Stone found that subjecting the culture medium to ultra-violet irradiation increased mutation rate in the mould, *Neurospora*. It was thought that organic peroxides formed in the medium were the mutagenic agents. W. K. Baker and E. Sgourakis demonstrated that the mutation rate in *Drosophila*, following X-ray treatment in an atmosphere low in oxygen content, was less than when the oxygen content was high. B. McClintock discovered many new mutable genes in corn. She showed that mutations at these loci were conditioned by the transposition of a special type of chromatin, heterochromatin, to a point in the chromosome adjacent to the mutable locus.

**Cytogenetics.**—On the basis of extensive experiments on *Drosophila*, M. Whittinghill concluded that much crossing-over between homologous chromosomes occurred in the gonial stage early in the germ tract. He concluded that variability in cross-over data in different experiments was the result of gonial rather than meiotic exchanges. Whittinghill and C. W. Hinton found that increased cross-over values in young females and in X-rayed females were the result of increase in gonial rather than meiotic cross-overs. B. M. Slizinski demonstrated the multiple-strand nature of chromosomes in the salivary glands of *Drosophila* by subjecting them to X-rays and producing breakage of one or a few chromatids. N. H. Giles and H. P. Riley found an increase in chromosome aberrations in the pollen grains of the plant, *tradescantia*, when X-rayed in an atmos-



phere high in oxygen content, over the amount of aberration when the oxygen content was low.

**Biochemical Genetics.**—J. Lederberg mixed two strains of the bacterium, *Escherichia coli*, one of which was resistant to streptomycin and the other to sodium azide. The two strains differed by 11 other characteristics, which served as genetic markers. He found that genetic crossing-over occurred between the two resistant loci and suggested that such characters might be favourable for the study of sexual and genetic phenomena in other micro-organisms.

**BIBLIOGRAPHY.**—William C. Boyd, *Genetics and the Races of Man* (1950); *Genetics*, vol. 35 (1950); *Proceedings of the National Academy of Sciences*, vol. 36 (1950).

**FILMS OF 1950.**—*Heredity and Pre-Natal Development* (Mc-Graw Hill Book Co., Text-Film Dept.). (W. P. S.)

**Genocide, Convention on:** see INTERNATIONAL LAW.

**Geography.** **International Affairs.**—Geographers of many nations conducted co-operative research programs in 1950. Commissions of the International Geographical union were active during the year, attacking such problems as world distribution and spread of disease, classification and use of lands, world map coverage, utilization of aerial photography for mapping and conservation of soil resources. These commissions planned to meet in Washington, D.C., in 1952 in conjunction with the 17th congress of the International Geographical union. Geographers from all nations of the world would assemble for this congress to hear the reports of the commissions and participate in the excursions and other features of the program.

In Oct. 1950 the Pan-American Institute of Geography and History held its fifth general assembly in Santiago, Chile. The commissions on cartography and geography of the institute met concurrently with the general assembly. Among the programs considered and acted upon were ones relating to the extension of geodetic control nets, establishment of uniform standards for mapping and charting in the American republics, exploration of mineral resources, appraisal of existing facilities for obtaining climatic data, and the training of scientific and technical personnel. Representatives from all the American republics and Canada participated in the general assembly and commission meetings.

The research activities of the Pan-American institute are directed toward the solution of practical problems facing the American republics, and are financed by the governments of the member nations. Preparation of research programs is accomplished through permanent commissions established by the institute. These commissions meet at two-year intervals to formulate programs and co-ordinate research activities. The institute holds a general assembly every four years.

Geographers had taken an active part in the work of the United Nations and the United Nations Educational, Scientific and Cultural organization. In 1950 they participated in programs of the Food and Agriculture organization, World Health organization, World Meteorological organization and several other similar groups sponsored by the United Nations. They also participated in the opening meeting of the Interim International Arid Zone Research council held by U.N.E.S.C.O. in Nov. 1950.

**Geographers in Government.**—At no time since the peak of World War II had there been more geographers in government service than during 1950. This was true in most countries of the world. Many who left federal employment following the termination of hostilities in 1945 had returned to accept important positions in government departments. Frequently these positions were not identified as geographic posts, but the work was

distinctly geographic in nature or required the use of geographic techniques.

War in Korea resulted in the recall of geographers to active military duty. In almost all instances these geographers were assigned to units or special missions which required their specialized knowledge and training. As the nations of the world started to rebuild their fighting forces the demand for geographers increased.

**Geography in Colleges and Universities.**—The colleges and universities of the United States offered very little instruction in geography in 1950. A *New York Times* survey, published Dec. 18, 1950, revealed some very disturbing facts. Fewer than 5% of the college students took even one course in geography in 1950 and only 2.2% of the graduate students were enrolled in geography. According to Benjamin Fine, author of the survey report, geography was almost ignored in colleges and the students' knowledge of the subject was woefully inadequate. Paradoxically the majority of college authorities considered geography essential for intelligent citizenship.

Fortunately the situation revealed by the *New York Times* survey did not hold true throughout the world and the condition in the United States was improving. In 1950 there were 22 graduate departments in the United States offering work leading to the doctor's degree in geography. These departments were well staffed and they conducted the best training program in their histories. The graduates had accepted important positions in government, business and industry and were applying geographic methods and techniques to the solution of problems which faced modern society.

**American Geographical Society.**—On June 1, 1950, George H. T. Kimble became director of the American Geographical society. He followed in office two distinguished geographers, Isaiah Bowman and John K. Wright. Soon after Kimble's appointment the society launched a new publication entitled *Focus*, the first copy of which dealt with Korea and appeared Oct. 15, 1950. *Focus* was to appear monthly (except July and August) to provide background facts and geographical interpretations of specific problems and significant events in the news.

Among the noteworthy contributions of the American Geographical society in 1950 was a three-coloured map showing the distribution of poliomyelitis based upon more than three years of research in medical geography conducted by the society. This was the first in a series of maps on the distribution of disease to be issued by the society. (See also CARTOGRAPHY; EXPLORATION AND DISCOVERY; NATIONAL GEOGRAPHIC SOCIETY; SOCIETIES AND ASSOCIATIONS.) (W. W. AD.)

**Geology.** During 1950 there was a continued demand for well-trained geologists, even though the number of students graduated in geology was the highest in history. The demand was intensified by the search for strategic and fissionable materials by private industry and government agencies.

**General Geology.**—Two textbooks and one teaching manual appeared: *The Principles of Physical Geology* by Victor E. Monnett; *Geology for Engineers* (1949) by Joseph M. Trefethen; and *A Laboratory Manual for Geology*, Part I, "Physical Geology," by Kirtley F. Mather, C. J. Roy and L. R. Thiesmeyer.

**Regional Geology.**—General regional geology of Mexico, China, Indonesia and South America was brought up to date by: *Geología de México* (1949) by Valentin R. Garfias and Theodore C. Chapin; *Geological Map of China* (1949) by the China geological survey; *The Geology of Indonesia* by R. W. van Bemmelen (1949); and *Geologic Map of South America* prepared by George W. Stose in co-operation with the American Geographical society and the U.S. geological survey.



**Historical and Stratigraphic Geology.**—Cretaceous and Cenozoic stratigraphy and correlations were discussed in three papers: "Geology of Atlantic Coastal Plain in New Jersey, Delaware, Maryland and Virginia" by Walter B. Spangler and Jahn J. Peterson, published in the *Bulletin* of the American Association of Petroleum Geologists; "Correlation of the Cretaceous-Tertiary Transition in Saskatchewan and Alberta, Canada" by Loris S. Russell; and "Geology of the Eastern Venezuela Basin" by Hollis D. Hedberg. The latter two papers were published in the *Bulletin* of the Geological Society of America.

**Petrology and Petrography.**—Much of the theoretical knowledge of petrology was brought together by Ernest E. Wahlstrom in *Introduction to Theoretical Igneous Petrology*. By presenting new evidence and data, C. N. Fenner continued the discussion of assimilation of basic rocks by siliceous magma in his *American Journal of Science* paper, "The Chemical Kinetics of the Katmai Eruption."

The second edition of the reference book *Structural Petrology of Deformed Rocks* by Harold W. Fairbairn and Felix Chayes was published.

**Structural Geology.**—Important world-wide structural data became available: "Tectonic Map of Canada" prepared by the Geological Association of Canada, with the support of the Geological Society of America, under chairmanship of Duncan R. Derry; "Geologic-Tectonic Map of the United States of Venezuela" compiled by Walter H. Bucher; "The Structure of Ecuador" by Victor Oppenheim; "Geotectonic Position of New Guinea" by M. F. Glaessner; and "Structural History of the East Indies" by J. H. F. Umbgrove (1949).

**Sedimentation.**—Continued geologic interest in organic reefs in sedimentary rocks was evident in the numerous papers that appeared on that subject. The February *Bulletin* of the American Association of Petroleum Geologists and the July issue of *Journal of Geology* were devoted entirely to articles on reefs and reef formations. Also available was *Bibliography of Organic Reefs, Bioherms, and Biostromes*, edited by W. E. Pugh.

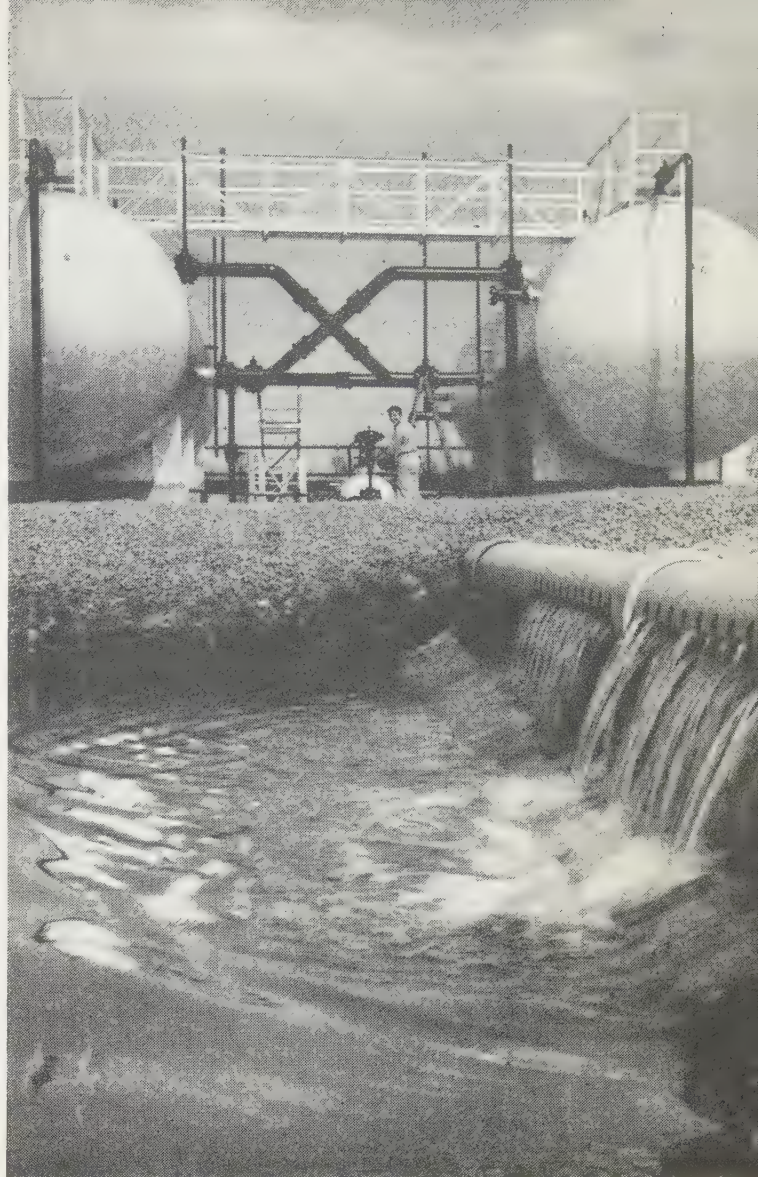
Sedimentation studies were advanced by the publication of the second edition of William H. Twenhofel's text and reference book, *Principles of Sedimentation*; a symposium edited by Parker D. Trask on "Applied Sedimentation"; an "Annotated Bibliography on Sedimentation" compiled under the auspices of the Subcommittee on Sedimentation, Federal Inter-Agency committee; a paper by Joseph M. Trefethen on "Classification of Sediments"; and a paper by P. H. Kuenen and C. I. Migliorini on "Turbidity Currents as a Cause of Graded Bedding."

**Marine Geology.**—*Marine Geology*, a long-needed book by P. H. Kuenen, summarized advances in the new field of marine geology, emphasizing sources, transportation and formation of sediments, oceanography, basins, depressions, reefs, and geomorphology of the sea floor.

**Petroleum Geology.**—Numerous articles on specific areas and problems that appeared principally in the *Bulletin* of the American Association of Petroleum Geologists attested to the continued importance of and interest in petroleum geology. Of major interest was the search for buried reefs as possible petroleum reservoirs, particularly in the plains areas of western Canada and northwestern and southwestern United States.

The comprehensive *World Geography of Petroleum*, edited by Wallace E. Pratt and Dorothy Good, considered all phases of the petroleum industry. H. R. Tainsh in a *Bulletin* of the American Association of Petroleum Geologists wrote on "Tertiary Geology and Principal Oil Fields of Burma." A second, expanded and revised edition of the Colorado School of Mines' quarterly, *Subsurface Geologic Methods*, compiled by L. W. LeRoy was published.

**Mineral Deposits.**—In the field of mineral deposits, con-



OIL RECOVERY PLANT in southern Illinois for driving "trapped" oil out of underground sandstone strata by forcing water through the porous rock and driving the oil to producing wells. The operation was relatively new in Illinois and was expected to reach peak utilization in 1951

tinued studies of wall rock alteration problems was evidenced by two articles in *Economic Geology* by Paul F. Kerr and others. The importance of fissionable materials was pointed out by numerous papers on uranium-bearing minerals and the geology of fissionable minerals, and a "Glossary of Uranium- and Thorium-Bearing Minerals" (U.S. geological survey *Circular* 74) by Judith Weiss Frondel and Michael Fleishcher. Harrison Schmitt, in papers in *Economic Geology*, suggested a reclassification of low-temperature mineral deposits.

Geological Society of America *Memoir* 45 by Edson S. Bastin, on "Interpretation of Ore Textures," an important addition to the study of mineral deposits, offered new interpretations and brought under one cover ideas presented in numerous shorter papers.

Two important text and reference books appeared in revised second editions: Alan M. Bateman's *Economic Mineral Deposits*, and *Industrial Minerals and Rocks* published by the American Institute of Mining and Metallurgical Engineers. The reprinting of the Hoover translation of *De Re Metallica, libri xii*, again made available Georg Agricola's famous treatise on mining and metallurgy of the early 16th century.

**Engineering Geology.**—A. Desio in *Geologia Applicata all'Ingegneria* (1949) explored the border between geology and



engineering. The Geological Society of America published the *Berkey Volume, Application of Geology to Engineering Practice*, a symposium on engineering geology by a number of contributors, honouring C. P. Berkey. A series of papers on engineering geology also was published in *Applied Geology*, the quarterly of the Colorado School of Mines.

**Geochemistry and Biogeochemistry.**—General aspects of geochemistry with detailed discussions of the occurrence of the elements was treated by Kalervo Rankama and T. G. Sahama in their book *Geochemistry*.

Russian contributions to this subject were reviewed by V. P. Sokoloff and H. E. Hawkes, U.S. geological survey, in "Selected Russian Papers on Geochemical Prospecting for Ores." (See also MINERALOGY; PALAEONTOLOGY; SEISMOLOGY.)

FILMS OF 1950.—*Our Changing World* (John Ott Pictures Inc.); *Rocky Mountains—Continental Divide* (Arthur Barr Productions). (T. H. K.)

**George VI** (1895–19 ), king of Great Britain, Ireland and the British dominions, was born at York cottage, Sandringham, Norfolk, Dec. 14. (For his early career see *Encyclopædia Britannica*.) By the Indian Independence act the king ceased from Aug. 15, 1947, to be emperor of India and became king of each of the new dominions of India and Pakistan; a proclamation by the king on June 22, 1948, provided that the words "Emperor of India" should be omitted from the sovereign's title.

On Jan. 26, 1950, India was proclaimed a sovereign independent republic within the Commonwealth of Nations, but in 1949 had declared that it would accept the king "as the symbol of the free association" of the commonwealth countries and "as such head of the commonwealth." A Canadian act of parliament named him king of Canada. Although Ireland had formally declared itself a republic and seceded from the commonwealth on April 18, 1949, there had been no further modification of the king's title by the end of 1950.

On March 7, 1950, the king welcomed the president of France, Vincent Auriol, and Mme. Auriol, who were paying a short state visit to England. It was announced in March that the king and queen would grant their patronage to the 1951 Festival of Britain, and in May the king visited the south bank site of the festival. In April he visited Stratford-on-Avon, saw a rehearsal of *Julius Caesar* and attended a performance of *Henry VIII* at the Memorial theatre.

Twice during the year the king opened parliament in state: on March 6, after the general election, and on Nov. 1. In October he attended the ceremony in Westminster hall marking the opening of the new chamber of the house of commons, and replied to addresses presented by the lord chancellor and the speaker. In late November Queen Juliana and the prince of the Netherlands paid a state visit to England and the king decorated the Dutch queen with the Royal Victorian chain. On Dec. 25 he broadcast a Christmas message to the peoples of the commonwealth.

**Georgia.** Georgia, the fourth state to enter the union, ratified the constitution on Jan. 2, 1788. It is located in the south Atlantic region, has an area of 58,876 sq.mi. and is popularly called the "empire state of the south." Its population by the official 1950 census was 3,444,578, an increase of 10.3% over the 1940 census of 3,123,723. Leading cities and their populations in 1950 (as shown by preliminary census reports) were: Atlanta, the capital, 327,090; Savannah, 119,689; Columbus, 79,510; Augusta, 71,507; and Macon, 70,106.

**History.**—In a brief session of the general assembly extending from Jan. 16 to Feb. 13, 1950, the voter's registration act of 1949 was suspended until 1952 in order to give county registrars time

to check the qualifications of persons desiring to vote and to register those found qualified; a system of juvenile courts, consisting of 23 districts, was established; the residence period for obtaining divorces was reduced from one year to six months; state executive committees of political parties were given power to fix the date for holding their primary elections.

In March, the federal court of appeals ruled against a suit to have the Georgia county unit system declared unconstitutional. The federal court of appeals held that it was the duty of the general assembly and not of the courts to correct any inequities which might exist under the system.

In the Democratic primary held on June 28, all the county unit votes were divided between Governor Herman Talmadge (295) and former Acting-Governor M. E. Thompson (115). The popular vote was as follows: Herman Talmadge, 287,637; M. E. Thompson, 279,137; C. O. Baker, 10,250; Pat Avery, 3,050; Mrs. J. W. Jenkins, 2,963.

In the other contests for state offices, all incumbents were re-nominated; and United States Senator Walter F. George defeated his opponent by taking every unit vote in the state. The nominees of the Democratic party were unopposed on the general election ballot (Nov. 7) and were re-elected with only a few "write-in" votes being cast against them. However, a proposal (vigorously sponsored by Governor Talmadge) to extend the county unit system to the general election by amending the state constitution was defeated with 134,290 votes for it and 164,337 against it.

At the end of the year the principal state officials were: governor, Herman E. Talmadge; lieutenant governor, S. Marvin Griffin; chief justice of the supreme court, W. H. Duckworth; secretary of state, Ben W. Fortson, Jr.; treasurer, George B. Hamilton; attorney general, Eugene Cook; auditor, B. E. Thrasher, Jr.; comptroller general, Zach D. Cravey; commissioner of labour, Ben T. Huie; commissioner of agriculture, Tom Linder; superintendent of schools, M. D. Collins; chancellor of the university system, Harmon W. Caldwell.

**Education.**—During the school year which ended June 30, 1950, there were in Georgia, 2,540 elementary schools (859 for white children and 1,681 for Negroes) with an enrolment of 603,776 pupils (385,624 white children and 218,152 Negroes) and 16,476 teachers (10,865 white and 5,611 Negro). There were 1,364 high schools (735 for white children and 629 for Negroes) with an enrolment of 166,185 pupils (126,731 white children and 39,454 Negroes) and a teaching staff of 6,904 (5,339 white and 1,565 Negro). State expenditures for public education during the year amounted to \$49,707,807.

In 1950 during the fall quarter, 23,406 students were enrolled in the 15 units of the state's university system including 2,072 Negro students in the three Negro colleges and 996 students who were taking work in off-campus centres. The university systems' total operating budget for the fiscal year amounted to \$22,415,781.55, of which approximately \$7,000,000 went for plant, auxiliary, and noneducational enterprises.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Public assistance payments during the fiscal year ending June 30, 1950, amounted to \$33,709,923, an increase of approximately 27½% over the previous year. Old age assistance amounted to \$25,998,779.00; aid to the blind, \$836,915.00; aid to dependent children \$6,874,229.00. In Nov. 1950, a total of 102,178 persons received old-age grants with an average allowance of \$23.75; 2,801 blind persons received benefits averaging \$28.25; and 43,225 dependent children received benefits averaging \$18.31.

In Nov. 1950, there were approximately 8,200 beneficiaries for unemployment insurance under the Georgia program. The average payment per week of total unemployment was \$14.85. Also in November, 130 veterans were drawing \$20.00 per week of total unemployment under provisions of the G.I. Bill.

As of June 30, 1950, there were 6,514 prisoners in the various state and county institutions under the control of the state board of corrections. Budget allotments to this board for the fiscal year were \$1,008,780.81.

**Communications.**—According to the state highway department, the road mileage in Georgia as of June 30, 1950 was as follows: total of state, county, and city systems, 95,950 mi.; state roads, 15,202 (10,317 mi. paved and 4,885 mi. unpaved); county roads, 77,138 (3,149 mi. paved and 73,989 unpaved); urban streets, 3,610 mi. For the fiscal year ending June 30, 1950, total receipts of the highway department were \$43,564,063.88 from the following sources: state treasury, \$30,348,501.90; federal government, \$12,303,064.55; miscellaneous, \$102,497.43.

On Dec. 31, 1949 there were 6,086 mi. of main-line railroad track in Georgia. On Nov. 1, 1950, the Bell Telephone company reported 517,126 telephones in service in Georgia. According to the Georgia Public Service commission, there were 57,172 telephones being serviced by other telephone companies in Georgia on Dec. 31, 1949.



**Banking and Finance.**—On June 30, 1950, there were in Georgia 291 state banks with total assets of \$740,434,228.37 and deposits of \$665,048,079.22. On the same date, there were 51 national banks in Georgia with total assets of \$970,857,000 and total deposits of \$904,834,000.

There were 70 savings and loan, or building and loan, associations operating in Georgia in Oct. 1950. Total assets of these associations were \$250,000,000 as compared with \$225,000,000 in Oct. 1949.

For the fiscal year ending June 30, 1950, the total state receipts were \$125,361,475.02, the largest to date. Budget allotments for the fiscal year ending June 1950 were \$127,210,245.22. On June 30, 1950, the state treasury had a net surplus of \$4,305,213.96.

**Agriculture.**—In Dec. 1950, the United States department of agriculture estimated the value of field crops produced in Georgia during 1950 at \$418,000,000, an increase of 12% over 1949. The value of commercial truck crops was \$11,367,000.

Table I.—Leading Agricultural Products of Georgia

Crop	1950	1949	Average 1939–48
Cotton, bales . . . . .	495,000	604,000	769,000
Cottonseed, tons . . . . .	199,000	252,000	310,000
Corn, bu. . . . .	57,172,000	59,400,000	44,857,000
Peanuts, lb. . . . .	691,200,000	612,000,000	666,233,000
Tobacco, lb. . . . .	101,545,000	115,670,000	88,728,000
Potatoes (sweet), bu. . . . .	5,850,000	6,030,000	6,723,000
Hay, tons . . . . .	604,000	683,000	750,000
Oats, bu. . . . .	16,119,000	14,775,000	13,502,000
Velvet beans, tons . . . . .	274,000	221,000	392,000
Peaches, bu. . . . .	975,000	2,040,000	5,044,000
Wheat, bu. . . . .	1,900,000	2,280,000	2,419,000
Pecans, lb. . . . .	35,750,000	18,000,000	28,228,000
Sugarcane syrup, gal. . . . .	2,800,000	3,150,000	3,932,000
Potatoes, Irish, bu. . . . .	1,248,000	1,296,000	1,541,000
Lespedeza (seed), lb. . . . .	9,700,000	19,100,000	8,100,000
Cowpeas, bu. . . . .	380,000	420,000	711,000
Sorghum syrup, gal. . . . .	672,000	590,000	969,000

**Manufacturing.**—According to the *Census of Manufactures 1947*, the latest made by the bureau of the census, 249,926 persons were employed in Georgia's 4,754 manufacturing establishments. These persons received \$484,246,000 in wages and salaries, and a total of \$1,015,999,000 in value was added by manufacture.

Table II.—Major Industry Groups in Georgia: 1947

Industry	Number of employees	Salaries and wages	Value added by manufacture
Textile . . . . .	102,535	\$205,061,000	\$398,023,000
Food . . . . .	26,774	53,676,000	133,448,000
Lumber (exclusive of furniture) . . . . .	33,979	44,559,000	88,466,000
Apparel . . . . .	25,009	40,477,000	76,084,000
Chemical . . . . .	11,119	24,088,000	77,043,000
Paper . . . . .	7,319	19,226,000	54,207,000

In Oct. 1950 an estimated 817,100 workers were engaged in nonagricultural employment in Georgia. This was approximately 52,700 more than the total for Oct. 1949.

**Minerals.**—The mineral production of Georgia (exclusive of crushed marble, cement, slate, bauxite and heavy clay products) was valued at \$27,755,606 in 1949.

Table III.—Leading Mineral Products of Georgia

Minerals	Quantity in 1949	Value in 1949	Value in 1948
Clay, short tons . . . . .	2,058,287	\$16,764,668	\$15,472,110
Stone, short tons . . . . .	4,156,220	8,427,627	10,801,355
Sand and gravel, short tons . . . . .	984,488	757,680	719,771
Iron ore, long tons . . . . .	228,689	692,649	746,818
Talc, short tons . . . . .	49,338	580,405	624,694
Barite, short tons . . . . .	50,267	465,325	654,959
Lime, short tons . . . . .	7,028	67,252	—

(J. F. A.)

**Georgia Warm Springs Foundation:** see SOCIETIES AND ASSOCIATIONS.

**German Literature.** Before the desperate situation of Germany between east and west was again brought into the foreground by the mounting international tension in the fall of 1950, the German reader in the western parts of the country was mainly attracted to books concerned with the immediate past, or with those which probed into the bases of civilized life or into the means of its reconstruction.

The theatre was thriving; plays performed by excellent actors in private houses but for the general public, the so-called *Zimmertheater*, had a popular appeal. Carl Zuckmayer's *Der Gesang im Feuerofen* was the outstanding drama of the year. The flood of lyrical attempts, by which minor talents sought to regain composure in the years after World War II, had ebbed. A new volume of Marie Luise von Kaschnitz, *Zukunftsmusik*, and Ernst Wil-

helm Eschmann's *Tessiner Sonette* testified to a genuine flow of verse and tone; Karl Wolfskehl's posthumously published *Hiob* was the legacy of a universal mind deeply rooted in the literary and philosophic realm of the beginning of the 20th century; Gottfried Benn's collection of poems, *Trunkene Flut*, augmented by some later pieces of lyrical strength and wisdom, and his *Statische Gedichte* arose from the search for a bridge over the abyss between a present which must be faced with relentless honesty and a creative mental solitude.

Because of this power of stating straightforwardly the incongruous situation of modern man, Benn's autobiographical sketches, *Doppelleben*, came to be a representative interpretation, the more so since he did not shy away from a penetrating account of his years under the nazi regime. It was such a reporting of experience, rather than the novel, which served as a medium for finding new bases of judgment and action. Adolf Heusinger revealed the paradoxical and confused situation at general headquarters during World War II in his book of conversations, *Befehl im Widerstreit*. Ernst von Weizsaecker's memoirs, *Erinnerungen*, gave an insight into the life and decisions of a high bureaucrat of noble intentions who, although increasingly deprived of influence, tried to stem the disaster. Juergen Thorwald wrote, on the basis of eye-witness reports from all levels of society, the story of the catastrophic flight of millions from the eastern provinces in 1945, *Es begann an der Weichsel* and *Das Ende an der Elbe*. The dramatist Max Frisch published a diary, *Tagebuch 1946–1949*, which was a reflection of the European experience of these years, including the German part in it, seen through the critical and thoughtful eyes of a Swiss. A selection of personal reports by German youths, *Jugend unterm Schicksal*, was an introduction into the spiritual reaction of boys and girls to war, catastrophe and postwar confusion, and indicated the inner resources still available to this young generation.

One of these autobiographical writings, however, was a work of art in its own right: the book of the classical archaeologist Ludwig Curtius, *Deutsche und Antike Welt*. The wealth of German literary, scholarly and musical culture was here presented by means of the portrayal of the leading personalities in the years prior to World War I. The political conflicts preceding and following that war, and the ensuing decades of despair were presented by the urbane mind of a humanist faithful to his small Suevian origins and capable of preserving a realm of beauty and inward happiness.

Whereas Curtius' book struck a note which was familiar in a happier and better past, most of the scholarly literature faced the contemporary crisis without hesitation and without undue hope. The Viennese school of historians produced Otto Brunner's *Adeliges Landleben und Europaeischer Geist*, a vivid interpretation of the cultural function of feudalism and its decay; and Friedrich Heer's *Aufgang Europas*, which was a re-examination of the relations between religious ideas and politics in the 12th century. In his *Gespraech der Feinde*, Heer emphasized the importance of his historical work by delineating the role of occidental Christianity in the east-west conflict which followed World War II. Alfred Mueller-Armack's *Diagnose unserer Gegenwart* was a pertinent analysis of the times on the basis of European sociology.

In philosophical thought, the religious and existentialist ways of approach were foremost. The inspiring influence of Martin Heidegger was attested to by two dedicatory volumes, one of which, *Anteile*, contained among other things an outstanding interpretation of myth by the classicist Walter F. Otto, and an essay by Ernst Juenger which tried to define the position of the creative mind in the modern age and thus came close to a commentary on his *Heliopolis*. The Catholic Romano Guardini in his *Welt und Person* sought a Christian answer to the existen-



tialist problem of man. Contemporary Protestant thought was analyzed and clarified in *Kerygma und Mythos*, edited by H. W. Bartsch, which was a disputation among leading theologians.

(AR. B.)

**Germany.** A country of central Europe, Germany is bounded north by the North sea, Denmark and the Baltic sea, east by Poland, south by Czechoslovakia, Austria and Switzerland, and west by France, Luxembourg, Belgium and the Netherlands. According to a declaration signed in Berlin on June 5, 1945, the country was under the supreme authority of the four Allied powers—the United States, Great Britain, the U.S.S.R. and France—and divided into the four following zones together with Berlin (*q.v.*):

Zones	Area (sq. mi.)	Population	
		(May 17, 1939, census)	(Oct. 29, 1946, census)
British . . . . .	37,723	19,785,500	22,344,900
United States . . . . .	41,506	14,257,600	17,174,400
French . . . . .	15,405*	6,088,900	5,004,000*
Soviet . . . . .	41,623	15,157,100	17,332,900
Berlin . . . . .	344	4,321,500	3,179,200
Total . . . . .	136,601†	59,610,600	65,035,400‡

\*Excluding the Saar (area 734 sq.mi.; pop. 874,400).

†Including some small German frontier areas which, as agreed upon under the six-power agreement of March 26, 1949, were taken over by Belgium, Luxembourg, the Netherlands and the Saar respectively (total area, 52.1 sq.mi.; total pop., c. 13,500).

‡1949 est., including the Saar, 69,382,000.

Before the *Anschluss* of Austria the area of Germany was 181,742 sq.mi. with a population (1939 census) of 69,317,000. By 1946 the British, soviet and U.S. zones contained larger populations than in 1939; the zonal increases were: British zone 12.9%, soviet 14.4%, U.S. 20.5%. The additional inhabitants were mainly Germans evacuated or transferred from Poland and Czechoslovakia. Only the population of the French zone was less (3.5%) than in 1938. Language (1946 est.): German with small admixtures of Lusatian (260,000 in Kottbus-Bautzen area), Polish (150,000, mainly in Westphalia) and Danish (17,000). Religion (1938 est.): Protestant 62.7%; Roman Catholic 32.5%; Jewish 0.7%; others 4.1%. Chief cities (first figure, 1939 census; second figure 1946 census): Berlin (4,332,242; 3,179,200); Hamburg (1,711,877; 1,406,158); Munich (829,318; 738,018); Cologne (772,221; 489,812); Leipzig (707,365; 608,111); Essen (666,743; 520,592); Dresden (630,216; 463,032); Frankfurt-on-Main (553,464; 389,097); Düsseldorf (541,410; 421,506); Dortmund (542,261; 436,198); Hanover (470,950; 347,040).

During the year 1950 Germany remained partitioned into two states with a special provisional regime for Berlin.

**Western Germany.**—Area, 94,634 sq.mi. Pop. (Sept. 13, 1950, census): 47,557,926 (including 25,259,619 women) which indicated an increase of 3,034,626 since Oct. 29, 1946. Capital: Bonn (pop., Dec. 1949 est., 110,000). President of the German Federal Republic: Theodor Heuss; federal chancellor: Konrad Adenauer (*q.v.*). Allied high commissioners: British, Sir Ivone Kirkpatrick; French, André François-Poncet; U.S., John J. McCloy (*q.v.*). Allied commanders in chief in western Germany: British, Lieut. Gen. Sir Charles F. Keightley; U.S., Lieut. Gen. Clarence R. Huebner; French, Gen. A. Guillaume.

**Eastern Germany.**—President of the German Democratic Republic: Wilhelm Pieck; prime minister: Otto Grotewohl. Soviet Control commission: Gen. Vasili Ivanovitch Chuikov, chairman; Ivan Fedorovich Semichastnov, deputy chairman; Vladimir Semenovitch Semenov, political adviser.

**History.**—The western German Federal Republic and the eastern German Democratic Republic went their several ways during 1950. The former followed western democratic lines while the latter became much more closely bound to the soviet system. The Federal Republic had not yet obtained complete sovereignty but was rapidly developing toward that goal. This advance was registered in the conference of the three western foreign min-

isters in New York (Sept. 12-19). There it was decided: (1) to end by legislation the state of war with Germany; (2) to reinforce the Allied troops in Germany and to treat any attack against the federal republic or on Berlin from any quarter as an attack on themselves; (3) to help in creating mobile police formations in western German *Länder* (states); (4) to empower the federal government to set up a ministry of foreign affairs, and to enter into diplomatic relations with foreign countries "in all suitable cases"; (5) to revise the Occupation statute and the occupation laws of Berlin and to relax Allied controls particularly in internal economic affairs; and (6) to revise agreement on prohibited and restricted industries and in the meantime to allow cargo ships of any size to be built for export, and the steel limit of 11,100,000 tons annually to be exceeded where this would facilitate the defense of the west. Before agreement on the revision of the Occupation statute was reached, Chancellor Adenauer proposed that a security pact would be the proper basis for that *Gleichberechtigung* (equal rights) which was an essential basis for German participation in the defense of western Europe. The Allied High commission decided to refer the matter to their governments. Allied conditions for a revision of the Occupation statute, namely, recognition of former German debts and agreement by the federal republic to a sharing of raw materials essential for defense, had yet to be approved by the western German parliament.

Apart from French objections to German rearmament, Germans themselves were strongly divided on this issue. Kurt Schumacher, Social Democratic leader, held that before an agreement on rearmament new federal elections should be held, and sufficient Allied forces should be maintained in western Germany in order that the country did not become "the first victim of a war between east and west." (In *Landtag* elections held during November in Hesse and Württemberg-Baden, and in Bavaria, Socialists fought mainly on this issue of rearmament and made great gains.) Some Allied reinforcements arrived in western Berlin and western Germany. On Nov. 24 the U.S. 7th army was reactivated as the foundation of the new U.S. strength in western Germany, with headquarters at Stuttgart.

The federal republic became a free and equal partner in many international organizations, notably in the consultative assembly of the Council of Europe at Strasbourg, where on Aug. 7 its 18 members (and 3 of the Saar) attended the session. The German request for an observer on the committee of ministers was, however, refused. The federal republic had consular representatives in many world centres. It was co-operating in the Schuman plan and in the World Tariff conference at Torquay, Eng. The federal republic was displeased that the Saar (*q.v.*) should have been invited to Strasbourg simultaneously with itself. German suspicions about France's intentions were not allayed by Robert Schuman's visit to Bonn even though he confirmed that the status of the Saar would be finally settled only in a peace treaty.

The political unification of all Germany again became topical through the soviet invitation to the U.S., Great Britain and France to join a four power conference on this subject based on the resolutions of the Prague conference of the foreign ministers of the U.S.S.R. and its European satellites (Oct. 21-22). These conditions were in marked contrast with those which the high commissioners of the three western powers laid down on May 26 in their three identical letters sent to Gen. V. I. Chuikov stressing western democratic conceptions of individual freedom and independent justice.

The German democratic government meanwhile concluded its own arrangement with Poland regarding Germany's eastern frontier. The Oder-Neisse line was accepted as the final "peace frontier" between these countries. John J. McCloy, the U.S. high commissioner, declared on the same day that Germany's frontiers





Above, left: BRITISH TROOPS occupying the former Hermann Goering steelworks near Brunswick, Ger., after local demonstrations against the dismantling program in March 1950



Above, right: RAINER HILDEBRANDT (right) interviewing two former prisoners of a Russian prison camp in Germany. Under the slogan "silence is suicide," Hildebrandt made effective use of press and radio in 1950 to present Germans with evidence amassed on oppressive features of the soviet system

Right: GERMANS STANDING to sing "Deutschland über Alles," at the invitation of Konrad Adenauer, chancellor of west Germany, who spoke in the U.S. sector of Berlin, April 18, 1950. The anthem was never officially sanctioned after the fall of Hitler and Allied officials remained seated



Below: EAST GERMAN POLICE with their trained dogs on parade in the soviet sector of Berlin on May day, 1950. Allied powers protested the military character of the police units as violating soviet post-World War II pledges





could be fixed only in a general peace treaty. The Bonn government repudiated the Warsaw agreement.

During the year the eastern German government sent ambassadors to all European and Asiatic soviet satellites. On July 22 it complained that U.S. aircraft were scattering Colorado beetles throughout eastern Germany. Walter Ulbricht, one of the deputy premiers and the most powerful leader in the eastern republic announced on July 25 that a seagoing navy of 25 ships would be built between 1952 and 1955; also that, by agreement with Poland, eastern Germany would have the use of the harbour of Szczecin (Stettin) until "a democratic Germany had at its disposal the ports of Hamburg and Lübeck." (See also REPARATIONS.)

*German Federal Republic.*—A number of formerly important issues between the Allies and the German government faded into the background during 1950. Dismantling was practically over. Disturbances marking the high point in German obstructionism occurred on March 6 at Watenstedt-Salzgitter, in Lower Saxony. Germans were faced with the problem of planning new industry there. Steel production, fixed by the Allies at a maximum of 11,100,000 tons a year, reached that level in February, according to Ludwig Erhard, the federal minister of economics. Meanwhile the above-mentioned New York agreement allowed this limit to be raised under certain conditions. Steel production capacity was estimated at 14,500,000 to 15,000,000 tons and home needs, according to German experts, at 13,500,000 tons.

Decartellization continued. The Allied High commission directive of Sept. 22 ordered six of the largest iron and steel firms in the Ruhr to be liquidated as of Sept. 30. Negotiations regarding German proposals for the decentralization of the I.G. Farben (dye trust) were not completed.

On May 8 the Allied High commission promulgated a law for the prevention of German rearmament to be effective from June 7. In September, however, the Allies sanctioned the creation of a mobile German police force, 30,000 strong, to deal especially with Communist sabotage and agitation. By the end of the year, however, the federal republic had agreed only to a force of 10,000 following long-drawn-out negotiations between the federal government and the *Länder*, in which costs and the question of competence between the central and provincial authorities played a great part.

The federal parliament continued to be led by the coalition government with Adenauer as chancellor. The only change in the cabinet came with the resignation, on Oct. 9, of Gustav Heinemann, federal minister of the interior. This followed differences with the chancellor regarding the latter's handling of the memorandum on rearmament to the High commission (Aug. 29). Robert Lehr, another Christian Democrat, was Heinemann's successor. The federal parliament, though differing considerably on social and economic issues, was united on foreign matters insofar as they concerned German demands for equal rights and the consequent abolition of the Allied control, especially in internal affairs.

Great economic progress was made during the year. From Sept. 1949 to Sept. 1950 exports increased by 33% and 25 trade agreements were signed, 11 of them with Economic Recovery program (E.R.P.) countries. Unemployment, which in February was 2,000,000, was reduced by November to 1,277,912. In the government's building program 210,000 dwellings were completed by Sept. 30 and more than 1,400 bridges were repaired. There were 2,000,000 more Germans employed in 1950 than in 1938. Coal production steadily increased: record day output (Oct. 23) was 374,000 tons.

It was estimated that during the fiscal year 1950-51 western Germany could export more than \$2,000,000,000 worth of goods. In the July-September quarter, the republic's only favourable



"THE CHANGE," a 1950 cartoon by Loring of the *Providence Evening Bulletin*

trade balance was with countries behind the "iron curtain," exports to eastern Europe amounting to \$31,300,000 and imports from that area to \$30,700,000. The east-west agreement (Feb. 25) which was interrupted for some time because of differences over accounts and an alleged "creeping blockade" by eastern Germany, was expected, by the end of the year, to be shortly resumed.

A crisis arose in the dollar situation early in November. Western Germany had used up in three and one-half months credits allotted by the European Payments union for the whole year; at the end of September western Germany's deficit was \$175,000,000 and all credit was spent. A special credit of \$120,000,000 was made available to meet its indebtedness to E.R.P. accounts and to adjust its balance of payments generally. This situation, according to a White Book published by the German minister for E.R.P. (Nov. 24), was the result of three causes: the unexpected upswing in German economy, the price changes on the world markets and the movement of imports of dollar countries to other currency areas.

The federal budget for 1950-51 totalled 13,013,600,000 deutschemark, and provided for continuation of food subsidies which should have ended by July 1. Two outstanding items in the budget were occupation costs (4,598,400,000 DM., or 36% of the total) and social services costs.

An important issue which remained unsettled and affected both politics and industry concerned the relations between the employers and the trade unions. This was the *Mitbestimmungsrecht* (the right of participation in the control of industry). It was discussed at a joint conference of the employers' associations and the trade unions at Hattenheim, near Frankfurt, in the spring. No agreement was reached. Differences on wage claims alienated employers and employees still more. At the trade union congress in September the employers were attacked as being incapable of creating a new social order in industry. A draft law on *Mitbestimmungsrecht* had been before the federal parliament for several months. It was, however, shelved because the government coalition parties were themselves divided on this matter.

A meeting at Darmstadt (Oct. 30) between representatives of the Social Democratic party and those of the Bekenntniskirche, which was a powerful section of the Evangelical Protestant Church, seriously raised for many Protestants the problem of the attitude of their church toward political parties. This meeting, in which Kurt Schumacher and Martin Niemöller, bishop of Hesse, were the principal participants, revealed common agreement especially against the rearmament of Germany under existing conditions. Bishop Niemöller's political utterances were the main subject of discussion at a special session of the Evangelical



Church council in western Berlin (Nov. 17). A communiqué published afterward recommended that church officers should follow a policy of restraint in dealing with political matters.

**German Democratic Republic.**—The final change from soviet military occupation to civilian rule came on June 7, when Maj. Gen. A. G. Kotikov, commandant of the soviet sector in Berlin and the military governors of Brandenburg, Saxony and Thuringia were recalled to Moscow. But after the establishment of this republic (Oct. 11, 1949) political and economic developments were considerably speeded up to change it into a *Volksdemokratie*, a form of dictatorship of the proletariat with the S.E.D. (Sozialistische Einheitspartei or Socialist Unity party) as its dominant force. With the introduction of the bloc policy the S.E.D. rendered innocuous the only two bourgeois parties, the Christian Democratic union and the Liberal Democrats. Between Jan. 24 and Feb. 7 more than 150 members of these two parties (including three provincial ministers) fled to western Berlin. Between Dec. 1, 1949, and May 31, 1950, more than 117,000 refugees from eastern Germany sought asylum in the west.

The political purges removed all open opposition to the S.E.D. so that the elections of Oct. 15 showed a 99.4% vote (open, not secret ballot) for government candidates. Superficial uniformity was made all the easier through the activities of a new security police under the control of Wilhelm Zaisser, who had served in the International brigade in the Spanish civil war and was later trained in Moscow. The special task of this new organization was to fight "saboteurs and spies." It worked in close co-operation with the *Volkspolizei* which in April was estimated to be 150,000 strong (30,000 administrative police, 20,000 engaged in ordinary police duties, those in the 150 training schools for police officers and 50,000 alert troops or *Bereitschaften* in battalion strength of about 2,000 each). They lived in barracks, had soviet arms and were manned mainly by former army officers, who would later be replaced from the ranks of the F.D.J. (Freie Deutsche Jugend or Free German Youth). On May 23 the western powers, through their ambassadors in Moscow, protested to the soviet government against this violation of the Potsdam agreement of Aug. 2, 1945.

To insure reliability within the ranks of the S.E.D. long-standing Communists who had been in exile in the west during the Hitler regime were removed from public life because they were assumed to be tainted with "Titoism." The appointment of Ulbricht as secretary-general of the S.E.D. (July 25) made this trusted servant of the U.S.S.R. the chief influence in eastern Germany and gave a clear indication of the extreme line of policy to be followed. Whereas the S.E.D. dictated policy at home, the so-called national front was used as a cover for all appeals to supporters of a united Germany—but along Communist lines. In the first congress of this organization held in eastern Berlin (Aug. 25) Pieck presented a 12-point program of "national resistance" against western Germany. This included the usual Communist demands for the abolition of the Occupation and Ruhr statutes, of armaments production and dismantling in western Germany.

The new government, formed on Nov. 15 as the result of the election one month previously, retained Grotewohl as prime minister. In his statement of policy, he reaffirmed the government's close ties with the U.S.S.R. and its support for the Prague proposals as a basis for a unified Germany. He announced a purge of the S.E.D. and added that all members must undergo a political test to prove their devotion to the party; further, that no new members would be admitted until June 30, 1951.

Much enthusiasm was shown at the third S.E.D. congress (July 20–24) at the announcement of the success of the four-year production plan. But it was impossible to test the accuracy of these claims since no reliable statistics were available. An out-

standing feature of economic development was the extension of the number of nationalized industries and the corresponding disappearance of private enterprises, despite the protection guaranteed to them in the constitution (article 22). Of 115 soviet limited liability companies (Sowjet Aktion-Gesellschaften, S.A.G.), 19 were handed back to the Germans, among them the famous Meissen china factory. But the majority, including fuel and chemical plants, were still in soviet hands. Of 2,000,000 workers in eastern Germany, 300,000 worked in S.A.G., 950,000 in German nationalized industries and only 750,000 in private business. Only 25% of production remained in the republic, the rest went to the U.S.S.R. After dismantling, only 10% of the former industrial plants remained.

Despite constitutional guarantees of freedom of worship, a sharp fight against organized religion continued, especially for the control of youth. On April 25 Bishop Otto Dibelius, of the Lutheran Church, protested to Grotewohl against the compulsory membership of the S.E.D. and the Free German Youth, and against the attacks on religion in the state schools. But Grotewohl's speech at the S.E.D. congress showed that the Communists had no intention of abandoning their opposition. The sect of the Jehovah's Witnesses was banned, its funds confiscated and many of its leaders sentenced to long terms of imprisonment for alleged espionage. Communist efforts to establish a *Volkskirche* met with poor results: only 100 out of 6,000 pastors in the republic openly supported the idea. In the cultural field much stricter supervision of publications, especially of books published in the west, was evident. Many university professors and higher school teachers were dismissed or escaped to the west while those remaining were continuously attacked for failure to support the regime and "pure Lenin-Stalin Marxism."

Germans arrested by the Russians between the end of hostilities in 1945 and Jan. 1950 were estimated at 185,000, according to a statement (Oct. 21) by Rainer Hildebrandt, head of the Group for Fighting against Inhumanity. Of these, 37,000 were sent to Siberia, 96,000 perished in camps and 12,721 were released. Concentration camps still existed at Bautzen and Waldheim in Saxony; there was also a special prison in Brandenburg. (See also EUROPEAN UNION; NORTH ATLANTIC COMMUNITY; PRISONERS OF WAR; REFUGEES; UNION OF SOVIET SOCIALIST REPUBLICS.)

(J. E. Wt.)

**Education.**—*Western Germany.*—Schools (May 1948): elementary 28,865, pupils 6,254,333, teachers 110,401; higher elementary (bizeone only) 620, pupils 175,946, teachers 5,845; secondary 1,429, pupils 600,235, teachers 26,934; universities 16, students 71,672, professors and lecturers 3,377.

*Eastern Germany.*—Universities 5, students (1948) 12,269, teaching staff 671. In addition there was the University of Berlin with, in 1948, 5,634 students and 157 professors and lecturers.

**Finance and Banking.**—*Western Germany.*—Budget (1950–51 est.): balanced at 13,013,600,000 deutschemark, including occupation costs of 4,598,400,000 DM. National income (1949): 64,500,000,000 DM. Bank deposits (Sept. 1950): 20,565,000,000 DM. Currency circulation (Sept. 1950): 7,923,000,000 DM. Monetary unit: deutschemark, created by the currency reform of June 20, 1948. Official exchange rate (Dec. 1950): U.S. \$1=4.20 DM.; "free" exchange rate (Frankfurt, Dec. 1950): U.S. \$1=5.30 DM.

*Eastern Germany.*—Budget (1950 est.): balanced at 13,500,000,000 ostmark, including occupation costs estimated at 6,100,000,000 OM. Currency circulation (Dec. 1949): 4,145,000,000 OM. Although theoretically at par with the western mark, the free exchange rate in Berlin was (Dec. 1950) 1 DM.=5.60 OM.

**Foreign Trade.**—Western German exports in 1950 almost doubled in value in comparison with 1949. As imports increased by a quarter, the trade balance remained adverse, although considerably reduced. Imports (1950) 9,790,000,000 DM., exports (1950) 7,579,000,000 DM.

**Transport and Communications.**—Railways (1949, approximately): western Germany 32,468 km., eastern Germany 14,432 km. Railway traffic (western Germany, monthly averages, 1949): passenger-kilometres 2,530,000,000; ton-kilometres 3,988,000,000; goods transported 18,102,000 metric tons. Roads (1949): western Germany 128,000 km., eastern Germany 54,900 km. Licensed motor vehicles (western Germany, Nov. 1948): cars 278,396, commercial 401,109. Cargo in western German ports in external trade (monthly averages, 1949): loaded 442,000 metric tons, unloaded 1,293,000 metric tons. Telephones (western Germany, Jan. 1949, including public call boxes): 1,974,036.

**Agriculture.**—*Western Germany without the Saar.*—Main crops (metric



tons, 1950): wheat 2,614,000; rye 3,021,000; barley 1,473,000; oats 2,545,000; potatoes (1949) 20,875,000. Livestock (1949, includes the Saar): cattle 10,846,000; pigs 9,679,000; sheep 2,012,000; goats 1,444,000; horses 1,624,000; poultry 44,067,000. Food production (metric tons, 1950 est.): meat 1,100,000; butter 250,000; cheese 160,000; sugar, raw value (1949) 614,000; milk (1950) 133,000,000 hl.

**Eastern Germany.**—Main crops (metric tons, 1950): wheat 815,000; rye (includes mixed grains) 2,130,000; barley 515,000; oats 1,140,000; potatoes (1949) 8,499,000. Livestock (1948): cattle 2,879,000; pigs 2,616,000; goats 1,398,000; horses 665,000; poultry 15,764,000. Food production: milk (1948) 20,250,000 hl.; butter (1949) 64,000 metric tons; sugar, raw value (1949) 555,000 metric tons.

**Industry.**—**Western Germany.**—The index of industrial production reached 129 in Nov. 1950 (1936=100) compared with 88 in 1949. In November there were 1,316,000 people unemployed. Chief items of production (metric tons, 1950): coal 108,654,000; crude oil 1,081,000; electricity 40,800,000,000 kw.hr.; gas 8,868,000,000 cu.m.; pig iron 9,473,000; steel 12,121,000; cement 11,193,000; cotton yarn 269,000; wool yarn 80,000; synthetic fibres 156,000. Motor cars produced (1950) 208,000; trucks 80,000.

**Eastern Germany.**—Eastern Germany was producing about 3,000,000 metric tons of coal and 600,000 tons of steel yearly; it also produced more than 100,000,000 tons of lignite.

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**G. I. Bill of Rights:** see VETERANS' ADMINISTRATION (U.S.).

**Gibraltar.** A British fortress colony, Gibraltar is situated on a narrow peninsula covering the western outlet of the Mediterranean sea. Area: 2.12 sq.mi. Pop. (mid-1950 est., excluding members of the armed services): 25,000. Governor: Lieut. Gen. Sir Kenneth Anderson.

**History.**—Protests against the new trades tax continued into 1950. On May 5 all shops and businesses closed for four and one-half hours and a meeting of traders resolved to return all the assessment notices that had been issued. An appeal to King George VI later in the month was unsuccessful and the tax was subsequently paid. The colony's new legislative council was opened by the duke of Edinburgh on Nov. 23. Toward the end of the year a fish cannery was established with about £500,000 of local capital. The Colonial Development corporation was also putting into operation a factory-ship to be based on Gibraltar to catch, process and can shark, tuna and crawfish off the west coast of Africa. With the departure of the 1st battalion, the Royal Irish fusiliers, and their replacement by a royal artillery unit in August, the fortress was without infantry in its garrison for the first time since "the Rock" was captured in 1704. On the suggestion of the governor the 14th-century King's chapel was being turned into a shrine for those regiments which took part in the campaign of 1704 or in the 14 subsequent sieges in its defense.

**Finance and Trade.**—Currency: pound sterling, with a local issue of notes. Budget (est. 1950): revenue £797,815; expenditure £1,104,830. Foreign trade (1949): imports £4,358,746; exports including re-exports, £408,749. (K. G. B.)

**Gifford, Walter Sherman** (1885– ). U.S. ambassador to Great Britain, was born on Jan. 10 in Salem, Mass. After graduating from Harvard university, he joined the Western Electric company and from 1905 to 1908 held the dual post of assistant secretary and assistant treasurer. His work came to the attention of Theodore N. Vail, who was then president of the Bell Telephone system, parent company of Western Electric, and Vail appointed Gifford chief statistician of the American Telephone and Telegraph company, of which the Bell system was a subsidiary. He held this post until 1916. In December of that year he was made director of the Council of National Defense in Washington, D.C., serving to advise congressional leaders on elements of war production. At the end of World War I he returned to

A. T. & T. as vice-president, and in Jan. 1925 became its president. He served on President Herbert Hoover's Organization on Unemployment Relief in 1931–32, and on the Business Advisory council for the department of commerce, 1933–35. During World War II he became (1939) a member of the War Resources board and (1941) chairman of the Industry Advisory committee of the Board of War Communications. On Sept. 27, 1950, President Harry S. Truman appointed him U.S. ambassador to Great Britain to replace Lewis W. Douglas, who resigned. He was confirmed in the post Dec. 7, 1950.

**Gilbert and Ellice Islands Colony:** see PACIFIC ISLANDS, BRITISH.

**Girl Scouts:** see SOCIETIES AND ASSOCIATIONS.

**Glands:** see ENDOCRINOLOGY.

**Glass.** In 1950, the U.S. glass industry enjoyed general prosperity. The total value of all glassware produced exceeded \$1,000,000,000. The industry employed about 120,000 persons, paying them \$360,000,000. Except for a brief strike in the hand-operated plants, no work stoppages occurred. However, a strike in the soda-ash industry curtailed supplies of that essential raw material for several weeks.

Polished plate-glass production made the greatest gain. Automobiles used 75% of the plate glass output, as well as a large part of the window glass, in the nearly 8,000,000 cars manufactured.

Container production reached 110,000,000 gross, or enough to give each inhabitant of the U.S. approximately 100 bottles and jars. The value of these items was 40% of the total manufactured in 1950.

Factories making tumblers, stemware and other items of household glassware by hand operation suffered from competition with European plants, and determined efforts were made to obtain added tariff protection.

Window glass was in high demand, not only to supply the large number of new residence units, but also for other requirements for sheet glass. Multiple-glass insulating windows (plate) increased in popularity, appearing as picture windows in many new homes. Mirrors, as home decoration, were sold in such numbers as to add materially to plate glass demand.

Television tubes were made in huge numbers, requiring new and expanded factories. Projection of television upon large screens and the making of mirrors with selective colour reflection for coloured television made important new applications of glass.

Inventors were prolific in 1950, bringing forth numerous improvements in processes and products. Among these were: glass with a conducting film, perfected for electrically heating flat-glass surfaces; improved devices for feeding batch glass, and others for delivering gobs of hot glass to forming machines; new tube-drawing machines, in particular one for making elliptical or other nonround tubes; the use of glass fibres in reinforcing tape and paper—among several developments in fibre glass; and more effective application of coloured glass in windows and eye-protection goggles as a safeguard against heat and actinic radiations. (See also CLAY AND CERAMIC PRODUCTS.)

(S. R. S.)

**Gliding.** Eleven countries were represented at the International Gliding contest at Örebro, Swed., July 5–15, 1950: Denmark, Finland, France, Great Britain, the Netherlands, Norway, the Union of South Africa, Switzerland, the United States and Yugoslavia. Billy Nilsson of Norway, flying a Wiehe, earned first place and the title of world champion. Second place went to Paul MacCready, Jr., of the United States, also flying a Wiehe. Yugoslavia sent to the contest the



Orao, a new design sailplane with which the Yugoslavian pilot Milan Borisek placed third. A Swedish pilot, Laroy Mansson, flying a Wiehe, set a new international goal and return record of 245 mi.

The Fédération Aéronautique Internationale officially recognized two speed records: the feminine international single-place record of Irena Kempowna of Poland who flew a Sep over a 62-mi. triangular course at an average speed of 31 m.p.h. on June 10, 1949, and that of William Briegleb who, on Aug. 12, 1949, flew a BG-8, with a passenger, over a 62-mi. triangular course at an average speed of 27.87 m.p.h.

In the British National Gliding contest at Great Hucklow, Derbyshire, July 24-30, Phillip Wills, flying a Wiehe, earned first place.

Several new motorless aircraft appeared in Europe during the year. In France, Louis Bréguet supervised the design and construction of a high-performance single-place sailplane, the Bréguet 900. A two-place intermediate trainer, T.H.K. 14, was constructed in Turkey. Another new Yugoslavian design was the Jardran, a glider able to take off and land on water.

In the United States, Harland Ross and George Diebert outfitted a Schweizer TG-3 glider with insulation and demand type oxygen equipment. On Jan. 27, 1950, they soared the Sierra Nevada atmospheric wave to 36,000 ft. above sea level for an altitude gain above point of release of 24,300 ft.

The 17th National Soaring contest was held at Grand Prairie, Tex., Aug. 2-13. Two of the gliders were completely new designs—the RJ 5 by Richard Johnson and Harland Ross and the Prue 215 by Irving Prue. Johnson, flying the RJ 5, earned the title of national champion and set a national goal record of 318 mi. on Aug. 12. Margaret Downs brough established a new national goal and return flight of 68.9 mi. on Aug. 11. Les Arnold and Harry Perl, flying the powered glider "Hummingbird," made the longest goal and return flight of the contest, a 79-mi. flight.

(B. Sk.)

**Gold.** The devaluation of the pound sterling and 30 other currencies in Sept. 1949 had the result of increasing the price of gold in terms of these monetary units by amounts ranging from 10% to 44%. Though devaluation had not been embarked upon with this as the primary objective, the rise in the gold price was perceived at the time as a potentially favourable development for those participants who were important gold producers. Such countries, it was estimated, accounted for about 80% of the world's output, exclusive of the U.S.S.R.

It was recalled that between 1929 and 1940, under the influence of declining costs and commodity prices and an average increase of 76% in the price of gold, world production had almost exactly doubled, rising from somewhat more than 18,000,000 oz. to 36,700,000. The jump from 1929 to 1930 alone had been approximately 10%.

The first full year following devaluation did not indicate that history was about to repeat itself on that score. Production continued its steady post-World War II recovery with a further improvement of about 5% bringing the annual rate (outside the U.S.S.R.) to around 25,000,000 oz. It was still, however, far below its all-time peak of 1940. Inflated prices and costs, coupled with the policy of reducing the grade of ore milled, apparently offset in considerable measure the advantage gained by higher prices in terms of many nondollar currencies.

But the wide-scale devaluation was followed in late 1949 and 1950 by a spectacular change in national ownership of the world's gold. These months saw the long and steady postwar flow of monetary gold to the United States finally halted and reversed. In the 15 months following Sept. 1949 the United States sold about \$1,800,000,000 in gold to foreign countries.

Table I.—Analysis of Changes in Gold Stock of United States

(In millions of dollars)

Period	Gold stock at end of period*	Increase in gold stock	Net gold import or export	Earmarked gold: increase (—) or decrease	Domestic gold production†
1938 . . . . .	14,592	1,832	1,973.6	—333.5	148.6
1939 . . . . .	17,800	3,208	3,574.2	—534.4	161.7
1940 . . . . .	22,043	4,243	4,744.5	—644.7	170.2
1941 . . . . .	22,761	718	982.4	—407.7	169.1
1942 . . . . .	22,739	—23.0	315.7	—458.4	125.4
1943 . . . . .	21,981	—757.9	68.9	—803.6	48.3
1944 . . . . .	20,631	—1,349.8	—845.4	—459.8	35.8
1945 . . . . .	20,083	—547.8	—106.3	—356.7	32.0
1946 . . . . .	20,706	623.1	311.5	465.4	51.2
1947 . . . . .	22,868	2,162.1‡	1,866.3	210.0	75.8
1948 . . . . .	24,399	1,530.4	1,680.4	—159.2	70.9
1949 . . . . .	24,563	164.6	686.4	—495.7	67.3
1950—January . . . . .	24,507	—56.3	39.0	—93.2	5.9
February . . . . .	24,456	—51.2	.2	—50.4	5.5
March . . . . .	24,360	—96.2	—1.6	—95.4	6.1
April . . . . .	24,350	—9.2	53.3	—59.2	6.7
May . . . . .	24,340	—10.7	13.1	—29.9	6.8
June . . . . .	24,331	—9.0	10.0	—17.6	6.6
July . . . . .	24,239	—91.1	—1.5	—90.0	7.1
August . . . . .	23,745	—494.4	—42.2	—431.4	7.9
September . . . . .	23,591	—153.9	—96.5	—65.9	7.8
October . . . . .	23,349	—242.5	—93.4	—146.2	10.4
November . . . . .	23,153¶	—195.2¶	\$	—35.3"	\$
1950 Jan.-Nov. . . . .	23,153	—1,409.7	—119.69	—1,114.5	70.89

\*Includes gold in Exchange Stabilization fund.

†Yearly figures are estimates by the U.S. mint. Monthly figures are estimates of American Bureau of Metal Statistics. Through 1945 Philippine production is included.

‡Change includes transfer of \$687,500,000 gold subscription to International Monetary fund.

§Not yet available.

¶Gold held under earmark for foreign account, including that held for international institutions, amounted to \$5,387,800,000 on Nov. 30, 1950. Gold under earmark is not included in the gold stock of the U.S.

¶Preliminary.

¶Ten-month total.

This, however, while it constituted a record outward movement of the metal from that country, represented only one-third of the \$5,400,000,000 added to United States gold stocks between the beginning of 1946 and Sept. 1949. The end of 1950 found the United States still the repository for two-thirds of the world's monetary gold stocks (excepting the U.S.S.R.).

In 1947 countries other than the United States and the U.S.S.R. had lost \$2,400,000,000 in gold, exclusive of \$670,000,000 contributed to the International Monetary fund. In 1948 the figure was reduced to \$1,200,000,000 and in the first nine months of 1949 it had fallen to a negligible amount. In the 12 months ended Sept. 30, 1950, these countries had increased their gold stocks by \$1,600,000,000 to a total of \$10,600,000,000. Almost half of this came in the third quarter of 1950, when, as a result of the defense effort brought about by the Korean war the normal U.S. export surplus of goods and services virtually disappeared. Gold and dollar assets rose in these countries during this period from \$14,700,000,000 to \$18,200,000,000 or by about 24%. This rise, however, was very unevenly distributed among the various countries. Almost 45% occurred in the sterling area, with the United Kingdom alone adding \$1,331,000,000. The increase in Canada was \$218,000,000; in the Marshall plan nations other than the U.K. \$570,000,000; and in Latin America \$422,000,000.

(E. H. Co.)

**World Production.**—While world gold output had made some recovery from the wartime low, it was in 1950 still far below the 1939 level of 40,000,000 oz. The outputs listed in Table II (as reported by the U.S. bureau of mines) account for 70%–80% of the total, most of the remainder being the Russian out-

Table II.—World Production of Gold (Refinery Production)

(Thousands of fine ounces)

	1943	1944	1945	1946	1947	1948	1949
United States . . . .	1,381	1,022	929	1,462	2,165	2,025	1,922
Canada . . . . .	3,651	2,923	2,697	2,833	3,070	3,530	4,104
Mexico . . . . .	632	509	419	421	465	368	406
Central America . . .	277	269	244	240	239	260	286
South America . . . .	1,491	1,370	1,276	1,194	982	943	1,100
India . . . . .	252	188	168	132	172	180	161
Belgian Congo . . . .	439	364	341	331	301	300	334
Gold Coast . . . . .	565	534	475	587	558	672	658
Southern Rhodesia . .	657	593	568	545	520	514	528
South Africa . . . . .	12,804	12,280	12,225	11,927	11,200	11,584	11,705
Australia . . . . .	751	657	657	824	938	890	897
Total (est.) . . . .	28,900	26,200	26,100	27,600	28,900	29,700	30,600



put, for which only indefinite estimates were available.

**United States.**—Mine production of gold declined in both 1948 and 1949, but showed decided improvement in 1950, the total for the first ten months being 1,971,250 oz., more than in the full year 1949. This figure indicated that the probable total for the year would be the best since 1942.

**Canada.**—Mine production of gold advanced from 3,525,221 oz. in 1948 to 4,123,518 oz. in 1949 and 3,309,692 oz. in the first three quarters of 1950.

**South Africa.**—Gold production advanced from 11,584,849 oz. in 1948 to 11,705,048 oz. in 1949, with another small increase indicated for 1950, the total for the first eight months being 7,835,063 oz., against 7,777,747 oz. in the same period of 1949. (See also EXCHANGE CONTROL AND EXCHANGE RATES; MINERAL AND METAL PRODUCTION AND PRICES.) (G. A. Ro.)

**Gold Coast:** see BRITISH WEST AFRICA.

**Golf.** The sensational comeback of Ben Hogan in the national open tournament, the surprising marathon triumph of Sam Urzetta in the United States amateur championship, and increased attendance at and membership in tourneys conducted by the United States Golf association, governing body of the game in the U.S., highlighted 1950 golf.

Hogan, winner of the U.S. open in 1948 and victim of a nearly fatal auto-bus collision in Feb. 1949, began his comeback by tying Sam Snead for the Los Angeles open crown in Jan. 1950. Hogan then rested until the U.S. open, played in June over Philadelphia's Merion club course. Tied with Lloyd Mangrum and George Fazio after the regulation 72 holes (each had 287), the little Texan shot a 69 in the play-off to win by 4 strokes. Lee Mackey, Jr., an unemployed Birmingham, Ala., professional, set a new single round record of 64 in the opening 18.

Urzetta, 24-year-old East Rochester, N.Y., basketball star, who was playing in his third national amateur, won the championship at Minneapolis, Minn., with a stirring 39-hole victory over the heavy favourite, Frank Stranahan of Toledo, O. It was the longest title battle in the 50-year history of the tournament.

The women's national title was captured by Beverly Hanson of Fargo, N.D., a perennial contender since her junior days, who defeated Mae Murray of Rutland, Vt., 6 and 4. Miss Murray had previously distinguished herself by eliminating Fay Crocker of Montevideo, Urug., after 27 holes of a scheduled 18-hole match. It was the longest women's match ever played in U.S.G.A. competition.

Chandler Harper of Portsmouth, Va., a highly respected campaigner for a decade, finally won his first major title when he beat Henry Williams, Jr., of Philadelphia, Pa., 4 and 3 in the final match for the Professional Golfers association championship.

In the only international series of the year 1950, the U.S. women's Curtis cup team retained the trophy by vanquishing a visiting team from the British Isles, 7½ to 1½, at Buffalo, N.Y.

The United States and Western Golf associations both showed profitable ledgers at the end of the year. The latter derived substantial contributions to its Evans Scholars' fund through its three championships. The U.S.G.A. set a record for attendance at the open, proceeds at the Merion club tournament being \$29,701.35. For the third straight year U.S.G.A. memberships increased, the roster in 1950 being 1,448. Membership had increased by 697 in the five years since World War II.

Other winners of important championships during 1950 included Stanley Bielat, Yonkers, N.Y., national public links; Mason Rudolph, Clarksville, Tenn., U.S.G.A. boys' junior; Pa-



CHANDLER HARPER blasting from a trap during the Professional Golfers association title match at Columbus, O., June 27, 1950. Harper defeated Henry Williams, Jr., 4 and 3

tricia Lesser, Seattle, Wash., U.S.G.A. girls' junior; and Fred Wampler, Purdue university, Lafayette, Ind., national intercollegiate.

Sam Snead of White Sulphur Springs, W.Va., led all professional money winners for the 1950 season with earnings of more than \$33,000, while the \$17,000 plus won by Mildred (Babe) Didrickson Zaharias of Chicago, Ill., outdistanced all other women professionals. (C. Br.)

**Great Britain.**—During 1950 A. D. Locke (Union of South Africa) retained his title of British open champion at Troon, Ayrshire, Scot., with a score of 276, which broke the previous record by 7 shots. He also won several of the succession of professional tournaments, headed the averages and in a short excursion to the U.S. tied for, and later won on the replay, the Tam o' Shanter tournament at Chicago.

The open championship developed into a duel between R. de Vincenzo (Argentina), Locke and Dai Rees (South Herts.) who, level at 218, started their last round in that order. All three went out in 33. On the longer and more difficult homeward half Vincenzo took 37, Locke 35 and Rees, to whom the last 9 proved troublesome throughout, 39. Vincenzo at the short 13th, acting on the letter of the new rule, as he was entitled to do, declared his ball unplayable on finding it "plugged" in a bunker and, with a 2 with his second ball, secured a 3. After consulting with various golfing unions, St. Andrews decided not to change this admittedly unsatisfactory rule till after the full trial period of two years.

Amateur champion for the second time in two years, and first amateur in the open championship with a final 66, was Frank Stranahan (U.S.), who beat Richard Chapman (U.S.) by 8 and 6 in the final at St. Andrews. The field was illuminated by the presence of several of the leading U.S. golfers, including W. P. Turnesa, J. B. McHale, Jr., W. C. Campbell and W. L. (Dynamite) Goodloe. The English championship was won at Deal, Kent, by John Langley, who after being three down beat Ian Patey on the last green. As a boy of 17 he had been runner-up on the same course in 1936. For the first time all three prin-



principal titles went abroad in the same year, the hat trick being completed when vicomtesse de Saint Sauveur, daughter of the French golfer André Vagliano, beat Mrs. G. Valentine by 3 and 2 in the women's final at Newcastle, Down, N.Ire. In Britain the most successful woman golfer was Mrs. A. Gee, who won the English title at Sheringham, Norf., and, in partnership with N. Sutton, the new Penfold professionals-and-women foursomes.

In the Curtis cup match at Buffalo, N.Y., the British team, outdriven and altogether outplayed on an exceptionally long and sodden course, were overwhelmed by  $7\frac{1}{2}$  to  $1\frac{1}{2}$ , F. Stephens and E. Price winning their foursome and Miss Stephens halving her single. Later the team played in the U.S. women's championship at Atlanta, Ga., where P. Garvey reached the last eight. Apart from Locke, the most successful overseas player was Ossie Pickworth from Australia. Second in his first tournament in Great Britain, he tied for the *Daily Mail* event, losing on the play-off, and capped his visit with a fine win in the Irish open. Among British professionals Rees had an outstanding season, winning for the second year in succession the match-play championship, in which he beat in the final Frank Jowle (Sheffield), who in turn had beaten Henry Cotton. This was Rees's fourth win and he thus equalled the record of James Braid, who died on Nov. 27. (H. Lo.)

**Gomez Castro, Laureano** (1889- ), president of Colombia, was born on Feb. 20 in Bogotá, and was educated at the Colegio de San Bartolomé and the National university. From 1911 to 1918 and again from 1921 to 1923 he served as a national deputy. In 1931, after serving as minister plenipotentiary to Argentina (1924) and to Germany (1930) and as minister of public works (1925-26), he was elected a senator. From 1930 he was regarded as the leader of the Conservative party.

During World War II his newspaper, *El Siglo*, reputedly attracted Falangist support to him by its friendly attitude toward Gen. Francisco Franco of Spain. Gómez was credited with engineering the choice of Mariano Ospina Pérez as Conservative candidate for the presidency, which the latter won in 1946. In 1948 Pérez appointed Gómez foreign minister. As such, Gómez presided over the ninth International Conference of American States at Bogotá, which was disrupted by rioting following the assassination of Liberal leader Jorge Eliécer Gaitán. The day after the assassination, Gómez resigned and went abroad. He returned to Colombia from Spain after being nominated Conservative candidate for the presidency. The election of 1949 was held under conditions of martial law, and the Liberals boycotted it. Gómez was elected, and was inaugurated Aug. 7, 1950, for a four-year term. (See also COLOMBIA.)

**Gonorrhoea:** see VENEREAL DISEASES.

**González Videla, Gabriel** (1898- ), president of Chile, was born on Nov. 23 in La Serena. He attended the public schools and the law school of the University of Chile in Santiago. In 1930 he was elected to the national chamber of deputies, where he served for nine years. After serving as minister to France and ambassador to Portugal and Brazil, he was elected to the senate in 1945, and in the same year served as a member of the Chilean delegation to the United Nations organizational conference in San Francisco.

In the presidential election of Sept. 1946, he was the Radical party's candidate, and though his plurality was not sufficient, he was named chief executive by act of congress in October, and inaugurated in November. Three seats in his new government were given to Communists, who were the first Communist party members to serve in any government in the Americas. In the

next two years, however, Communists were held responsible for a series of crippling strikes, and accordingly, by a presidential decree, individual liberties were suspended for the duration of the crisis, and Communists were arrested, while diplomatic relations with the Soviet Union, Yugoslavia and Czechoslovakia were broken off. Gonzáles Videla signed a bill outlawing communism in Chile in Sept. 1948.

His political support continued to be drawn from a wide selection of liberal elements in Chile, and he made frequent tours throughout the country to further his program of reform. He even visited Antarctica in 1948 to cement Chile's claims there, and in April 1950 visited the U.S. as a guest of President Truman. (See also CHILE.)

## Government Departments and Bureaus, U. S.

Department or Bureau	Name	Post
Department of State . . . . .	*Acheson, Dean G. Webb, James E. (Vacancy) McFall, Jack K. Hickerson, John D. Miller, Edward G., Jr. Perkins, George W. Rusk, Dean McGhee, George C. Thorp, Willard L. Barrett, Edward W.	Secretary Under-Sec'y Counselor Asst. Sec'y Asst. Sec'y Asst. Sec'y Asst. Sec'y Asst. Sec'y Asst. Sec'y Asst. Sec'y Asst. Sec'y
Department of the Treasury . . . . .	*Snyder, John W. Foley, Edward H., Jr.	Secretary Under-Sec'y
Office of the Comptroller of the Currency . . . . .	Delano, Preston	Comptroller
Office of the Treasurer of the U.S.	Clark, Mrs. Georgia Neese	Treasurer
Bureau of Customs . . . . .	Dow, Frank	Commissioner
Bureau of Internal Revenue . . . . .	Schoeneman, George J.	Commissioner
Bureau of Narcotics . . . . .	Anslinger, Harry J.	Commissioner
Bureau of the Mint . . . . .	Ross, Mrs. Nellie Tayloe	Director
U.S. Savings Bonds Division . . . . .	Clark, Vernon L.	Nat'l Director
*U.S. Coast Guard . . . . .	O'Neill, Merlin, Vice-Adm.	Commandant
Department of Defense . . . . .	*Marshall, George C.	Secretary
Joint Chiefs of Staff . . . . .	*Bradley, Omar N., Gen. of the Army *Collins, J. Lawton, Gen. *Sherman, Forrest P., Adm. *Vandenberg, Hoyt S., Gen.	Chairman
Armed Forces Policy Council . . . . .	*Marshall, George C.	Chairman
Munitions Board . . . . .	Small, John D.	Chairman
Research and Development Board . . . . .	Webster, William	Chairman
Military Liaison Committee . . . . .	LeBaron, Robert	Chairman
Department of the Army . . . . .	*Pace, Frank, Jr. Alexander, Archibald S. *Collins, J. Lawton, Gen. Women's Army Corps . . . . . Hallaren, Mary A., Col.	Secretary Under-Sec'y Chief Director
Department of the Navy . . . . .	*Matthews, Francis P. Kimball, Dan A.	Secretary Under-Sec'y
Chief of Naval Operations . . . . .	*Sherman, Forrest P., Adm.	Chief
Asst. for Women, Bureau of Naval Personnel . . . . .	Hancock, Joy B., Capt.	Asst. for Women
*U.S. Marine Corps . . . . .	Cates, Clifton B., Gen.	Commandant
Women Marines . . . . .	Towle, Katherine A., Col.	Director
Department of the Air Force . . . . .	*Finletter, Thomas C. McCone, John A.	Secretary Under-Sec'y
Chief of Staff . . . . .	*Vandenberg, Hoyt S., Gen.	Chief
Women in the Air Force . . . . .	May, Geraldine P., Col.	Director
Department of Justice . . . . .	*McGrath, J. Howard Solicitor General . . . . . Perlman, Philip B. *Federal Bureau of Investigation . . . . . Hoover, J. Edgar Bureau of Prisons . . . . . Bennett, James V. Immigration and Naturalization Service . . . . . (Vacancy)	Att'y-Gen. Solic. Gen. Director Director Commissioner
*Post Office Department . . . . .	*Donaldson, Jesse M.	Postmaster Gen.
Department of the Interior . . . . .	*Chapman, Oscar L.	Secretary
Bureau of Land Management . . . . .	Clawson, Marion	Director
Bureau of Indian Affairs . . . . .	Myer, Dillon S.	Commissioner
Geological Survey . . . . .	Wrather, William E.	Director
Fish and Wildlife Service . . . . .	Day, Albert M.	Director
Bureau of Reclamation . . . . .	Straus, Michael W.	Commissioner
*National Park Service . . . . .	Drury, Newton B.	Director
Bureau of Mines . . . . .	Brady, James	Director
Office of Territories . . . . .	Davis, James P.	Director
Department of Agriculture . . . . .	*Brannan, Charles F.	Secretary
*Agricultural Research Administration . . . . .	Cardon, Philip V.	Administrator
Bureau of Agricultural and Industrial Chemistry . . . . .	Hilbert, G. E.	Chief
Bureau of Animal Industry . . . . .	Simms, Bennett T.	Chief
Bureau of Dairy Industry . . . . .	Reed, O. E.	Chief
Bureau of Entomology and Plant Quarantine . . . . .	Hoyt, Avery S.	Chief
Bureau of Human Nutrition and Home Economics . . . . .	Stiebeling, Hazel K.	Chief
Bureau of Plant Industry, Soils and Agricultural Engineering . . . . .	Salter, Robert M.	Chief
Office of Experiment Stations . . . . .	Trullinger, R. W.	Chief
Bureau of Agricultural Economics . . . . .	Wells, O. V.	Chief
Commodity Credit Corporation . . . . .	Trigg, Ralph S.	President
Extension Service . . . . .	Wilson, M. L.	Director
*Farm Credit Administration . . . . .	Duggan, Ivy W.	Governor
*Farmers Home Administration . . . . .	Lassefer, Dillard B.	Administrator



Department or Bureau	Name	Post
Federal Crop Insurance Corporation	Geissler, Gus F.	Manager
Forest Service . . . . .	Watts, Lyle F.	Chief
Foreign Agricultural Relations . . . . .	Andrews, Stanley	Director
Production and Marketing Administration . . . . .	Trigg, Ralph S.	Administrator
*Rural Electrification Administration . . . . .	Wickard, Claude R.	Administrator
Soil Conservation Service . . . . .	Bennett, Hugh H.	Chief
Department of Commerce . . . . .	*Sawyer, Charles (Vacancy)	Secretary
	Fleming, Philip B.	Under-Sec'y
	Peel, Roy V.	Director
Bureau of the Census . . . . .	(Vacancy)	Director
Bureau of Foreign and Domestic Commerce . . . . .	(Vacancy)	Director
*National Bureau of Standards . . . . .	Condon, E. U.	Director
*Coast and Geodetic Survey . . . . .	Studds, R. F. A.	Director
Inland Waterways Corporation . . . . .	Ingersoll, A. C., Jr.	President
*Civil Aeronautics Administration . . . . .	Nyrop, Donald W.	Administrator
*Patent Office . . . . .	Marzall, John A.	Commissioner
Weather Bureau . . . . .	Reichelderfer, Francis W.	Chief
Bureau of Public Roads . . . . .	MacDonald, Thomas H.	Commissioner
Federal Maritime Board . . . . .	Cochrane, Edward L., Vice Adm.	Chairman
*National Production Authority . . . . .	*Harrison, William H.	Administrator
Department of Labor . . . . .	*Tobin, Maurice J.	Secretary
	Galvin, Michael J.	Under-Sec'y
Bureau of Labor Statistics . . . . .	Clague, Ewan	Commissioner
Bureau of Apprenticeship . . . . .	Patterson, William F.	Director
Women's Bureau . . . . .	Miller, Frieda S.	Director
Bureau of Labor Standards . . . . .	Connolly, William L.	Director
Wage and Hour and Public Contracts Divisions . . . . .	McComb, William R.	Administrator
Bureau of Employment Security . . . . .	Goodwin, Robert C.	Director
Bureau of Employees' Compensation . . . . .	McCauley, William	Director
Independent Offices		
Atomic Energy Commission . . . . .	*Dean, Gordon E.	Chairman
Civil Aeronautics Board . . . . .	Rentzel, Delos W.	Chairman
Economic Cooperation Administration . . . . .	*Foster, William C.	Administrator
*Export-Import Bank of Washington . . . . .	Gaston, Herbert E.	President
*Federal Communications Commission . . . . .	Coy, Wayne	Chairman
*Federal Deposit Insurance Corporation . . . . .	Hart, Maple T.	Chairman
Federal Mediation and Conciliation Service . . . . .	*Ching, Cyrus S.	Director
*Federal Power Commission . . . . .	Wallgren, Mon C.	Chairman
*Federal Reserve System, Board of Governors of the . . . . .	McCabe, Thomas B.	Chairman
*Federal Security Agency . . . . .	Ewing, Oscar R.	Administrator
U.S. Office of Education . . . . .	McGrath, Earl J.	Commissioner
U.S. Public Health Service . . . . .	Scheele, Leonard A.	Surgeon General
*Social Security Administration . . . . .	Altmeyer, Arthur J.	Commissioner
Food and Drug Administration . . . . .	Dunbar, Paul B.	Commissioner
*Office of Vocational Rehabilitation . . . . .	Switzer, Mary E.	Director
*Federal Trade Commission . . . . .	Mead, James M.	Chairman
General Accounting Office . . . . .	Warren, Lindsay C.	Comptroller General
General Services Administration . . . . .	Larson, Jess	Administrator
Public Buildings Service . . . . .	Reynolds, W. E.	Commissioner
*National Archives and Records Service . . . . .	Grover, Wayne C.	Archivist
Federal Supply Service . . . . .	Mack, Clifton E.	Commissioner
Government Printing Office . . . . .	Deviny, John J.	Public Printer
Housing and Home Finance Agency . . . . .	Foley, Raymond M.	Administrator
Federal National Mortgage Association . . . . .	Baughman, J. Stanley	President
Home Loan Bank Board . . . . .	Divers, William K.	Chairman
Federal Housing Administration . . . . .	Richards, Franklin D.	Commissioner
Public Housing Administration . . . . .	Egan, John Taylor	Commissioner
Community Facilities Service . . . . .	Seward, Pere F.	Commissioner
Indian Claims Commission . . . . .	Witt, Edgar E.	Chief Commissioner
*Interstate Commerce Commission . . . . .	Johnson, J. Monroe	Chairman
Library of Congress . . . . .	Evans, Luther H.	Librarian
National Advisory Committee for Aeronautics . . . . .	Hunsaker, Jerome C.	Chairman
National Capital Park and Planning Commission . . . . .	(Vacancy)	Chairman
*National Labor Relations Board . . . . .	Herzog, Paul M.	Chairman
*National Mediation Board . . . . .	Scott, John Thad, Jr.	Chairman
Office of Housing Expediter . . . . .	Woods, Tighe E.	Housing Expediter
Railroad Retirement Board . . . . .	Kennedy, William J.	Chairman
*Reconstruction Finance Corporation . . . . .	Harber, W. E.	Chairman
*Securities and Exchange Commission . . . . .	McDonald, Harry A.	Chairman
*Selective Service System . . . . .	Hershey, Lewis B., Maj. Gen.	Director
*Smithsonian Institution . . . . .	Wetmore, Alexander	Secretary
Tax Court of the United States . . . . .	Kern, John W.	Chief Judge
*Tennessee Valley Authority . . . . .	Clapp, Gordon R.	Chairman
U.S. Civil Service Commission . . . . .	Mitchell, Harry B.	Chairman
Fair Employment Board . . . . .	Houghteling, James L.	Chairman
Loyalty Review Board . . . . .	Bingham, Hiram <sup>1</sup>	Chairman
U.S. Tariff Commission . . . . .	Ryder, Oscar B.	Chairman
*Veterans' Administration . . . . .	Gray, Carl R., Jr.	Administrator
*War Claims Commission . . . . .	Cleary, Daniel F.	Chairman

Executive Office of the President	
Bureau of the Budget . . . . .	Lawton, Frederick J.
Council of Economic Advisers . . . . .	Keyserling, Leon H.
National Security Council . . . . .	Lay, James S., Jr.
Central Intelligence Agency . . . . .	Smith, Walter B.
National Security Resources Board . . . . .	*Symington, W. Stuart

Department or Bureau	Name	Post
Emergency Agencies		
Defense Production Administration <sup>2</sup> . . . . .	*Harrison, William H.	Administrator
*Economic Stabilization Agency . . . . .	*Valentine, Alan	Administrator
Price Stabilization . . . . .	*DiSalle, Michael V.	Director
Wage Stabilization Board . . . . .	*Ching, Cyrus S.	Chairman
Federal Civil Defense Administration . . . . .	Caldwell, Millard F., Jr.	Administrator
Office of Defense Mobilization . . . . .	*Wilson, Charles E.	Director
Quasi-Official Agencies		
*American National Red Cross . . . . .	Harriman, E. Roland	President
†National Academy of Sciences and National Research Council . . . . .	Bronk, Detlev W.	President, National Academy of Sciences
	Bronk, Detlev W.	Chairman, National Research Council
Public International Organizations		
Food and Agriculture Organization . . . . .	Dodd, Norris E.	Director General
*International Bank for Reconstruction and Development . . . . .	Black, Eugene R.	President
*International Labour Organization . . . . .	Morse, David A.	Director General
International Refugee Organization . . . . .	Kingsley, J. Donald	Director General
*Organization of American States . . . . .	Lleras, Alberto	Sec'y Gen.
*United Nations . . . . .	*Lie, Trygve	Sec'y Gen.

\*See separate article.

†See Societies and Associations.

<sup>1</sup>Sworn in Jan. 8, 1951.

<sup>2</sup>Established Jan. 3, 1951, with Harrison nominated for position of administrator.

**Grain:** see BARLEY; CORN; OATS; RICE; RYE; WHEAT.

**Grapefruit:** see FRUIT.

**Grapes:** see FRUIT.

## Great Britain & Northern Ireland,

**United Kingdom of.** An independent kingdom in northwestern Europe, the United Kingdom comprises the main island of Great Britain, with numerous smaller islands off the English and Scottish coasts, and the six northeastern counties of Ireland. It is a constitutional monarchy, with a king and parliament of two houses, the house of lords consisting of 3 peers of the blood royal, 795 hereditary peers (21 dukes, 27 marquesses, 134 earls, 93 viscounts and 520 barons), 26 spiritual peers (2 archbishops and 24 bishops), 16 Scottish representative peers, a number of Irish representative peers (in 1950, 6; vacancies no longer filled) and 8 life peers who have held high judicial office; and the house of commons, numbering 625 members, elected by universal suffrage. Areas and populations of the component parts of the United Kingdom were:

	Area (in sq.mi.)	Population (June 30, 1950, est.)
England, together with Channel Islands and the Isle of Man . . . . .	50,327	43,400,000*
Wales, including Monmouthshire . . . . .	8,016	
Scotland . . . . .	30,411	
Great Britain . . . . .	88,753	48,548,000
Northern Ireland (q.v.) . . . . .	5,451	1,371,000
United Kingdom . . . . .	94,205	49,919,000

\*Wales: pop. (1949 est.) 2,591,000.

Language: English is almost universally spoken, but in Wales (according to the 1931 census) 3% of the population spoke Welsh only and 31% spoke both languages; in Scotland 0.15% spoke Gaelic only and 2.7% spoke both languages; on the Isle of Man 528 spoke English and Manx. Religion: Church of England (nominal membership 15,000,000, effective 5,500,000); Roman Catholic Church (England, Wales, Scotland and Northern Ireland: c. 3,500,000); Presbyterian Established Church in Scotland (1,600,000 in 1949); Church in Wales (est., 250,000); Methodists (1,500,000 in 1949); Jews (c. 400,000).

Capital, London (q.v.) (pop., est. Dec. 31, 1949): city and metropolitan police districts, 8,436,140; city and metropolitan boroughs only, 3,410,720. Chief towns (est. Dec. 31, 1949, if not otherwise stated): Birmingham 1,114,250; Glasgow 1,089,400; Liverpool 805,050; Manchester 704,430; Sheffield 514,350; Leeds 508,340; Edinburgh 487,700; Belfast (Jan. 1, 1939) 443,500; Bristol 442,220; Nottingham 304,060; Hull 297,920; Newcastle-on-Tyne 294,980; Leicester 286,200.





BRITISH ELECTION MEETING beginning to form at Tynemouth, Eng., a scene repeated throughout Great Britain in the weeks before the elections of Feb. 1950. Results proved it the closest general election since 1910, with the Labourite majority in the house of commons reduced from 146 to 7

King: George VI (*q.v.*); prime minister and first lord of the treasury: Clement R. Attlee (*q.v.*); secretary of state for foreign affairs: Ernest Bevin (*q.v.*).

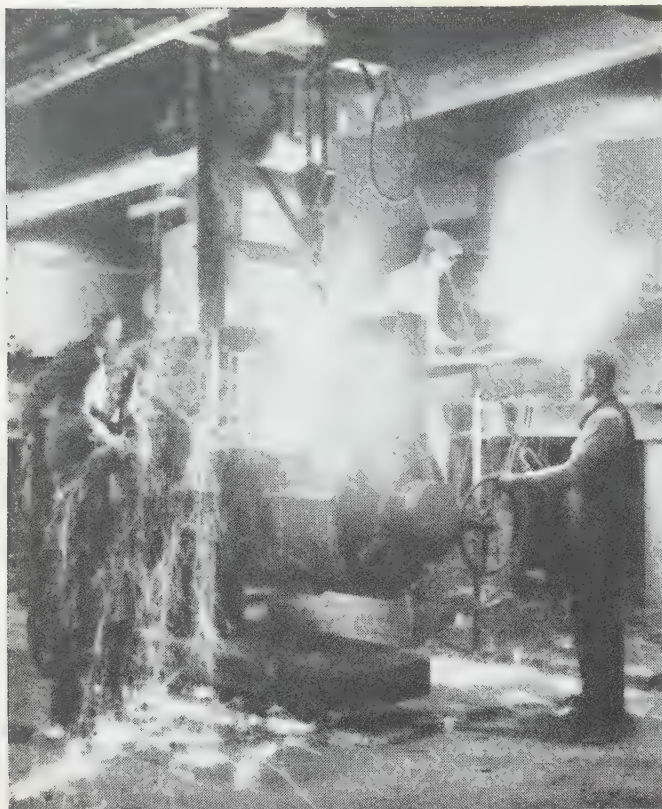
**History.**—*Political.*—During the campaign that preceded the general election in Feb. 1950, it was natural that the Labour party, having invited the electorate to “face the future” in 1945, should be content this time to turn round and look at the past, recent and not so recent. Its candidates compiled inventories of what had been accomplished since 1945 and then compared this record of prodigious legislation with that of peacetime Tory governments in the years between the wars. They attributed the continuance of full employment to their own economic planning, and in every Socialist brief case there was a copy of the Health Service act. Not so much was heard about plans for the future, although the official party program did mention the public ownership of beet sugar manufacturing and sugar refining and also of the cement industry. The chemistry industry would be “carefully examined,” with a transfer to public ownership in the offing if the examination satisfied the party that nothing short of that would do. The Conservatives, for their part, also contemplated the past—and with much less satisfaction. Recalling the fuel crisis over which Emanuel Shinwell had presided and the leadership of Hugh Dalton in economic stress and strain, they asked for the justification of Socialist plans and planners. Recounting the exploits of John Strachey in the African interior, they demanded to know if the scheme for growing peanuts inspired confidence in Socialist business acumen. Recapitulating the money troubles of the nationalized industries, they questioned the wisdom of further nationalization. The Liberal party, meanwhile, was preaching the evils of a class war, enlarging upon the danger in a parliament tightly controlled by two tightly controlled political parties, each handicapped by the prejudices of a particular group or class. It looked at the Conservative and Socialist past and found neither encouraging for the future. In detail, it opposed conscription in peacetime as

wasteful and inefficient, once more raised a plea for proportional representation, paid more attention than either of the other two parties to the place of women in the community and developed its ideas on ownership for all, with co-ownership and profit sharing in industry as an incentive to greater effort.

In general, the election proceeded mildly and with decorum. The net result was that the Labour party won 315 seats, the Conservatives and their friends of various nomenclatures took 298 and all other parties, including the Liberals, suffered either total or near extinction. Not for a century had the house been so evenly divided.

How long the new Labour government would or could remain in office was a nice point. When the new house met it was promised only a limited program of legislation—a uniform code for regulating the breaking up of streets by public utility undertakings, alterations in the law relating to midwives, and other tremendous trifles—yet somehow the government kept on. Surrounded by prophecies of its imminent demise it grew in strength—not spectacularly but steadily enough. By September the government’s self-confidence had increased to such an extent that it announced its intention to proceed with the nationalization of iron and steel, although the moment could have been delayed, and it made known the membership of the new Iron and Steel corporation. Vesting day was fixed as Feb. 15, 1951. For the opposition, this was a deplorable return to party politics when party politics were least relevant to the situation (the Korean war had been in progress since June). Officially, the government was doing no more than implementing an act of parliament. Unofficially, it was quelling the impatience of its restless extremists, champing at the bit and longing for another appeal to the country. The more experienced campaigners preferred to wait and see. After repairing to Beatrice Webb house in May for spiritual refreshment and intellectual guidance the leaders of the Labour movement still gave an impression of uncertainty about their future course. The annual party conference, despite the advertisements of unity which issued from it, did not weaken this impression. Nor did the king’s speech at the opening of the new





BRITISH FOUNDRY for the production of diesel engine castings which began operations at Lincoln, Eng., in 1950. The highly mechanized foundry was part of Britain's effort to reduce a lag in its development of modern industrial techniques

parliamentary session in October, when the government proposed the nationalization of the beet sugar industry (not sugar refining) and gave notice that it would seek authority to make permanent "powers to regulate production, distribution and consumption and to control prices." This could mean much or it could mean little, according to its interpretation. Settled in its new chamber, which had been built on the bomb-ravaged site of the old house, the commons eyed the government with emotions ranging from friendly curiosity to dark suspicion.

*Finance and Economics.*—The dollar gap yawned much less wide during 1950. A White Paper published on Oct. 18 recorded that during the first half of the year the United Kingdom balance of payments with all countries showed a surplus of £52,000,000, the largest in any half year since the outbreak of World War II. Shortly afterward came the news of the resignation, because of ill health, of Sir Stafford Cripps, the chancellor of the exchequer. By the end of the third quarter of 1950 the gold and dollar reserves of the sterling area stood at \$2,756,000,000 as against \$1,340,000,000 just before devaluation of the pound in Sept. 1949, and \$2,241,000,000 at the start of the European Recovery program in March 1948. The progress made by the United Kingdom toward international solvency was based on two fundamentals of policy, both pressed by Sir Stafford Cripps. The commonwealth was to pare and prune to the bone all its purchases from dollar countries, and equally it was to expand its sales to the dollar area by every business device and every ingenuity of salesmanship. To some extent Sir Stafford Cripps stood as the symbol of British determination to regain economic and financial self-respect. But to put it that way did less than justice to the effect Sir Stafford made upon the postwar scene. He not merely expressed a British mood: he shaped it. The two were interacting. Without Cripps, however, the need for Crippsian policies persisted. If imports from the American continent had been reduced, those which Great Britain still took were costing more

through the devaluation which had so stimulated British exports. And, similarly, more exports had to be sold to provide a given quantity of dollars. The effect of devaluation on the price of essential raw materials could be felt increasingly as the year went on. It might have caused more serious worry had not the invasion of Korea and the rearmament of the west bolstered world markets and relieved Great Britain, temporarily at any rate, of the prospect of a buyers' market. (See also INTERNATIONAL TRADE; EUROPEAN RECOVERY PROGRAM.)

At home, the government's domestic finance continued to be exposed to criticism. Whether the fiscal policies imposed upon the British people were such as to invite the highest productive effort was a problem just as much political as financial. Its answer depended upon political philosophy. No one doubted the need to export; what was at issue was the method by which these exports were to be provided by British industry in the largest possible quantities and at the cheapest possible price. The chancellor's diagnosis of the ailment seemed reasonable: "The present danger continues to be one of excessive spending or deficient saving." But on the subject of the right prescription, the debate continued. Excessive government spending and a deficient encouragement to private saving did not help toward that proper balance between supply and demand which characterizes the healthy community life. As part of an effort to keep wage demands in cold storage the chancellor's budget offered relief in the lower rates of income tax. But on the other side, an increase of ninepence a gallon on gasoline had its own effect upon the cost of living, more important perhaps from the psychological than from the strictly material point of view. The lapsing of the T.U.C. (Trades Union congress) wage-restraint policy, the demands of the rearmament program, the threatened curtailment of U.S. aid in view of the improved balance-of-payments position and the revival in familiar panoply of a world sellers' market—all betokened a new bout of inflationary fever. (See also BUDGET, NATIONAL.)

*Industrial.*—The era of full employment was maintained through 1950, with only faint stirrings of uneasiness about conditions in the world markets. Increasingly the advantages of devaluation were felt, so that price considerations mattered less than they had in the latter part of 1949. Here and there, in individual industries, there was apprehension. From the beginning of 1950, organizations in the Lancashire cotton industry, for example, were expressing their fear of competition from Japan, whose cheap labour represented a constant threat to western standards. In cotton as in nearly all other industries the salvation was seen to lie in more efficient production from more modern plants. Productivity teams continued to cross the Atlantic to inspect the U.S. way of industrial life. They all came back with the same story: they all returned missionaries speaking the language of output per man-hour. The word "incentives," too, came into even stronger vogue, and it was seen that as the whole western world began to rearm (an autumn decision taken because of renewed fear of the U.S.S.R.) the incentive to modernize, adapt, re-equip and refurbish lost a touch of its latter-day power. At the very moment that a buyers' market appeared on the horizon it was lost to sight again, misted over by the harrowing doubts which assailed a world living neither at peace nor in war.

The approach (nothing more) to a war economy put an end to pleasurable anticipation that the government might light some more bonfires of discarded controls. Steadily, one by one, regulations had continued to be thrown away in the earlier part of the year. Milk rationing and registration, gasoline rationing—they were the kind of outward symbols of the country's austere determination which had been dropped. With the announcement of rearmament, hope of further progress in the same direction was temporarily abandoned. Inflation resumed its prominent



place in the English vocabulary. Official indexes showed that over most of 1950 the cost of living had risen but a point or two. Impressions collected by the housewife did not seem to tally, however, and there was no surprise when great new cracks began to appear in the wage-freeze policy. In the middle of January a conference of trade union executives called to consider recommendations made by the general council of the T.U.C. had shown which way the wind was blowing—and that it was most certainly a thaw wind. The general council, sizing up the situation after devaluation, had held on as best it could to wage restraint. Its views were endorsed, but by a majority so narrow as to vitiate any influence the T.U.C. might have been trying to exert. The general council was fighting a losing battle, its final defeat occurring at the Brighton congress when a policy of “modified restraint” suggested by the council was rejected from the floor. How far the overthrow of official trade union policies could be attributed to Communist agitation within the unions remained the subject of exciting political controversy. (See also LABOUR UNIONS; WAGES AND HOURS.)

Keen political eyes were also turned upon the recently nationalized industries for evidence to support or refute the case for public ownership. Toward the end of 1949 the British Transport commission had appealed to the minister for permission to increase freight charges by 3s. 4d. in the pound, and when the Transport tribunal heard the application early in 1950 it heard also the depressing story of the commission's life. The details could be studied later in the second annual report of the commission, which showed that in 1949 a loss of more than £20,000,000 had been incurred. For the same 12 months the Coal board was able to show an over-all surplus of nearly £9,500,000 but without export sales at prices above domestic levels the industry would have been much less happily placed.

The British Electricity authority, struggling to keep pace

with a constantly growing demand, and involved in a program of heavy capital outlay, came through the first 18 months of its existence with £4,391,000 to spare. On the public utilities as upon the whole industrial machine rearmament threatened to impose new stresses and strains and to raise fresh difficulties over the supply of materials and the distribution of labour.

*Foreign Policy.*—The end of 1950 found British minds still living in two worlds and wondering whether the two together would ever make sense. Could membership in the British Commonwealth be the complement of leadership in Europe? Defensive measures to protect western Europe against a possible assault by the U.S.S.R. commanded undivided support, so that proposals and plans for military co-operation could be discussed without mental reservations. The signing on Jan. 27 of the Anglo-American Mutual Assistance agreement, concluded under the North Atlantic treaty of 1949, testified to the British readiness to enter into military commitments. Similarly, when the Communist invasion of South Korea raised a direct challenge to the United Nations and when Great Britain was asked for military help to answer the challenge, its view was not in question. It favoured direct military support of the United Nations in defense of collective security.

The demand for rearmament created by a worsening international situation could be met if not cheerfully at least with a singleness of purpose and a mind free of doubt. It seemed that no alternative existed. Already Britain was budgeting to spend approximately £780,000,000 on defense, which represented 23.6% of all expenditure on government account and about 7.6% of the national income. Put another way, it meant that Britain was spending £15 per capita on military preparedness. But this was not enough. In July, soon after the attack in Korea, the government announced its resolve to divert another £100,000,000 to defense. A few days later there came the news of a three-year defense plan involving a total outlay in that period of £3,400,000,000—10% of the national income. An increase in pay to the

SIR STAFFORD CRIPPS, British chancellor of the exchequer, brandishing a broom to emphasize the “clean sweep” he promised to continue if re-elected. He had just been returned to office by his Bristol constituents in Feb. 1950





forces, agreed to as part of a new recruiting campaign, pushed up this prodigious figure by another £200,000,000.

In matters affecting the political integration of western Europe, however, there was no such spectacular determination. The Council of Europe struggled to embody the novel and noble ideas stirring within the continent, but it received only condescending patronage from the British government. By the Labour party the whole ideal of political federation such as Europe desired was given but a cold formal nod of the head. Indeed, the party's national executive committee went so far as to proclaim in a statement on European unity that no Socialist government in Europe could submit to the authority of a body whose policies were decided by an anti-Socialist majority.

For similar if not identical reasons the seeds that Robert Schuman (*q.v.*) scattered when he produced his plan for a European coal and steel pool fell on stony ground. The French foreign minister proposed the creation of a single authority to control the production of steel and coal in France and Germany, with membership open to other European countries. The six powers who later sat together to see what they could make of it all did not include Great Britain, whose attitude was one of doubt and isolation. (See also EUROPEAN UNION; KOREAN WAR; NORTH ATLANTIC COMMUNITY; UNITED NATIONS.)

Within the family of the commonwealth, meanwhile, economic development was claiming much attention. The Colombo, Ceylon, conference of foreign ministers, held in January, engaged in an extensive review of political and economic problems of south and southeast Asia and among other things agreed on the establishment of a Commonwealth Consultative committee. From the first meeting of this Consultative committee (held in Sydney, Austr., in May) there emerged the beginnings of a technical assistance scheme between commonwealth governments. For the commonwealth, while it recognized the need to uphold international authority through military action (as in Korea), attached equal importance to economic well-being in Asia as an effective buffer to Communist advance.

In the colonial territories as a whole about 350 major projects calling for capital expenditure of £400,000,000 were either planned or under way. The experience of the Overseas Food corporation in its African peanuts scheme became steadily more unhappy, however, the big mistake (according to the Committee of Public Accounts) having been the "failure to realize the impracticability of the original plans in the conditions existing immediately after the war." Accordingly, the corporation prepared a "clear cut modification" of the scheme, which in Jan. 1951 was officially admitted to have failed. (See also COMMONWEALTH OF NATIONS, and articles on the various members of the British Commonwealth.)

**FILMS OF 1950.**—*Introducing Britain* (Simmel-Meservey); *Queen of the Border* (British Information Services). (F. Sn.)

**Education.**—England, Wales and Scotland (1949): primary and secondary schools 30,912, pupils 6,290,236; special schools (for handicapped, England and Wales) 576, pupils 45,073; further schools 10,767, pupils 2,298,601; teachers, all schools, 244,085. Universities 21, students 95,328, teaching staff 9,377.

**Finance and Banking.**—Budget: (actual 1949–50) revenue £3,924,000,000, expenditure £3,356,600,000; (est. 1950–51) revenue £3,897,800,000, expenditure £3,455,100,000. National debt (Dec. 31, 1950) £26,426,000,000. Currency in circulation (Dec. 31, 1950) £1,333,200,000. Gold and dollar reserves of the sterling area (Dec. 31, 1950) £1,178,000,000, (Sept. 18, 1949, at same rate of exchange) £478,000,000. Exchange rate since Sept. 18, 1949, £1 = U.S. \$2.80.

**Foreign Trade.**—Imports (1949) £2,272,500,000, (1950) £2,604,000,000; exports including re-exports (1949) £1,843,000,000, (1950) £2,274,000,000. Main sources of imports (1949, per cent of total imports): Canada 10%; United States 9.8%; Australia 9.4%; New Zealand 5.1%; India 4.3%; Denmark 3.4%; France 3.3%. Main destinations of exports (1949): Australia 10.5%; Union of South Africa 7%; India 6.6%; Canada 4.4%; Ireland 4.3%; New Zealand 3.6%; United States 3.2%.

**Transport and Communications.**—Railways (1949): Great Britain, total first track (all gauges) 19,700 mi.; Northern Ireland 1,035 mi. Passenger journeys originating (British railways, monthly average, 1949) 82,700,000. Freight traffic originating (weekly average, 1949) 5,380,000

tons. Roads (1948): Great Britain 183,659 mi. Motor vehicles licensed (Great Britain, Aug. 1950): 4,310,000 including 2,237,000 private cars. Air transport (United Kingdom airlines, all services, monthly averages 1949): aircraft miles flown 3,677,000; passengers carried 76,400; passenger-miles flown 51,100,000; freight carried 1,180 tons; freight carried in ton-miles 1,507,000; mail carried 442 tons; mail carried in ton-mi. 880,000. Shipping: merchant vessels on the United Kingdom register of 500 gross tons and over (Nov. 1950): non-tankers 13,557; tankers 3,918. By June 1949 the volume of 18,093,000 gross tonnage registered was 202,000 more than in 1939. Number of telephones, private stations (March 31, 1950): 5,171,491 (70% with automatic dial). Radio receiving sets licensed (Nov. 1950): 12,334,150, incl. 549,200 television sets.

**Agriculture and Fisheries.**—Production (long tons, 1950 est.): wheat 2,520,000; barley 1,595,000; oats 2,617,000; rye 56,000; mixed corn 698,000; potatoes 9,637,000; sugar beets 5,049,000. Livestock (1950): cattle 10,607,000; sheep 20,408,000; pigs 2,976,000; poultry 95,988,000. Sales of milk in the United Kingdom amounted to 1,737,000,000 gal. in 1949. In 1945–48 the United Kingdom was importing a yearly average of 3,850,000 tons of wheat and 695,000 tons of wheat meal and flour.

It was estimated that agricultural production in the years 1948–50 was about 30% above the 1934–38 average. About 40% of Britain's food was home produced, compared with about 30% before World War II. At the end of 1950 meat, bacon, fats, cheese, sugar, sweets and tea continued to be rationed. During the fiscal year 1950–51 about £410,000,000 was paid on food subsidies, compared with £462,600,000 in 1949–50.

**Fisheries:** Total catch, England and Wales (1949): 708,600 long tons, worth £29,479,000; Scotland (1949): 293,000 long tons worth £10,308,000. This excludes shellfish, but includes gray mullet and whitebait.

**Industry.**—The number of industrial establishments with more than 10 employees (April 1948) was 51,040. The total working population in 1950 was 23,325,000 of whom 16,055,000 were men. There were 690,000 in the armed forces and women's services, of whom 666,000 were men, and there were 274,000 unemployed.

**Fuel and power production (1950):** coal 216,300,000 long tons; gas 531,600,000,000 cu.ft.; electricity 54,480,000,000 kw.hr. The total number of wage earners in the coal-mining industry decreased from 277,000 in Jan. 1949 to 686,000 in Nov. 1950. The average output in tons per man-shift was 1.14 in 1938, 1.00 in 1945 and 1.19 in 1950.

**Metals production (long tons, 1950):** iron ore (30% metal content) 12,948,000; pig iron 9,801,000; steel 16,293,000; virgin aluminum 29,500; refined copper 115,700; virgin zinc 70,200; refined lead 74,100. The British steel industry achieved in 1950 an all-time record, and the same could be said of the motor industry. The estimated output of passenger motor cars was 530,000 and of trucks 260,000.

**Textiles production (1950):** cotton woven cloth 2,106,000,000 linear yards; woven wool fabrics 457,000,000 sq.yd.; rayon filament yarn 208,000,000 lb.; rayon staple fibre 174,000,000 lb. The above does not include 25,000,000 sq.yd. of woolen blankets which were produced in 1950. The index of industrial production according to the British Central Statistical Office (1946=100): 1949=129; Oct. 1950=150; according to the Statistical office of the United Nations (1937=100): 1949=116; July 1950=128. (K. Sm.)

**Great Lakes Traffic:** see CANALS AND INLAND WATERWAYS.

**Greece.** A kingdom in the southern part of the Balkan peninsula, Greece has an area of 51,182 sq.mi. including the Dodecanese Islands (1,035 sq.mi.); the mainland accounts for 41,328 sq.mi. and the islands, the largest being Crete (3,235 sq.mi.), for 9,854. Population: (1940 census) 7,344,860; (Dec. 31, 1949, est.) 7,960,000. Language (1940 census): Greek (93%). Religion (1940 census): Greek Orthodox (96.5%). Chief towns (1940 census, municipal area only): Athens (cap., 481,225); Piraeus (205,404); Salonika or Thessaloniki (226,147); Patras (79,570); Volos (54,919). Ruler: King Paul I. Prime ministers in 1950: Alexander Diomedes; John Theotokis (from Jan. 6); Sophocles Venizelos (from March 23); Nicholas Plastiras (from April 15); Sophocles Venizelos (from Aug. 21).

**History.**—The final liquidation of the Communist rebel forces throughout the country, which was completed by the end of 1949, enabled the government to deal with the problem of the repatriation of the 700,000 refugees who had fled from the areas of military operations to the safety of the towns. During 1950 almost all the refugees were able to return to their villages where, with government aid in the form of food, agricultural implements and building materials, they could start to rebuild their homes and resume work on the land. Greece's share of Marshall aid was cut by \$62,000,000 for the year 1950–51 because of the Greek government's inability to provide the necessary funds in drachmas required to carry out the capital investments envisaged in the economic reconstruction program.

The restoration of internal security also made possible the holding of elections. On Jan. 5 the coalition government of



Populists, Liberals and Unionists under Alexander Diomedes resigned, and a caretaker government, with a special mandate to hold the elections, was formed under the former president of the chamber, John Theotokis. On Jan. 7 parliament was dissolved, and general elections were held on March 5. More than 2,800 candidates belonging to 26 different groups contested the 250 seats of the new chamber (as compared with 354 in the previous chamber). The Populists won 62 seats, the Liberals 56 and the Democratic Socialists 35. A new political party, the National Progressive Union of the Centre (E.P.E.K.), led jointly by Gen. Nicholas Plastiras and Emmanuel Tsouderos, won 45 seats. The left-wing Democratic front led jointly by John Sofianopoulos and Alexandros Svolos won 18 seats, and the extreme right-wing Independent Political front (P.E.P.) led by Constantine Maniadakis won 16 seats. The remaining 18 seats were won by the National Renaissance front (Panayotis Kanellopoulos), the National party (Napoleon Zervas)—which later fused with the Liberals—the Agrarian group and the New party, which returned only one deputy as compared with 18 deputies in the previous chamber.

No single party having an over-all majority, the three centre parties (Liberal, E.P.E.K. and Democratic Socialist), who between them held 136 seats, concluded an agreement to form a government. The king entrusted the mandate of forming a government to the leader of the Liberal party, Sophocles Venizelos. As the other two partners to the agreement insisted that the premiership should be assumed by Plastiras, Venizelos finally formed a government consisting exclusively of Liberals. This government resigned on April 14 and was succeeded the following day by the centre coalition envisaged in the original agreement, comprising 8 Liberals, 7 members of E.P.E.K. and 6 Democratic Socialists. The new government received a vote of confidence (140-99) on April 27 and continued in office until Aug. 18, when the Liberals withdrew their support after a disagreement over the scope of the leniency measures adopted by the government. The cabinet that followed was again an exclusively Liberal one under Venizelos, but was widened first (on Aug. 28) by the inclusion of the Democratic Socialist party and later (Sept. 13) by the inclusion of the Populists. This government lasted until Nov. 2 when it resigned following a disagreement between the Populist leader and the other two party leaders regarding the attitude of the government over investigations into charges of misappropriation of funds in the Piraeus Port organization in which members of the Populist party were alleged to be implicated. It was succeeded by a two-party coalition of Liberals and Democratic Socialists, with Venizelos as premier and George Papandreou as deputy premier, and received a vote of confidence on Nov. 16.

In the field of international relations, the outstanding event of 1950 was the improvement of relations with Yugoslavia. The first signs of a *rapprochement* appeared shortly after Marshal Tito had stated in April that Yugoslavia was prepared to co-operate with a left-centre government in Greece. The situation deteriorated, however, following a statement by Yugoslav Foreign Minister Eduard Kardelj raising the question of a "Macedonian Minority" in Greece, and a deadlock persisted in Greco-Yugoslav relations until November, when Marshal Tito categorically stated in an interview with the *New York Times* that Yugoslavia had no territorial claims relating to Greek Macedonia. This was followed by the repatriation, on Nov. 7, of some of the Greek military personnel taken into Yugoslavia as prisoners by the Greek Communist rebels, and on Nov. 25 by that of the first group of Greek children similarly abducted by the rebels and repatriated in conformity with the U.N. resolution relating to this matter. On Nov. 30 Premier Venizelos announced in the chamber of deputies the government's decision

to resume normal diplomatic relations with Yugoslavia and the appointment of Spyro Capetanides as Greek minister plenipotentiary to Yugoslavia.

On Dec. 5 Milan Yovanovitch was appointed Yugoslav minister to Greece.

In November and December, the Greek question was debated by the U.N. fifth general assembly in New York, to which the U.N. Special Committee on the Balkans submitted its annual report covering the period Sept. 1949 to July 1950. In this report, the committee stated that with the elimination of large-scale guerrilla activity the threat to Greece had altered in character. Pointing out that many thousands of Greek guerrillas had fled beyond the northern frontiers of Greece, the report said that the disarming and disposition of these guerrillas had not been verified by any international agency, and that the Greek guerrilla leaders themselves claimed that their forces still existed. The committee expressed the opinion that "the continuing potential threat to Greek political independence and territorial integrity is to be found at present chiefly in Bulgaria," and added that the failure to solve the problem of the repatriation of Greek children removed to other countries by the guerrillas "constitutes a continuing source of international friction as well as a standing challenge to the United Nations and to the most elementary humanitarian principles." The assembly finally approved the report and adopted various resolutions in accordance with the recommendation made by the committee, which it decided to maintain in its functions for another year. (See also UNITED NATIONS.) (A. A. P.)

**Education.**—(1948-49) Primary schools 9,986, pupils 1,218,000; secondary schools 507, pupils 169,836; universities 2, professors 289, students 13,337; institutions of higher education 9. Illiteracy (1940) 27%.

**Finance and Banking.**—Budget: (1949-50) revenue dr. 5,494,000,000, expenditure dr. 5,830,000,000,000; (1950-51 est.) balanced at dr. 5,246,000,000,000. Currency circulation (July 1950) dr. 1,676,000,000,000. Gold reserve (July 1950) U.S. \$3,000,000. Bank deposits (June 1950) dr. 1,840,000,000,000. Monetary unit: drachma with an exchange rate with certificates (Nov. 1950) of 15,000 drachmas to the U.S. dollar.

**Foreign Trade.**—(1949) Imports dr. 2,048,112,000,000; exports dr. 574,728,000,000. Main sources of imports (1949): United States 41%; United Kingdom 9%; Turkey 5%; France 5%. Main destinations of exports (1949): United Kingdom 21%; United States 19%; France 11%; Germany 10%.

**Transport and Communications.**—Roads (1949) 4,189 mi. Licensed motor vehicles (Dec. 1949): cars 7,500; commercial vehicles 16,500. Railways (Dec. 1949): operating trackage 2,140 mi. Shipping (July 1949): number of merchant vessels over 100 gross tons 377; total tonnage 1,329,257. Telephone subscribers (1949) 65,078. Radio receiving sets 44,500.

**Agriculture and Fisheries.**—Main crops (metric tons, 1949): wheat 720,000; barley 130,000; oats 85,000; rye 30,000; maize 240,000; potatoes 329,000; rice 22,000; cottonseed 30,000; olives 823,000; olive oil 196,000; grapes 1,233,000; other fruit (1948) 186,000; wine (1948) 450,000; pulses (1948) 67,000; fresh vegetables (1948) 629,000. Livestock: cattle (Dec. 1949) 678,000; sheep (Dec. 1948) 6,631,000; pigs (Dec. 1949) 509,000; horses (Dec. 1948) 231,000; mules (Dec. 1948) 142,000; poultry (Dec. 1948) 8,626,000. Meat production (1949) 52,000 metric tons. Fisheries, total catch (1949), 37,000 metric tons.

**Industry.**—Value of production (1949) dr. 5,376,634,000,000. Fuel and power: lignite (1949) 131,500 metric tons; electricity (installed capacity, 1948) 145,000 kw. Raw materials (metric tons, 1949): chrome ore 3,100; magnesite 22,900; manganese 1,000; bauxite 44,300; iron pyrites 14,300.

**FILMS OF 1950.**—*Look at Greece* (Film Program Services).

**Green, William** (1873- ), U.S. labour leader, was born March 3 in Coshocton, O. He spent much of his youth as a miner, and at the age of 27 was a subdistrict president of the United Mine Workers of America. He was elected president of the American Federation of Labor in 1924 and at the A.F. of L. 1950 convention was re-elected to his 27th consecutive term. Under Green, the A.F. of L. remained predominantly a crafts union. When the Committee for Industrial Organization (later, the Congress of Industrial Organizations), a group of ten A.F. of L. unions, opened its campaign to establish industrial-type unions, Green refused to sanction the move and the C.I.O., led by John L. Lewis, broke away from the parent body in 1937. Over the years Green repeatedly emerged as Lewis'



chief opponent.

During World War II Green helped prevent strikes in war industries, and when the Korean war began in 1950 he again volunteered to adopt a no-strike pledge, calling upon all labour to join him, whereupon Lewis rejoined with a comment that his mine workers would "do our own no-striking." On April 10, 1950, Green announced limited approval of C.I.O. President Philip Murray's proposal for a joint committee of all labour to consolidate action on economic, legislative and political objectives, but on May 8 he announced that the A.F. of L.'s executive board had rejected the Murray proposal for functional unity, though agreeing to work for "organic" unity of all labour. On Aug. 8 Green was named by W. Stuart Symington, chairman of the National Security Resources board, as one of the 12-member committee to advise on U.S. mobilization.

**Greenland.** The world's largest island (840,000 sq.mi., about 705,000 sq.mi. covered by an ice cap), in the North Atlantic ocean, northwest of Iceland. Greenland is a Danish possession. It came under temporary United States protection in 1941. Capital, Godthaab. The census showed a population of 21,384 on Dec. 31, 1945, of whom 50% were under 20 years of age, and only 5% were over 60. Males counted 47.8%, females 52.2%. Mid-1949 population est. 23,000. Seats of the governors are Godthaab in the south and Godhavn in the north.

**History.**—Negotiations had continued for several years over the continued U.S. occupation of air fields in Greenland, until in Aug. 1950 an exchange of notes was announced. The new agreement provided that Denmark would take over the U.S.-built airport Bluie West 8 at Sondre fjord; Danish military authority would operate the facilities, but this would "not prevent the U.S. from using Bluie West 8 in the future." At Bluie West One, still operated by U.S. personnel, a hotel was being built to accommodate 60 guests. Both Denmark and the U.S. recognized their common interest in the defense of Greenland, but the question of sovereignty was a delicate one.

The organization of government and economy was the subject of a searching inquiry by a Danish commission, which after a year and a half of intensive work published its findings and recommendations in the spring of 1950. This report advocated far-reaching centralization on the island. Populations of small, isolated villages with poor fishing grounds should be moved to locations better for sealing and fishing (Umanak, Upernivik, Cape Farewell and others might thus be abandoned). Small municipalities should be amalgamated into larger ones, the district councils be abolished, and the two provincial councils be combined. A central court of appeal should be established, and Danish law be extended gradually to cover natives as well as Danes.

The commission was deeply interested in economic development and organization. A mineral survey of Greenland was urged. Sheep raising should be encouraged, and this would necessitate irrigation projects and cheap loans for the purchase of fertilizer. Greenlanders should have sea-going cutters and be encouraged to engage in distant deep-sea fishing. Quick-freezing plants should be built for the fish fillet trade. Harbour facilities should be improved at Egedesminde and Godthaab. The government trade monopoly should be abandoned, and ultimately free trade established. The total budget for development was estimated at about \$13,000,000, and included large expenditures for housing, schools, health, fisheries, transportation and technical services.

**Education.**—Schools (1948): infant and primary 175, pupils 4,200, teachers 237; postprimary 4, pupils 100, teachers 15; technical 1, pupils 50, teachers 2; institutes of higher education 2, students 45, lecturers 10.

**Finance and Banking.**—Budget (1948-49): expenditure 23,593,000 Kr., revenue 17,449,000 Kr. Currency circulation (Dec. 1949): 2,700,000 Kr.

Savings and bank deposits: 2,800,000 Kr. Monetary unit: the Danish krone, with an exchange rate of 6.90 Kr. to the U.S. \$1.

**Foreign Trade.**—(1949) Imports 30,036,000 Kr., exports 604,000 Kr.

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**Grenada:** see WINDWARD ISLANDS.

**Guadeloupe.** This French overseas *département*, situated in the Lesser Antilles, consists of two islands separated by a narrow channel, and five smaller islands. Total area: 686 sq.mi. Pop. (1949 est.) 281,000. The inhabitants are mainly nonwhite (Negro or mixed), speak a French patois and are Roman Catholic. Chief towns (pop., 1946 census): Basse-Terre (cap., 10,086); Pointe-à-Pitre (41,323). Prefect, Maurice Philipson.

**History.**—A strike which immobilized a Capesterre factory for several weeks in May and June prevented the 1950 sugar-production schedule from being fully completed. Exports from the port of Basse-Terre continued to increase in volume, banana cargoes particularly contributing to this development. Work on the new airport at Raizet, to the northeast of Pointe-à-Pitre, was urged steadily forward and the official opening took place on May 20. By its central position in the arc of the West Indies the airport was admirably designed to maintain communications between Central, North and South America, and was marked out for a busy future.

The economic existence of Guadeloupe was bound up with the sugar cane yield and with the export prospects for sugar and rum. Restored to a credit position in 1945, the balance of trade became again adverse in 1948, and in 1949 was almost at equilibrium.

**Finance.**—Budget: (1949 actual) balanced at 803,700,000 fr.; (1950 est.) balanced at 1,542,800,000 fr. Currency: Metropolitan franc. In Nov. 1950, U.S. \$1.00 = 349.85 fr.

**Foreign Trade.**—(1949) Imports 6,960,600,000 fr.; exports 6,842,400,000 fr.

**Transport and Communications.**—Ships entered (1949) 723; cargo: unloaded 114,400 metric tons; loaded 111,600 metric tons.

**Agriculture.**—Main products (metric tons, 1949): sugar cane 608,300 (1950: 782,000); sugar 42,700 (1950: 66,500); bananas 78,000; rum 115,849 hl. Livestock (1950): cattle 58,000; pigs 30,000; sheep 7,000. (C. A. J.)

**Guam.** Guam is the largest and southernmost island of the Marianas, lying in the Pacific at 13° 26' N. lat. and 144° 39' E. long., about 5,100 mi. W. of San Francisco, Calif., 3,340 mi. W. of Honolulu, T.H., and 1,500 mi. E. of Manila, Phil. Area: 206 sq.mi. Population, June 30, 1950, 27,985 Guamanians and 30,769 non-Guamanians, including U.S. military and civil service personnel. Agaña is the principal city and capital. Other important towns are Sinajana and Inarajan. The Guamanians are Chamorros, and their religion is predominantly Roman Catholic. Governor in 1950: Carlton Skinner.

**History.**—Guam was ceded to the U.S. by Spain in the Treaty of Paris of 1898 which terminated the Spanish-American War. It was administered by the U.S. navy until Aug. 1, 1950, when the U.S. department of the interior took over the administration of the island. On Sept. 3, 1949, Carlton Skinner was appointed the first civilian governor of the island. The Guam congress, composed of a house of council and a house of assembly, is a popularly elected legislature. One councilman is elected for each municipality; the term is four years. One assemblyman is elected for each district within the municipalities for a two-year term. In 1947 legislative power was extended to the Guam congress in place of its former advisory power. The congress can override the governor's veto of proposed legislation and submit the disputed legislation to Washington for final action. There is a popularly elected native commissioner for each of the island's 15 municipalities; the term is four years. The judiciary con-





U.S. AIR FORCE on review at dedication ceremonies of the Andersen Air Force base in Guam, April 1950

sists of a court of appeals, a superior court, an island court, a justice court and a police court.

**Education.**—In 1950 there were 21 elementary and junior high schools and 1 high school with a total of 9,829 pupils and 317 teachers. About 84% of the population was literate according to the 1940 census.

**Finance and Trade.**—During the fiscal year ending June 30, 1950, Guam's expenditures amounted to \$4,422,479, of which \$560,755 came from U.S. appropriations and the balance from local revenues; \$3,872,527 of revenues were collected during the fiscal year. In 1950 the Bank of America took over the operations of the Bank of Guam, which had been established by the navy in 1915.

In the fiscal year ending June 30, 1950, imports totalled \$8,188,175 and exports \$644,452.

**Transportation and Communications.**—There were about 80 mi. of paved highways in Guam and about 60 mi. of improved secondary roads. There were no railways, but there were five military airfields. Guam is the relay station for the Pacific Cable company with connections to Japan, China, the Philippines, Australia, Hawaii and the U.S.

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**Guatemala.** A Central American republic. Guatemala is bounded by Mexico, British Honduras, Honduras and El Salvador. Area: 45,452 sq.mi.; pop. (1949 est.): 3,784,000. Preliminary census figures for 1950 showed only 2,786,369 (3,283,209 in 1940). Capital: Guatemala City (1946 est. pop., 225,000). Other urban centres (1940 census) are Antigua Guatemala (12,601), Chiquimula (10,868), Comalapa (10,461), Mazatenango (14,227), Puerto Barrios (15,784), Quezaltenango (33,538) and Zacapa (14,443). Language: Spanish; religion: predominantly Roman Catholic. President in 1950: Juan José Arévalo.

**History.**—A slight swing to the right carried the leftist administration of President Arévalo through a series of political crises in 1950 which included an abortive revolt and a presidential election.

Failure of the government to commemorate the first anniversary of Col. Francisco Javier Arana's assassination incited a Conservative demonstration on July 20 that was broken up by military and labour elements with the loss of three lives. The suppression of this demonstration brought on another by the university students, who held the minister of interior responsible and demanded his resignation. Labour, business and professional elements joined in a general strike in the capital city, and some oppositionists demanded Pres. Arévalo's resigna-

tion. On July 24 the government suspended several constitutional guarantees and imposed a state of siege, but within two weeks restrictions were lifted.

In September the government cut itself off from Communist support by banning the party's weekly newspaper. Later in the month a Communist school was ordered closed, and 40 students were arrested for trying to continue their classes. However, the minister of interior who ordered the closure was given a vote of no confidence by the national congress and was forced to resign. By October, government pressure to eliminate Communist influence was being extended to the labour unions.

On Nov. 5, shortly before the national elections, some adversaries of the Arévalo administration attempted unsuccessfully to seize the military base of La Aurora allegedly in preparation for a general revolt, but the movement was crushed with 17 casualties. The government did not suspend constitutional guarantees.

In the elections, held Nov. 10–12, ten candidates contended for the presidency, to succeed Arévalo in 1951, but the administration's Revolutionary Action party scored an easy victory. The results, announced Nov. 13, gave Col. Jacobo Arbenz 242,901 votes. His nearest rivals were Miguel Ydigoras Fuentes of the rightist National Reconciliation party (68,146) and Lic. Jorge García Granados of the democratic and civilian People's party (30,016). The administration party also tightened its grip in congress by winning 19 of the 24 seats at stake.

**Education.**—In 1946 there were 4,425 primary schools with 8,266 teachers and 225,362 students; 45 secondary schools with 819 teachers and 5,494 students. The national university had 1,719 students. The 1948–49 national budget allocated \$6,300,000 for public education.

**Finance.**—The monetary unit is the quetzal, maintained at par with the U.S. dollar. The national budget for 1949–50 was raised from \$41,496,265 to \$51,097,811 on April 1, 1950. The proposed budget for 1950–51 was for \$45,000,000. On Sept. 30, 1950, the Bank of Guatemala held net foreign-exchange reserves totalling \$34,872,000, \$28,479,000 in gold and \$6,317,000 in deposits and securities. At the end of 1949 total money in circulation amounted to \$64,000,000, about \$665,000 more than in 1948. As of March 31, 1948, the foreign debt was \$847,700; the internal debt, \$3,000,000.

**Trade and Resources.**—Exports for 1949 totalled \$51,932,631 (\$50,165,490 in 1948); imports, \$67,983,773 (\$68,349,860 in 1948), inclusive of monetary gold and silver. The United States supplied about 74% of the imports and took 92% of the exports. The chief exports were: coffee (1,991,181 bags of 132 lb. each, valued at \$37,353,000), bananas (753,228,000 lb., at \$7,584,000), chicle (5,953,500 lb. at \$1,366,000) and lumber (2,057,000 bd.ft., at \$146,000). The chief crops (with 1949–50 production estimates) are: corn (920,000,000 lb.), coffee (138,600,000 lb.), beans (100,000,000 lb.), sugar (70,900,000 lb.), rice (18,000,000 lb.), abacá fibre (8,300,000 lb.), bananas (7,100,000 stems), tobacco (2,600,000 lb.) and cotton (2,400,000 lb.). At the end of 1948 the country had 900,974 head of cattle, 216,422 horses and mules, 617,611 sheep, 63,545 goats and 374,367 hogs.

**Communications.**—In 1949 there were 608 mi. of railroad (28 mi. government-owned); 4,800 mi. of highway (about 2,400 mi. all-weather surfaced); two international airway connections and one domestic line connecting 34 localities. At the end of 1948 there were 4,025 mi. of telephone lines (2,893 mi. government-operated); 3,800 telephones; 4,366 mi. of telegraph lines; 15 broadcasting stations; 38,000 radios; 5,200 automobiles; and 4,500 trucks and buses.

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**Guggenheim Memorial Foundation, John Simon:** see SOCIETIES AND ASSOCIATIONS.

**Guiana, British:** see BRITISH GUIANA.

**Guiana, Dutch:** see SURINAM.

**Guiana, French:** see FRENCH GUIANA.

**Guided Missiles:** see JET PROPULSION; MUNITIONS OF WAR.

**Guinea:** see FRENCH UNION; PORTUGUESE COLONIAL EMPIRE; SPANISH COLONIAL EMPIRE.

**Guinea, French:** see FRENCH WEST AFRICA.

**Gustav VI** (1882– ), king of Sweden, of the Goths and of the Wends, was born at Stockholm, Nov. 11. He was the son of King Gustav V and Queen Victoria, nee Princess of Baden. Of his marriage on June 15, 1905, to Princess Margaret



of Connaught (d. 1920) there were four sons and a daughter. The eldest son, Prince Gustav Adolf (b. 1906) was killed in an aircraft accident in 1947; he had married in 1932 Princess Sibylle of Saxe-Coburg-and-Gotha, and their only son, Prince Carl Gustav (b. April 30, 1946), became crown prince of Sweden. After the death of his first wife, King Gustav VI married on Nov. 3, 1923, Lady Louise Mountbatten (b. 1889), daughter of the first Marquess of Milford Haven. He succeeded his father on the latter's death, Oct. 29, 1950, and the following day took the oath in Stockholm palace before his government and people. He promised to govern the country gently, with justice and integrity. "Duty before everything" would be his guiding motto.

**Gymnastics.** A steady performance in two days of competition in the University of California gymnasium enabled William Roetzheim of Florida State university, Tallahassee, to defend successfully his all-around title in the 1950 national Amateur Athletic union championships. Roetzheim also captured horizontal bar laurels.

Don Perry of the Pasadena, Calif., Y.M.C.A., unbeaten in five years of competition, equalled his own world record of 3.1 sec. in the rope climb. Edward Henning, 71, representing the East Side Turners of Cleveland, O., won with the Indian clubs for the 12th time; Irvin Bedard of the University of Illinois, Urbana, led the tumblers for the third straight year; and the Los Angeles Athletic club tallied 39½ points for the team championship.

Other winners were: Ara Hairabedian, University of Southern California, Los Angeles, calisthenics; George Wikler and C. Gilden, Los Angeles Athletic club (tied), flying rings; Jack Barnes, University of Southern California, long horse; Edward Scrobe, American Turners, New York city, parallel bars; and Eugene Rabbitt, Syracuse (N.Y.) university, side horse.

The women's national A.A.U. meet at Elizabeth, N.J., saw Clara Schroth of the Philadelphia, Pa., Turners again take five titles. She scored in the calisthenics, balance beam, flying rings and parallel bars events en route to the all-around championship. Roberta Bonniwell, a teammate, triumphed with the Indian clubs while Marian Barone, another Philadelphia star, won the side-horse vault. Joanne Slocum of the Dallas, Tex., Athletic club took the tumbling and the Swiss Turn Verein of Paterson, N.J., the team drill.

The University of Illinois captured both Western conference and National Collegiate Athletic association team laurels; Army and Syracuse university tied for eastern intercollegiate honours, while Temple university, Philadelphia, and Syracuse university shared first place in the Eastern league meet. (T. V. H.)

**Gynaecology and Obstetrics.** The maternal mortality rate in the United States for 1949 had been reduced to slightly less than 1 maternal death per 1,000 live births, contrasting with the 1933 rate of 6.2 maternal deaths per 1,000 live births. The great reduction was attributed in part to three major developments: the increasing percentage of births in hospitals; the development of the concept of antepartum care; and the advances in the management of the complications, namely, the administration of sulfonamides, antibiotics, whole blood or blood derivatives. Steady improvement of undergraduate and postgraduate medical training was the most important factor in the welding together of these developments.

The attempt further to reduce neonatal morbidity and mortality was reflected in many studies. Interest was focused on the growth of the uterine musculature with the conclusion that maximal uterine growth occurred in the first 20 weeks while the longitudinal stretching to accommodate foetal growth excelled

in the latter half of pregnancy; thus faulty myometrial growth and inadequate growth were postulated as potential causes of premature labour.

The pathology of retrolental fibroplasia, an ocular opacity in the newborn, was elucidated. Observations demonstrated its site or origin as the retina, beginning with an acute phase, a course of four to five months with resultant irreversible changes and the termination depending on the severity of the acute phase. The preponderance of cases in which the lesion was bilateral and the infant premature led to a theory of a basic metabolic disorder, with defective fat metabolism as the possible cause.

The association of embryonal developmental anomalies and rubella in the pregnant woman was generally accepted. The final conclusion was that if a pregnant woman contracted rubella (German measles) in the first three months of her pregnancy, the period of greatest foetal differentiation, her child would almost certainly show deformities, particularly deaf-mutism, cataracts, cardiac defects and dental anomalies.

That the cause of abortion was predominantly foetal was re-emphasized in one large series in which abnormal conceptuses constituted 73% of the abortuses. The role of conservative therapy alone was strengthened by one large statistical survey in which the salvage rate was almost identical with the results of studies employing hormonal therapy. One author suggested that since so many conceptuses were abnormal there was no advantage in continuing any form of therapy too long, a seven-day trial being sufficient in threatened abortion.

Assessment of the management of diabetes mellitus by endocrine therapy, and studies including only careful management of the diabetes in pregnancy began to appear, but more time was necessary for a full evaluation to determine if advantages were to be gained with the addition of endocrine therapy. The cardinal points remained that delivery prior to the expected date of confinement and the more frequent employment of Caesarean section in selected cases were essential to reduce foetal mortality rates.

The decreasing incidence of eclampsia (convulsions) with the improvement of antepartum care was reflected by many studies of particular phases of pre-eclampsia. The use of rigid standards to demarcate pre-eclampsia "mild" and pre-eclampsia "severe" by any one or two criteria was decried. It was emphasized that these served only as a guide; the whole ensemble of the patient was to be evaluated in the estimation of progress.

The incorporation of educational programs on childbirth in the antepartum management of patients was enhanced among the medical profession with the publication by Herbert Thoms of the book *Training for Childbirth*. Dr. Thoms outlined his program of lectures on the physiology of pregnancy and birth and on the courses of exercises, and he stressed psychic support during labour. His straightforward conclusion was that the underlying principles of the natural childbirth program were useful and sound for whatever type of delivery was elected and that this sort of physiological and physical preparation for childbirth was essential. The advocates of these procedures did not insist that full dependence on them alone was expected or required. Many patients would need, in addition, ordinary analgesic or anaesthetic assistance.

Encouraging progress continued to be made both in the diagnosis and the treatment of pelvic cancer. The increased cancer potential of the late involution of the endometrium was stressed. Lack of general agreement among pathologists persisted as to the criteria of carcinoma *in situ*. Reiteration was made of the valuable place of cytological studies as an aid and not as a final diagnosis in the early detection of uterine cancer, adequate biopsy or curettage being a necessary supplement.

At the International Congress on Obstetrics and Gynecology



in New York in May 1950, the League of Nations Classification of Carcinoma (cancer) of the Uterine Cervix was modified in the following manner. Stage 0 was delineated as preinvasive cancer. In stage one the cancer was strictly confined to the cervix while in stage two the cancer extended beyond the cervix but had not yet reached the pelvic wall. The cancer involved the vagina but not the lower third. In stage three the cancer involved the lower third of the vagina and had not reached the pelvic wall. Stage four cancer involved the bladder or the rectum, or both, or had extended beyond the limits previously described. This classification was termed the International Classification of Cancer of the Uterine Cervix and its adoption by all concerned organizations was recommended.

The place of surgery in early cancer of the cervix gained momentum with the acceptance in many clinics of total hysterectomy with associated removal of the ovaries in women past 40 years of age and their preservation in women under 40 years of age as the optimal treatment of true cancer *in situ*. In one clinic statistics were advanced to show that radical surgery could be performed with a good cure rate in selected cases of stage one and stage two cancer of the cervix. The importance of the degree of pelvic extension was emphasized in the attention given to gland dissections in the Wertheim operation and the impetus toward retroperitoneal dissections. An operation that continued to be evaluated was the radical procedure of removal of the uterus, tubes and ovaries, entire vagina, rectum and bladder with the implantation of the ureters into the bowel. However, for the earlier stages the proven value of irradiation prevailed and this alone or in combination with surgery was the accepted treatment for cervical cancer except in clinics equipped for investigative radical surgery.

The increase in the utilization of the total, in preference to the supracervical, hysterectomy was apparent with large series being reported in which various techniques were successfully incorporated to reduce to a minimum bladder and ureteral injury and postoperative morbidity. Gynaecologists were electing total hysterectomy as their procedure of choice whenever there was no contraindication imposed by local or general conditions. The chief reason advanced was that this removed all possibility of later recurrence of cancer in a cervical stump.

Vaginal plastic operations remained the most frequently performed major gynaecological operation. Adequately performed, they were successful in 85% of patients. New methods using fascial slings and the suspension of the urethra to the abdominal wall were devised for urinary incontinence. The multiplicity of operations performed for this distressing symptom suggested that none was entirely satisfactory.

In the management of ovarian enlargements the differentiation of functional cysts from other tumours was frequently afforded by repeated pelvic examinations over a specified period. The general procedure at operation for cystic ovarian degenerations was to examine the opposite ovary routinely with inspection of both ovaries for the presence of excrescences before deciding on an extreme procedure, ovarian tissue being preserved wherever possible in the younger woman.

The removal of the ovaries when a hysterectomy was performed in the postmenopausal woman was generally approved in avoidance of possible subsequent malignant changes in these now useless organs.

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**Haiti.** The Republic of Haiti occupies the western third of the island of Hispaniola, the rest of which constitutes the Dominican Republic. It has an area of 10,748 sq.mi. The population was estimated (1949) at 3,750,000. The population is almost wholly Afro-American; less than 5% is of European origin. The capital, Port-au-Prince, has a population of about 125,000; Cap Haïtien, Gonaïves and Les Cayes have about 20,000 each. Official language: French. Presidents in 1950: Dumarsais Estimé; (after Dec. 8) Paul E. Magloire.

**History.**—Early in 1950, the tension between Pres. Dumarsais Estimé and various groups led to disorder. Apparently, various military and commercial groups were discontented because of the immense cost of the Bicentennial exposition, which closed June 8 and which threatened to engulf the financial resources of the government. The president was obliged to resign on May 10. Col. Paul E. Magloire, head of the military junta which brought about the change, was chosen president in October by direct popular election. A constitutional assembly was set up in Gonaïves to revise the constitution. President Magloire took the oath of office on Dec. 8, with a cabinet of technicians previously not identified with political parties. The new regime was primarily concerned with efficient reorganization of the country's economy. Prompt settlement of claims against the government was undertaken by the junta, and foreign obligations were punctually met. Important public works were undertaken in areas previously less favoured, such as harbour development, water and sewage systems at Cap Haïtien, a cadastral survey of the Artibonite valley and important roads.

The firm demand in world markets for sugar, coffee, sisal, cabinet woods and vegetable oils sustained Haiti's export trade during 1950, and went far toward paying for the increase in imports. The political unrest led to a brief disturbance in commercial and credit conditions; after the election, a substantial improvement was noted. The year witnessed the highest employment in Haitian history.

The foreign relations of Haiti were generally peaceful through 1950. (C. Me.)

**Education.**—Haiti in 1949 had about 1,060 primary schools attended by 87,000 pupils and 6 national *lycées* and 15 private secondary schools attended by about 10,000 pupils. Higher education was available at the national law and medical schools, the Central School of Agriculture and the government-controlled University of Haiti. About 15% of the 1948-49 budget was earmarked for education.

**Finance.**—The monetary unit is the gourde, valued in 1950 at 20 cents U.S. currency, official rate. Actual government expenditure in the fiscal year ended Sept. 30, 1949, was \$18,660,000; revenue was \$16,620,000. The budget for the fiscal year 1951 (Oct. 1, 1950-Sept. 30, 1951) balanced expenditure and revenue at \$21,058,000. On Sept. 30, 1949, the net public debt was \$7,960,575; private deposits in the two banks, \$7,177,650; and currency in circulation (excluding U.S. dollars), \$6,329,689.

**Trade and Communications.**—Exports in the trade year 1949 (Oct. 1, 1948-Sept. 30, 1949) were \$31,019,800; imports were \$31,426,800. The chief exports were coffee (43%), sisal (30%), bananas (6%) and sugar (5%); leading imports were cotton fabrics (14%), electrical machinery and apparatus (13%) and wheat flour (11%). Leading suppliers were the U.S. (77%), Netherlands Antilles (4%) and Canada (4%); leading customers, the U.S. (59%), Belgium (12%) and Italy (9%).

On Jan. 1, 1950, there were about 2,000 mi. of improved roads, of which only about 245 mi. were surfaced. There were 88 mi. of public railway and 75 mi. of industrial trackage. Registered motor vehicles totalled 3,880 on Jan. 1, 1949. International air service was supplied in 1950 by Pan American World Airways; the Haitian air force furnished internal air transport. In 1949 there were five small commercial broadcasting stations and about 4,900 telephones.

**Agriculture.**—Exports of coffee, the chief export crop, totalled 483,509 bags of 132 lb. each in the trade year 1948-49. Exports of sisal fibre, the second crop, increased to 32,749 short tons as new acreage reached maturity. In 1949, 48,805 short tons of sugar and 2,441,510 gal. of molasses were produced. Livestock (1945) included 200,250 cattle, 13,800 sheep and 1,010,000 goats.

**Manufactures.**—Manufacturing was on a small scale and, except for sugar refining, was mainly for domestic consumption. There was one large modern sugar mill operated by the Haitian-American Sugar company near



Port-au-Prince, which accounted for most of the sugar production, and another smaller mill. A third mill was completed near Les Cayes in 1950. A modern textile mill made denim and gray goods.

**Mineral Production.**—Minerals are of negligible importance in the Haitian economy. (J. W. Mw.)

**Hammer Throw:** see TRACK AND FIELD SPORTS.

**Handball.** The Town club of Chicago, Ill., was the host club at which the annual National A.A.U. four-wall handball championships were held in 1950. They were not only hosts, but also the victors in both events. Ken Schneider of the Town club won the singles crown, defeating Walter Plekan, of Buffalo, N.Y., in the finals. In 1949 these two had met in the semi-finals and the results were reversed. First honours in the doubles were captured by Frank Coyle and William Baier who overwhelmed in the finals still another Town club entry, George Di Re and Jack Gordon.

#### National Four-Wall Rankings for 1950

##### Singles

1. Ken Schneider, Chicago, Ill.
2. Walter Plekan, Buffalo, N.Y.
3. Gus Lewis, Chicago, Ill.

##### Doubles

1. Frank Coyle and Wm. Baier, Chicago, Ill.
2. George Di Re and Jack Gordon, Chicago, Ill.
3. Sol Newman and Harold Shrutt, Buffalo, N.Y.

#### National One-Wall Rankings for 1950

##### Singles

1. Victor Herschkowitz, Brooklyn, N.Y.
2. Morton Alexander, Brooklyn, N.Y.
3. Al Schneider, Brooklyn, N.Y.

##### Doubles

1. S. Blank and A. Schwartz, Brooklyn, N.Y.
2. Joseph Lobelson and Anthony Di Blasi, New York, N.Y.
3. M. Alexander and A. Schneider, Brooklyn, N.Y.

(FR. RO.)

**Harbours:** see RIVERS AND HARBOURS.

**Harness Racing:** see HORSE RACING.

**Harrison, William Henry** (1892— ), U. S. National Production authority administrator, was born on June 11 in Brooklyn, N.Y. He began work as a repairman and inspector for the New York Telephone company, and later studied electrical engineering part time at Pratt institute, Brooklyn. He joined the American Telephone and Telegraph company (A.T. & T.) as an engineer in 1918 and was plant engineer in 1933 when he resigned to become vice-president and director of the Bell Telephone Company of Pennsylvania and of the Diamond State Telephone company. In 1937 he became assistant vice-president of the A.T. & T. and the following year vice-president and chief engineer. During World War II he served with the national defense council, the Office of Production Management and the War Production board in various capacities directing construction, production, and the procurement of supplies. Early in 1942 he was assigned to the office of the chief signal officer and in June to headquarters, army services of supply, as director of procurement and distribution services. He was appointed brigadier general in 1942 and temporary major general in 1943.

He returned to A.T. & T. as vice-president in 1945, but in June 1948 resigned to become president and director of the International Telephone and Telegraph corporation. On Sept. 10, 1950, Secretary of Commerce Charles Sawyer named Harrison administrator of the National Production authority, to handle the priorities, allocations and inventory controls assigned to the commerce department under the defense mobilization program.

**Hawaii.** The territory of Hawaii consists of a group of eight large islands and numerous islets in the Pacific ocean between latitudes 18° 55' and 22° 15' N. and between 154° 50' and 160° 30' W. longitude. The total area of the group is 6,433 sq.mi. From southeast to northwest, the islands are Hawaii, Kahoolawe, Maui, Lanai, Molokai, Oahu, Kauai and Niihau. In addition, stretching northward beyond Niihau more than 1,100 mi. is an archipelago of rocks, reefs and shoals which includes



HAWAIIAN DELEGATES meeting at Honolulu in April 1950 to draft a constitution pending approval of Hawaiian statehood by the U.S. senate; the document was completed July 15

Midway (longitude 177° 22' W.). Likewise, 960 mi. S. of Honolulu and included as part of the city and county of Honolulu lies Palmyra, a coral atoll consisting of 55 islets, 5 mi. long and 2½ mi. wide. The largest island in the territory is Hawaii, with an area of 4,021 sq.mi. The capital of the territory is Honolulu, situated on the island of Oahu. Honolulu is a modern city with a population of 232,193, exclusive of military and naval personnel.

The population of the territory grew from 423,330 in 1940 to 499,794 in 1950. The largest single racial group is the Japanese, which constitute 39.5% of the total. The second largest is the Caucasian with 27.5% of the total, and the Hawaiian and part Hawaiian are third with 19.3%. Other important groups in origin are Filipino, Chinese, Puerto Rican and Korean.

Ingram M. Stainback became governor of Hawaii on Aug. 24, 1942, and was reappointed July 13, 1946. Joseph R. Farrington was in 1950 serving his fifth two-year term as Hawaii's delegate to the U.S. congress.

**History.**—Hawaii has been a territory of the United States since 1900. Since that date the territory has made repeated petitions to congress for statehood and in a plebiscite in 1940 its electors voted in favour of statehood by a majority of more than two to one. A statehood convention was held in April 1950, with delegates from all the islands attending. The constitution drafted at this convention was approved by the voters in the general territorial election of 1950, following approval by the territorial legislature. In Dec. 1950 copies of the constitution were formally presented to Pres. Harry S. Truman and to both houses of congress by the governor of Hawaii. A statehood enabling bill failed of passage in the United States senate and immediate steps were made by the territory to carry its fight for statehood to the next session of congress in 1951.

**Banking and Finance.**—Bank clearings in 1949–50 amounted to \$1,703,347,996.56. The volume of business transacted was \$1,192,731,693.63, a



decrease of \$54,152,791.58. Total territorial tax collections amounted to \$160,632,106 compared with \$163,836,560 in 1948. The net bonded indebtedness was \$19,393,000. The net assessed valuation of real property was \$333,643,899. Internal revenue collections for the fiscal year 1949-50 totalled \$81,062,910.49, a decrease of \$9,761,787.51.

**Trade and Commerce.**—Hawaii purchased from the mainland United States in 1949 merchandise valued at approximately \$307,612,000 and shipped to the mainland products valued at approximately \$212,466,000.

**Production.**—Hawaii's principal crops are sugar, pineapple and coffee. Production during the fiscal year 1949-50 included a total of 995,890 tons of sugar valued at \$112,278,000; 23,745,873 cases of pineapple and juice valued at more than \$75,000,000; and 6,000,000 lb. of (green) coffee valued at approximately \$1,700,000. In addition to export crops, field crops and miscellaneous fruits, vegetables and nuts valued at \$10,000,000 were marketed locally. Livestock and poultry products had a value of \$20,964,000. The total catch of fish during the year amounted to 7,500 tons, valued at \$4,500,000. (I. M. S.)

**Hay.** The 1950 U.S. crop of all kinds of hay amounted to 106,819,000 tons, the third largest crop in 85 years of record and, including a carry-over of 15,000,000 tons, the largest amount on record per animal unit to be fed. The 1949 crop was 99,536,000 tons, and the ten-year average 100,344,000 tons. The 75,741,000 ac. of harvested hay was not a record but exceeded the 72,995,000 ac. of 1949 and the 1939-48 average of 74,470,000 ac. Average yields of 1.41 tons per acre were among the highest recorded and compared with 1.36 tons in 1949 and 1.35 tons for the ten-year period, but results were uncommonly diverse from area to area. Quality was good in most areas. Wisconsin, producing 7,051,000 tons, continued as the leading state.

An alfalfa hay crop of 41,029,000 tons again set a new record both as to production and acreage. The lespedeza crop of 7,598,000 tons was 1,000,000 tons less than in 1949. Clover-timothy harvested was 29,636,000 tons, nearly 5,000,000 tons larger than the small 1949 crop. The wild hay crop of 12,509,000 tons was slightly larger than in 1949, with Nebraska and the Dakotas the major producing area.

The value of the crop was preliminarily estimated at \$2,251,435,000 or \$21.10 per bale, as compared with \$2,122,276,000 and \$21.30 per bale in 1949.

**Hayseed.**—The 1950 crop of the six major hayseeds (alfalfa, red clover, alsike clover, sweet clover, lespedeza and timothy) totalled 609,100,000 lb., about 10% more than large 1949 crop and 27% larger than the ten-year average. The red clover seed crop was a record (2,638,300 bu. compared with 1,319,200 bu. for 1949), the alfalfa seed crop a near record, sweet clover the largest in 11 years and timothy the largest in 7 years. Excepting the scarcer alsike clover and lespedeza seeds, prices appeared likely to be substantially below those prevailing for the previous crop. (See also SOYBEANS.) (J. K. R.)

**Hay Fever:** see ALLERGY.

**Health, Industrial:** see INDUSTRIAL HEALTH.

**Hearing Aids:** see DEAFNESS.

**Heart and Heart Diseases.** The National Conference of Cardiovascular Diseases was held in Washington Jan. 18-20; and the first International Congress of Cardiology, in Paris Sept. 3-9, 1950. The Paris congress was held at the Sorbonne with 1,200 physicians attending. At this congress the International Society of Cardiology was formed.

The psychogenic factors of essential hypertension were pointed out, and the role of the adrenal re-emphasized by subtotal, and even total, adrenalectomy which became feasible through the replacement possibilities of cortisone and pituitary adrenocorticotrophic hormone (ACTH). A. M. Master, L. I. Dublin and H. H. Marks suggested a redefinition of hypertension since at ages 55 or 60 and older, systolic pressure of 180 or even to 190 mm., and diastolic pressure of 100 or even 110 mm. should not *ipso facto* be considered abnormal since they may merely reflect

the degree of arteriosclerosis. They believed the upper levels accepted as normal to be too low, particularly after the age of 45.

The development of atherosclerotic coronary disease in people under the age of 40 was shown to be confined almost entirely to the male sex, and to the predominantly mesomorphic type. J. W. Gofman and his associates demonstrated that persons prone to atherosclerosis showed a significant increase, in their blood sera, of giant lipid and lipoprotein molecules of low density, as shown by flotation rates in the ultracentrifuge. Alteration of cholesterol deposition in arteries by extremely low cholesterol diet and lipotropic substances was advocated by some investigators, but experimental evidence was conflicting.

Progress in congenital heart disease studies concerned the increased accuracy of diagnosis, especially by the use of the intracardiac catheter, or the intra-arterial catheter and retrograde arteriography, as in the visualization by X-ray of coarctation of the aorta. Helen B. Taussig reported 828 patients operated on for pulmonary stenosis and atresia. Of these, 164 died but more than 80% of the patients with tetralogy of Fallot who were benefited were doing well six months to five years after operation. Pulmonary stenosis became amenable to surgery upon the valve or infundibulum of the right ventricle. Relief of coarctation of the aorta by surgery was extended by the use of arterial grafts.

Surgery also invaded other fields of cardiovascular pathology as successful operations upon the stenosed mitral valve were performed. In France it was found possible to remove the entire endothelial lining of the arteries of the legs from groin to ankle in cases with a high degree of arteriosclerotic occlusion of these vessels and to restore circulation, even at times to limbs with gangrene.

M. Prinzmetal and his associates presented evidence that the same basic mechanism exists in auricular premature beats, auricular paroxysmal tachycardia, auricular flutter and auricular fibrillation, that is, a single ectopic focus in the auricle, thus denying the earlier concepts of Sir Thomas Lewis regarding a circus movement in auricular flutter and fibrillation.

Investigative instrumentation was extended by the development of a small, portable, ballistocardiograph by William Dock, and this technique became rapidly explored in clinical medicine, using this instrument as well as the table models of Starr and Nickerson. Intracardiac investigation in man progressed to the point of introduction of a catheter into the left ventricle and even into the left auricle, in one subject, where electrocardiograms were recorded. New instruments for the study of Vector electrocardiography became available.

Drug therapy was advanced by the development of several anticoagulants and an amide of procaine for use in ventricular ectopic rhythms, and the demonstration of the value of aureomycin in nonspecific pericarditis. (See also CHEMOTHERAPY; MEDICINE.)

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(H. B. S.)

**Helicopter:** see AIRCRAFT MANUFACTURE; AVIATION, CIVIL.

**Hench, Philip Showalter** (1896- ), U.S. physician and research expert, was born Feb. 28 in Pittsburgh, Pa. He received a bachelor of arts degree from Lafayette college, Easton, Pa., in 1916, and his doctorate in



medicine at the University of Pittsburgh in 1920. The following year he became a fellow of the Mayo foundation of the University of Minnesota in Rochester. He became a first assistant in medicine in the Mayo clinic in 1923 and eventually became head of its department of rheumatic diseases. He remained associated with the Mayo clinic, although in 1928-29 he engaged in special studies at the Freiburg and von Mueller clinic in Munich, Germany, and in World War II he served in the U.S. army medical corps. In 1948 he and two assistants, Charles H. Slocumb and Howard F. Polley, began conducting tests on patients incapacitated by arthritis, using cortisone, the suprarenal cortex hormone, on some, and ACTH, the adrenocorticotrophic hormone on others. The results were spectacular. These experiments were carried out after numerous consultations with Edward C. Kendall, head of the biochemistry department at the Mayo foundation. Hensch and Kendall on Oct. 26, 1950, were named by the Swedish Caroline Institute of Medicine as recipients of the Nobel prize in medicine, along with Tadeusz Reichstein of Switzerland.

Their joint citation read "for their discoveries regarding the hormones of the adrenal cortex, their structure and biological effect."

**Highways:** see ROADS AND HIGHWAYS.

**Hispaniola:** see DOMINICAN REPUBLIC; HAITI.

**Hockey, Field.** Recording three successive shutouts, the Philadelphia first team carried off top honours in the annual championship of the United States Field Hockey association, held in 1950 at Rochester, N.Y. Philadelphia beat the first Southeast group, 5-0, then blanked Middle Atlantic, 3-0, and Northeast, 4-0.

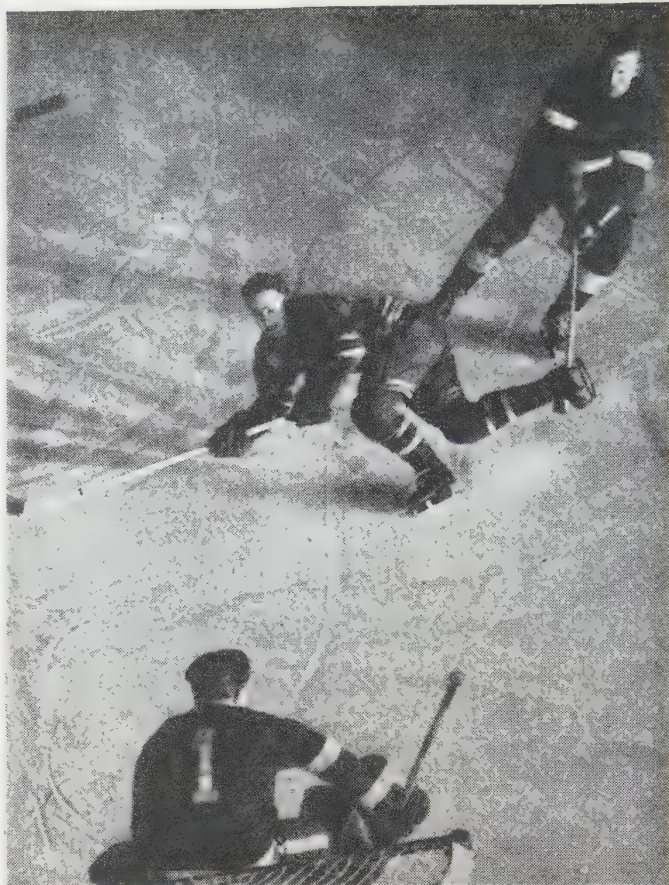
Six of the 11 stars picked for the All-America team at the conclusion of the tourney were Philadelphians. They included Betty Schellenberger, stellar right inner, who was selected for the eighth season and Ann Volp, left inner, who was picked for the sixth time.

The annual competition of the Northeast association drew 160 women athletes from New York, Connecticut, New Hampshire and Massachusetts. Held at Wellesley, Mass., the tournament was featured by a 3-0 triumph of the 1950 All-Northeast eleven over the reserves. Barbara Clement, Norma Simmons and Betty Richey made the goals. Boston, stronghold of the sport in the U.S., placed seven players—Betty Webber, Jean Graham, Helen Mackey, Margot Cunningham, Ann Delano, Miss Clement and Miss Simmons—on the All-Northeast first squad. (T. V. H.)

**Hockey, Ice.** A powerful band of Detroit Red Wings successfully defended the championship of the National Hockey league in 1950 and then went on to win the Stanley cup. The Wings narrowly escaped elimination in the semifinals at the hands of the Toronto Maple Leafs, who had conquered the Wings in 11 straight play-off contests in three years. Once again the Leafs got away flying and with their great goalie, Walter "Turk" Broda, starring, blanked Detroit in the opener, 5-0. After dropping the second game, 3-1, Toronto again won by 2-0, but the Wings drew even by annexing the fourth contest, 2-1 in overtime. Broda then scored another shutout, 2-0, but Detroit came back to triumph in the sixth game by 4-0.

A goal by Leo Reise in overtime gave the Wings a 1-0 victory in the big seventh game.

New York's surprising Rangers, fourth in the regular league campaign, eliminated Montreal by 4 games to 1 to reach the final play-offs. The Gotham skaters won by 3-1, 3-2, 4-1 and 3-0, the Canadiens being able to gain only one decision and that coming by 3-2 in the fourth encounter which was decided in overtime.



DETROIT RED WINGS v. the New York Rangers at Detroit on April 11, 1950, during the first of the National Hockey league Stanley cup playoff finals. The Red Wings defeated the Rangers 4 to 1 and went on to take the Stanley cup with a score of 4 games to 3

Having gained the Stanley cup finals, the Rangers were faced with the odd situation of having no home ice as the circus had moved into Madison Square Garden and the Blue Shirts used Toronto's rink for their "home" battles with Detroit. Detroit took the opener by 4-1 only to have New York come back with a 3-1 decision. After the Wings had won, 4-0, the Rangers triumphed, 4-3, on Don Raleigh's overtime goal and captured a 3-2 advantage in games when Raleigh again scored in extra play for a 2-1 decision in the fifth meeting. Detroit kept its hopes alive by capturing the sixth encounter, 5-4, on a shot by Sid Abel and then swept off with the series and the Stanley cup when Pete Babando scored in 28 min. 31 sec. of a sudden-death overtime period for a 4-3 triumph in the big seventh game.

Chuck Rayner, young goalie of the Rangers, received the Hart trophy as the National league's most valuable player, while Edgar Laprade, his teammate, was chosen for the Lady Byng trophy, given annually to the player displaying the best sportsmanship. Jack Gelineau, Boston net guardian, won the Calder Memorial trophy for the outstanding rookie and Ted Lindsay, who accounted for 78 points in the regular campaign, won the Art Ross trophy for leading the circuit in scoring.

Canada won world amateur honours at London with a sweep of five games in the round-robin finals, while the United States, with a single loss, placed second.

Other champions included: American Hockey league, Indianapolis Caps; U.S. Hockey league, Minneapolis Millers; Pacific Coast Hockey league, New Westminster Royals; Amateur Hockey Association of the U.S. (eastern), Chatham, Ont., Maroons; Amateur association (western) Spokane, Wash., Flyers; Eastern league, New York Rovers; International league, Chatham Maroons; Allan cup, Toronto Marlboros; Memorial cup, Montreal



Junior Canadiens; National Collegiate Athletic association, Colorado college, Colorado Springs; Canadian intercollegiate, Montreal. (T. V. H.)

**Hoffman, Paul Gray** (1891— ), U.S. industrialist and government official, was born on April 26 in Chicago, Ill., and studied at The University of Chicago. In 1911 he became a salesman for a Studebaker dealer in Los Angeles, Calif., and later was sales manager and then district branch manager for Studebaker in that city. After serving in World War I he purchased the Studebaker retail branch in Los Angeles, and in 1925 he went to South Bend, Ind., as vice-president of the Studebaker company. In 1933 he and Harold Vance, another vice-president, as receivers successfully reorganized the company and Hoffman served as Studebaker president from 1935 to 1948. He was an organizer of the Committee for Economic Development and chairman of its board of trustees from 1942 to 1948. On April 5, 1948, Pres. Harry S. Truman appointed him Economic Cooperation administrator to supervise the European Recovery program (ERP). In 1950 he declared the ERP was defeating communism in western Europe, and urged that a recovery program there be continued. When he resigned as ECA administrator, effective Sept. 30, Hoffman declared ECA should spend \$8,000,000,000—\$14,000,000,000 more on "economic, informational and psychological activities" abroad before ending on schedule in 1952.

On Nov. 6 it was announced that Hoffman had been appointed director of the Ford foundation, which was the largest public trust in the world.

**Hogs:** see LIVESTOCK.

**Holland:** see NETHERLANDS.

**Home Building, Federal:** see HOUSING.

**Home Economics.** Membership in the American Home Economics association in 1950 included 19,414 professional memberships, 424 college clubs, 54 home-maker groups and 4 foreign associations.

The standard sponsored by the association for dimensions, tolerances and terminology for home cooking and baking utensils was adopted by the American Standards association. At the annual convention standards for cotton housedresses were also adopted.

Interest in evaluating home economics programs continued. A series of six workshops for home economics staff members was held to introduce new tools for evaluation and to assist with a critical review of the college program.

**Bureau of Human Nutrition and Home Economics.**—A series of comprehensive reports on city family eating habits in the United States was issued. In co-operation with the agricultural experiment stations, studies were underway to obtain information on the nutritional status and food needs of selected population groups. Complete food composition tables, listing 751 different foods, were published. A conference of scientists was arranged to work on uniform methods of taste-testing in food research.

For institutions, nutritionally adequate food plans at low and moderate cost and a number of quantity recipes were developed.

First reports were released on a study of housing features for farm families, also in co-operation with the agricultural experiment stations.

The cause of stretching and shrinking in commonly-used cotton knit fabrics was investigated. Ways of teaching sewing by means of television were studied.

**Home Economics Extension Service.**—More than 1,500,000

women reported that they had improved their families' diets through better selection, preparation and preservation of food. In addition, 10,350 schools were assisted in establishing and maintaining hot lunches. About 300,000 families received help on housing improvements. About 235,000 women and 28,000 men participated in child development and family relations programs. Through 4-H club programs, the service reached 1,000,000 girls.

Approximately 3,100 white and 385 Negro home economists directed these county and community programs, with help from 600,000 volunteer local leaders.

**Experiment Stations.**—Research in home economics in the land grant colleges is largely conducted as part of the research programs of the agricultural experiment stations established in connection with the colleges. These researches are supported in part by state and special funds, and in part by federal grants administered through the office of experiment stations of the U.S. department of agriculture. During 1950 investigations were continued in the fields of family economics, family relationships, foods and nutrition, housing, home management and textiles and clothing.

Some of these investigations were fundamental in character; others were applied. Certain researches concerned with farm housing problems and with food consumption and nutritional status of selected population groups were conducted on the regional co-operative basis made possible through provisions of the Research and Marketing act of 1946.

**Public Schools and Colleges.**—Approximately 1,750,000 girls and boys were enrolled in home economics classes in junior and senior high schools. There was a 24% increase in enrolment in adult classes over the previous year, making a total of 713,000 receiving help with homemaking problems. Nearly 300,000 members of Future Homemakers of America and New Homemakers of America, national organizations of high school home economics students, emphasized international friendship in their individual and chapter projects.

Two studies in colleges and universities showed that there were approximately 470 colleges granting degrees in home economics and 330 teaching home economics but not granting bachelor's degrees. In 408 of the institutions granting degrees there were 43,000 students majoring in home economics and 28,000 students enrolled for some home economics courses. Approximately 13,000 students were enrolled in 236 of the colleges not granting degrees.

In 1949 a total of 8,900 bachelor's, master's and doctor's degrees were granted.

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**Honduras.** A republic of Central America, Honduras is bounded by Guatemala, El Salvador and Nicaragua. Area: 59,160 sq.mi. Pop. (1945 census): 1,200,542, including approximately 35,000 tribal Indians. On June 30, 1950, the population was estimated at 1,533,625. Capital: Tegucigalpa (pop. 62,263 in 1949). Other principal cities are: San Pedro Sula (24,425), Comayagua (16,907), Le Ceiba (13,456), Tela (11,544), and Puerto Cortés (8,837). Language: Spanish. Religion: predominantly Roman Catholic. President in 1950: Juan Manuel Gálvez.

**History.**—The administration of President Gálvez was accused by the Liberals in May 1950 of depriving them of the rights of assembly and public expression. Countering, the government cited a statute forbidding the dissemination of partisan propaganda except during election campaign periods. Criticism by the Liberals continued, but the government strengthened its position by thwarting an attempted coup d'état in September. Two army officers were arrested before the coup was set off, and the other conspirators fled, according to the official version. In the municipal elections, Nov. 26, the administration party won 77,593 votes while the Liberals received 8,104 and other minor groups 13,934, collectively.

Two new financial institutions, the Central Bank of Honduras and the National Development bank, were created by the national congress in February and began operations July 1. The former, with an initial capital of 500,000 lempiras, was authorized to manage monetary, credit and exchange policy, while the latter, capitalized at 1,500,000 lempiras, was established to make loans, issue and sell public securities and finance public works, especially agricultural projects. Shortly after it opened, the Central bank began to retire the 12,000,000 U.S. half dollars from circulation and, for the first time in several years, released the national coinage for circulation.

**Education.**—In 1949 there were 1,700 primary schools with 83,619 students, 27 secondary schools with 1,340 students, 24 normal schools with 1,541 students and 14 commercial schools with 1,073 students. The National university enrolled approximately 500 and the Pan American School of Agriculture 171. The national budget in 1948 allotted 3,172,130.12 lempiras for public education.

**Finance.**—The monetary unit is the lempira, officially valued at 49.5 cents U.S. on Oct. 31, 1950. The national revenues for the 1949–50 fiscal year amounted to 27,792,221 lempiras, and expenditures 26,538,651 lempiras. A budget of 25,000,000 lempiras was provided for the 1950–51 year. On Dec. 31, 1949, currency in circulation totalled 12,595,213 lempiras, of which 9,645,090 was in coin, and the foreign debt amounted to approximately \$719,500. The internal debt was approximately \$5,787,500 on June 30, 1949.

BARRICADES set up in Hong Kong by British police on Jan. 30, 1950, after rioting by several thousand transport workers

**Trade and Resources.**—Exports during the fiscal year 1948–49 totalled \$20,800,000, exclusive of monetary gold and silver (\$19,128,000 in 1947–48); imports, \$34,000,000 (\$34,906,000 in 1947–48). Most of the trade was with the United States. Bananas (13,926,896 stems) accounted for 34% of the export value; logs and lumber, 12.6%. Other exports included coffee (8,292,560 lb.), coconuts (11,337,304 nuts), abacá fibre (6,118,870 lb.), cattle and hogs (91,522 head), gold (20,820 troy ounces) and silver (3,389,513 oz.).

**Communications.**—In 1947 the banana area of the north was served by 922 mi. of railroad; the main towns by 1,201 mi. of highway and 63 airfields. At the end of 1948 there were 959 automobiles and 993 trucks and buses, 2,646 mi. of telephone lines, 6,300 telephones, 6 radio stations and 15,000 radios.

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**Honduras, British:** see BRITISH HONDURAS.

**Honey:** see SUGAR.

**Hong Kong.** This British colony on the coast of China consists of Hong Kong Island and the ceded territory of Kowloon and Stonecutter's Island. The New Territories (the remainder of the Kowloon peninsula and numerous islands) were leased from China in 1898 for 99 years. Area: colony 36.5 sq.mi., New Territories 355 sq.mi. Pop.: (1950 est.) 2,250,000. Language: Chinese (Cantonese); about 5% speak English. Capital: Victoria. Governor: Sir Alexander Grantham.

**History.**—The year 1950 opened with a strike of public transportation employees and unrest in other utilities. Riots at the end of January after a police ban on meetings were followed by the deportation of union officials, and the strike ended on Feb. 9.

The survey for a new airport off Deep bay near the Chinese frontier, to cost £3,250,000 was begun in February. In May a British order in council gave the supreme court jurisdiction to decide the ownership of 71 aircraft of the China National Aviation corporation grounded at Hong Kong and the court confirmed the claim to ownership of the Chinese People's Republic. Seven were damaged by time bombs on April 2.

Thought in Hong Kong, always susceptible to external influence, continued to be dominated by the situation in China. The improvement hoped for after the recognition of Peking did not take place, though the reply of the head of the Peking government, Chou En-lai, implying that the status of Hong Kong would not be an immediate issue, gave satisfaction.

Refugees continued to pour into Hong Kong and the population reached a record level. Many came from Shanghai and Shanghai industries, particularly textiles, became prominently





represented in Hong Kong.

From April 28 the government suspended immigration for Chinese without valid entry permits. The population then began to fall, partly because of more stable conditions in China, and in October the outlook of traders was more optimistic, particularly about Shanghai.

For the third year in succession trade figures were a record, and for 1949 they were 38% above those for 1948. Trade with China, which had fallen in 1947-48 to half the pre-World War II figure, also improved.

**Finance and Trade.**—Currency: Hong Kong dollar, valued at 17.5 cents U.S. (Dec. 1950). Budget (1949): revenue \$194,933,955; expenditure \$159,954,023. Foreign trade (1949): imports \$2,750,204,801; exports \$2,318,902,992. (W. H. Is.)

**Hormones:** see ENDOCRINOLOGY.

**Horse Racing.** The battle between jockeys Joe Culmone and Willie Shoemaker for the most winners ridden in a single year was perhaps the most interesting feature of a thrill-packed season for turf followers in the United States. Sundown of Dec. 31, 1950, found the two jockeys in a deadlock for the title. Booting home three victors apiece on the last day of the year, they finished even with 388 winners to equal the all-time record set by Walter Miller in 1906. The final standings:

	Mounts	Firsts	Seconds	Thirds
Shoemaker . . . . .	1,634	388	263	229
Culmone . . . . .	1,674	388	280	219
Miller . . . . .	1,384	388	300	199

Following the trend of sport in general, there was a slight decline in attendance at U.S. tracks during the year, although pari-mutuel betting showed a small gain. Estimates by the Thoroughbred Racing association had \$1,395,000,000 wagered, with attendance figures about 22,500,000. New York state meetings showed an increase in both respects, 4,238,542 persons, or 2.1% more than the year before, making their way through the turnstiles to bet \$308,477,512, a rise of 1.7%.

In addition to the duel for jockey honours, there were the Hill Prince-Noor and Noor-Citation races, a number of record-making runs and the battle between Calumet Farm and Brookmeade for money-winning laurels to hold the interest of the fans.

Christopher T. Chenery's Hill Prince, acclaimed the horse of the year by the Thoroughbred Racing association, ran twice against Noor, Mrs. Charles S. Howard's Irish-bred five-year-old. The two stars first met at Belmont park on Oct. 7 and the Prince, carrying 117 lb. over two miles, annexed the Jockey club gold cup. They went to the post again on Dec. 9 for the Hollywood gold cup run of a mile and a quarter, and with each weighted at 130 lb., Noor triumphed easily as he set a new track mark. Palestinian was second and Hill Prince finished third, four lengths behind Noor. Following this race, Noor was retired to stud, but that victory had brought his earnings for 1950 to \$346,940 to give him the money-winning crown.

Before invading the east, where he finished second in three tests at Belmont, Noor had defeated Citation in four straight stake races, breaking records in three of them. Two of the records, 1 min. 46½ sec. for nine furlongs and 1 min. 58½ sec. for ten furlongs, were set at Golden Gate, scene of two other standard-breaking races during the season. It was there that Citation, making a comeback after more than a year's layoff because of an injury, ran the mile in 1 min. 33½ sec. and Bolero was clocked in 1 min. 8½ sec. for six furlongs.

Middleground, King Ranch ace, with apprentice Bill Boland up, captured the Kentucky Derby at Louisville, Ky., blue-ribbon classic of American racing, on May 6. With 90,000 looking on at Churchill Downs, Middleground, a son of Bold Venture, the

Derby victor of 1936, ran the mile and a quarter in 2 min. 1½ sec., only one-fifth of a second off the record for the event. Hill Prince took the place, a length and quarter back, with C. V. Whitney's Mr. Trouble third.

Hill Prince reversed the tables in the running of the rich Preakness at Pimlico in Baltimore, Md., on May 20. Finding the mile and three-sixteenths to his liking, the Prince, with Eddie Arcaro riding, defeated Middleground by five lengths. Dooly, running as an entry with Mr. Trouble, led home his more famous stablemate to grab the show.

Middleground gained two-thirds of the "triple crown" by annexing the \$91,950 Belmont stakes on June 10. A great stretch ride by young Boland brought Middleground a length victory over George D. Widener's Lights Up as Mr. Trouble finished third in the mile and a half run. Hill Prince, heavily backed at 17 to 20, tired badly and ran seventh. Middleground was retired in the fall after breaking an ankle.

With the death on Dec. 28 of Warren Wright, owner of Calumet Farm, Calumet horses entered in big races of Dec. 29 and 30 were withdrawn and Calumet lost all chance of overtaking Brookmeade in their close duel for stable money-winning laurels for the year. R. H. McDaniel was champion of the trainers for most winners saddled.

Hill Prince was U.S. champion and best of the three-year-old colts; Noor, the handicap leader; Next Move, the top three-year-old filly; Two Lea, the best handicap filly (or mare); Battlefield, the outstanding two-year-old colt; Aunt Jinny, the title winner among two-year-old fillies; and Oedipus, the steeplechase king.

The trotters and pacers enjoyed a banner campaign and Proximity, owned by Ralph and Gordon Verhurst of Victor, N.Y., was named harness horse of the year in a nation-wide poll of experts. The old mare was credited with four new world records during the season and brought her earnings to \$247,379 to break the mark of \$206,462 set by Goldsmith Maid many years before.

Lusty Song, three-year-old colt from the Hayes Fair Acres stable of Du Quoin, Ill., driven by Del Miller, captured the Hambletonian at Goshen, N.Y., on Aug. 9. The favourite won in straight heats, being timed in 2:02 for each one-mile test to win \$40,537.72. (T. V. H.)

**Canada.**—The higher cost of living was reflected in a slight drop in pari-mutuel betting during the 1950 season. The 1950 statistics (with 1949 in parentheses) were: 356 (355) days of racing at the tracks of 31 (29) racing associations which held 2,761 (2,750) races, at which \$53,469,032 (\$59,550,478) was wagered, with \$3,003,905 (\$2,957,310) paid out in prize money. Ontario set up a racing commission, banned night harness racing with pari-mutuel betting and raised the provincial tax on pari-mutuel betting from 10% to 12½%. The royal Canadian mounted police stopped supervision of saliva tests at race tracks. (C. Cy.)

**Great Britain.**—A winter of exceptional mildness favoured racing under National Hunt rules in Great Britain and Ireland. The Grand National was won by the favourite, Mrs. L. Brotherton's nine-year-old gelding Freebooter, trained by R. Renton at Ripon, Yorks., and ridden by J. Power. For the third year in succession the Cheltenham gold cup was won by F. L. Vickerman's Cottage Rake; and for the second year in succession the Champion Hurdle cup was won by Hatton's Grace. Both horses were trained by M. V. O'Brien in Ireland and ridden by A. Brazon.

For flat racing the inclement weather of the summer discouraged large crowds at meetings but facilitated the work of trainers.

French horses enjoyed unprecedented success in the English



classic races. Only one of these was won by a British horse, the Aga Khan's Palestine, which in the Two Thousand Guineas defeated the American-bred Prince Simon by a short head. W. Johnstone won the One Thousand Guineas on the French filly Camaree. The remaining three classic races were won by M. Bous-sac's horses, trained by C. Semblat and ridden by Johnstone: Galcador won the Derby, Scratch II the St. Leger and Asmena the Oaks.

The best French three-year-old in England was F. Dupré's Tantième, who beat Galcador in the French Two Thousand Guineas, was beaten by Scratch II in the Prix du Jockey Club, but ended the season by winning the £35,040 Prix de l'Arc de Triomphe, in which Scratch II finished fourth. The King George VI stakes at Ascot were won by Cagire II, a French-bred colt trained in England, who had been fifth in the St. Leger. The Grand Prix de Paris was won by Vieux Manoir, who later finished second to Scratch II in the St. Leger. The best three-year-old fillies in France were Corejada, who won the French One Thousand Guineas and the Irish Oaks, and Aglae Grace, who beat Corejada in the French Oaks. The Irish colt Dark Warrior won the Irish Derby.

Only 3 English-bred horses were in the field of 13 for the Ascot gold cup, but one of these, Supertello, was the winner. The Goodwood cup was won by a moderate French horse, Val Drake. The five-year-old Aldborough won the Queen Alexandra stakes at Ascot and the Doncaster cup but died a few weeks later at the peak of his career. A useful three-year-old English filly was the king's Above Board, one of the easiest Cesarewitch winners in the history of the race.

(M. A. MD.)

**Horses:** see LIVESTOCK.

**Horse Shows:** see SHOWS.

**Horticulture.** During 1950, florists throughout the U.S. united in opposition to a proposal of the Dutch marketing board that the shipment of cut flowers to America be permitted. They held that this would put Dutch growers in competition with the purchasers of U.S. florists' bulbs and seriously interfere with trade relations between the two countries. Bulb shipments from the Netherlands were sufficient to break the U.S. market at the end of the season, although the tulip crop was smaller than expected because of bad spring and summer weather.

Japan greatly increased its lily bulb exports but they still were less than before World War II. In the U.S., extreme cold weather in Oregon in January did considerable damage, but bulb growing in the northwest continued on a large scale.

Australia sent 200,000 orchid blooms to the U.S. by plane, twice as many as in any previous year. New Zealand sent the U.S. 2,500 lb. of grass and clover seed for the improvement of its grasslands. The seed was distributed to the state experiment stations.

Canada eased its ban on the importation of flowers and greens from the U.S. and lifted its restrictions on imports of apricots and peaches. Hundreds of tons of these fruits were sent from California to Canada to offset heavy losses to the canneries caused by a severe winter. The blueberry crop in the Saguenay section of Quebec jumped to a value of \$3,000,000, because of deep-freeze demands and the use of new self-sealing plastic crates. Nova Scotia had the worst potato blight in years, but two new blight-resistant kinds, Canso and Keswick, were offered to give better future crops. Canada continued to ship potatoes to the U.S. in spite of strong protests from Maine growers.

A great increase in new houses brought a heavy demand in the U.S. for shade trees and for garden shrubs. The former became scarce. Landscape work improved in volume, but all branches of the horticultural industry began to suffer a labour shortage be-

cause of men called into military service.

Spraying from the air continued to be of great value in controlling forest pests. In the Pacific northwest 1,000,000 ac. of Douglas firs were sprayed, at a cost of \$1,000,000. Spraying was less successful, however, in attempted control of the Dutch elm disease, which spread rapidly in the east, causing the removal of thousands of trees. The beetles which carry the disease were found in Colorado in large numbers, but the disease did not appear, possibly because the soil there is alkaline. Heavy applications of lime were suggested as a remedy to be tried in the east.

The elm trees in the Mississippi valley were being destroyed by a fungus disease hard to control. The oak wilt found in Wisconsin in 1941 had spread to adjoining states and was doing much damage. A new pest, found on avocados in California was the six-spotted mite. Heavy applications of sulphur helped keep it in control.

A somewhat similar pest did much damage to evergreen trees in the east.

The U.S. cranberry crop of about 940,000 bbl. was larger than in the previous year but smaller than the peak in 1948. However, because of large stocks left over, considerable picking was omitted in an effort to maintain reasonable prices. Massachusetts had the largest proportion of the crop, about 600,000 bbl.

The George Robert White medal of honour, the outstanding horticultural award in the U.S. went to Wilson Popenoe, agricultural explorer and director of the Escuela Agricola Panamericana, Honduras.

There was continued development and use of new chemicals for the control of insect pests and fungus diseases. Some of them were found very toxic although very efficient. Chemicals for killing crab grass received much attention. Experiments were being made with chemicals to retard the growth of lawn grass and with grasses that are naturally dwarf. Increased interest in "organic gardening" was shown in both the U.S. and England. In the latter country orchardists were introducing earthworms to improve their soil.

Europe was believed to have sufficient vegetable seeds for its needs, but unfavourable weather brought heavy crop losses in eastern Europe. Items like onions, usually plentiful in Yugoslavia, were selling for \$3 a pound in that country. The U.S.S.R. reported that orchard land in Siberia and the Urals had been increased to 88,888 ac., where several years before there had been only 750 ac. Germany showed much advance along horticultural lines, with well-attended flower and vegetable shows. France was building up its old industry in forced lily-of-the-valley pips. Italy worked at rebuilding its shelter belts to protect growing crops. This important project, begun in 1937, had been neglected.

There was much complaint because the government was slow in breaking up great landholdings to provide more land for food crops.

Thailand developed a new irrigation project which would greatly increase the production of oranges, palms, betel nuts, guava and mangoes. Japan also found new land available for growing seeds, bulbs and plants. The amount of such material in the markets became normal in spite of bad growing weather, and prices were lower. Korean gardeners found themselves short of fertilizers and vegetable seeds. The U.S. government prepared to meet the fertilizer situation. Large amounts of vegetable seeds were obtained through gifts from private sources and shipped to the Philippines, where there was a shortage. (See also BOTANY; FRUIT; VEGETABLES.)

FILMS OF 1950.—*Apples* (Encyclopædia Britannica Films Inc.); *Onion*, *The* (International Film Bureau); *Pineapple Culture* (Paul Hoefer Productions). (E. I. F.)



**Hospitalization Insurance:** *see* HOSPITALS; INSURANCE.

**Hospitals.** As 1950 neared its close, hospitals in the United States were feeling the effects of the Korean war, and were mapping future plans. The calling of doctors, nurses and other health personnel into the armed forces threatened to produce a shortage in hospitals similar to that existing during World War II, and interest increased in personnel recruitment and in the maximum use of existing personnel.

Hospitals took an active role in planning for atomic attack, involving joint utilization of hospital facilities in target areas, interchange of hospital staffs, supply problems and training of personnel. A national system of blood collection, entailing participation of all hospital blood banks, was formulated.

Effect of the Korean war on new hospital construction was not yet certain. On June 30, construction for the year was expected to exceed the 1949 total by 71%. However, the trend toward decreased nonmilitary expenditures led congress in August to cut the 1950-51 fiscal appropriation for the Hospital Survey and Construction program from \$150,000,000 to \$75,000,000. Just what this would do to initially approved projects was uncertain as late as November. On Aug. 31, 1,476 Hill-Burton projects were on the books. Of these, 243 were completed and in operation, 808 under construction and the remaining 425 in preliminary stages of planning. The estimated total cost of all these was \$1,016,700,543, with a federal share of \$374,759,783. Full execution of projects on the books would add 71,821 hospital beds and 265 health centres.

The total book value of hospitals in the United States rose about \$500,000 in 1949 to \$6,945,805,000, according to the annual American Hospital association survey. Operating costs continued to rise. In general hospitals, average daily costs mounted \$1.24 a day in 1949, to a new high of \$14.33 a patient day. The average income of general hospitals, exclusive of gifts or endowments, was \$11.74 a patient day.

For care of indigent patients, city, county and federal governments paid general hospitals an average of \$8.73 a day in 1950. Where payments were based on the government reimbursable cost formula, they averaged \$12.88 a day over the United States.

Admissions were up 5.9% in 1949 to a new high of 17,821,765, though the percentage of occupancy was down from 87.9% in 1948 to 86.4% in 1949. The average length of stay also

went down in 1949. For short-term hospitals, excluding federal, the average stay was 8.3 days in 1949, against 8.7 in 1948.

With the passage of H.R. 6000 by congress in August, federal social security was for the first time made available to employees of nonprofit organizations, including hospitals. The program was to become effective on Jan. 1, 1951, and was expected to benefit appreciably the 434,585 full-time employees of nonprofit hospitals in the nation. (*See also* VETERANS' ADMINISTRATION, U.S.)

In Canada, hospital construction continued at its peak rate through 1950. With federal and provincial assistance in health grants, 24,000 hospital beds were added after April 1, 1948, in more than 300 separate projects. The extension of supporting services and of personnel training lagged because of the lack of financial support.

Another significant development was the initiation of a two-year training course for professional nurses at the Toronto

**ROOMING-IN PLAN** in practice at the Grace-New Haven Community hospital in Connecticut, one of 30 hospitals in U.S. cities offering facilities, in 1950, for mothers to keep their newborn infants in the room with them during the hospital stay





Western hospital. The cost of this experiment was to be met jointly by a charitable foundation, federal and provincial government grants and by the hospital board. After two years of intensive education, the student was to spend a third year on supervised internship with pay, in the parent hospital or in selected smaller hospitals.

In the prepaid hospitalization area, Alberta served notice that it would extend its dollar-a-day municipal-provincial scheme to the whole province, by paying one-half of the nontaxpayer's annual premium. The volume of care had continued its upward trend under the compulsory plans in British Columbia and Saskatchewan, and there was a small reversal of the downward trend in length of stay.

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**Great Britain.**—In Great Britain the new national hospital service controlled by the minister of health and financed out of taxation was 18 months old at the beginning of 1950. During the early part of the year steeply rising expenditure dominated the scene.

Estimates of costs for hospital, specialist and ancillary services rose from £200,000,000 in 1949 to £270,000,000 in March 1950, and the chancellor of the exchequer told the house of commons that no further increase in cost could be permitted.

The vast reorganization of the medical staffing of the hospitals of Great Britain, undertaken as part of the new service, was beginning to take effect. The regional hospital boards to whom this responsibility had been entrusted had done two important things. First, they had drawn up detailed plans for providing each hospital management committee with a full consultant and specialist staff, calculating how many sessions would be required in a given area for medical, surgical, gynaecological and other specialties. Secondly, they had undertaken a detailed review of all members of the senior medical staff holding appointments in the hospitals and had given each man his "grading" either as consultant (the salary for this post, if held full time, being £2,750 a year) or other subordinate category. By 1950 the outlines of the new plan and its implications for individual hospitals and individual medical men were established. In some areas it was possible to create a single integrated medical staff covering all the hospital units under the control of a hospital management committee; in others, circumstances dictated two or more separate units. Often one of the greatest problems lay in deciding which of the small hospitals should be placed at the disposal of the general practitioners of the neighbourhood, and how their work should be related to that of the main hospitals.

**Sweden.**—In September a study tour of hospitals in Sweden was organized by the International Hospital federation. The study tour allowed 130 persons from various countries to obtain first-hand knowledge of Swedish hospital planning and construction and methods of organization and arrangements. The design of Swedish hospitals, in particular the large and recently established hospitals in Stockholm known as the Southern and the Caroline, attracted much attention in hospital circles all over the world.

Arrangements were made by the International Hospital federation to hold a congress in Brussels, Belg., in the summer of 1951. (A. G. L. I.)

**Hotels.** There were 92 new hotels, costing more than \$110,000,000, under construction, planned or completed in the United States during 1950. These new hotels, 14 of which opened during the year, were located in 78 cities in 34 states, where surveys showed that because of population gains more hotel facilities were needed. They would provide a minimum of

12,736 additional guest rooms.

Existing hotels added more than 1,500 guest rooms through new construction in 1950.

The U.S. hotel industry, which was seventh in the nation in point of invested capital, completed a five-year, \$2,000,000,000 rehabilitation and modernization program during the year.

The new hotels, along with the modernized ones, were designed to meet demands of a quick-eating, light-travelling public, composed of an increasing number of women and motor travellers.

Texas, with 12 cities, had more new hotels announced and under way than any other state. California, with the Los Angeles Statler, however, was building the largest hotel. Miami Beach, Fla., was adding more guest rooms than any other city—its eight new hotels would provide 1,900 rooms.

Fifty-three of the new hotels were transient, 34 were resort and 5 were residential hotels. The latter hotels, with their minimum number of guest units, were located in Chicago, Ill., 740; Washington, D.C., 556; New York, N.Y., 525; Dallas, Tex., 151; and Montgomery, Ala., 122.

Unused space of large lobbies was vanishing through conversion into such revenue-producing facilities as stores, showcases, coffee shops and restaurants. In smaller cities some oversize lobbies were being turned into community meeting rooms, readily changeable into banquet rooms and ballrooms. Administrative offices also were moving into overlarge lobbies, often adjoining the front desk to give guests better service.

Separate auto-registration desks and private elevators that take motorists directly from their automobiles to guest rooms without going through main lobbies were increasingly featured in the new and modernized hotels. The increase in automobile travellers caused many downtown hotels to provide parking garages, many of which had mechanics in continuous attendance.

Over-all hotel occupancy dropped from an 84% national average in 1949 to 82% in 1950. However, by Oct. 1950 occupancy was at 86%, the same as in Oct. 1949. The 2% drop for the year's average was ascribed by American Hotel association officials to a decline in week-end business during the early months of the year. (C. A. HH.)

**Great Britain and Europe.**—The feature of the year 1950 that most affected hotels, restaurants and inns in the majority of European countries was the continued encouragement given to all aspects of the tourist industry. By virtue of the key position which they hold in the tourist movement, these establishments became more important nationally; and governments tended to give them increasing recognition and assistance as an industry or a trade, in order to enable them to cater better to overseas visitors.

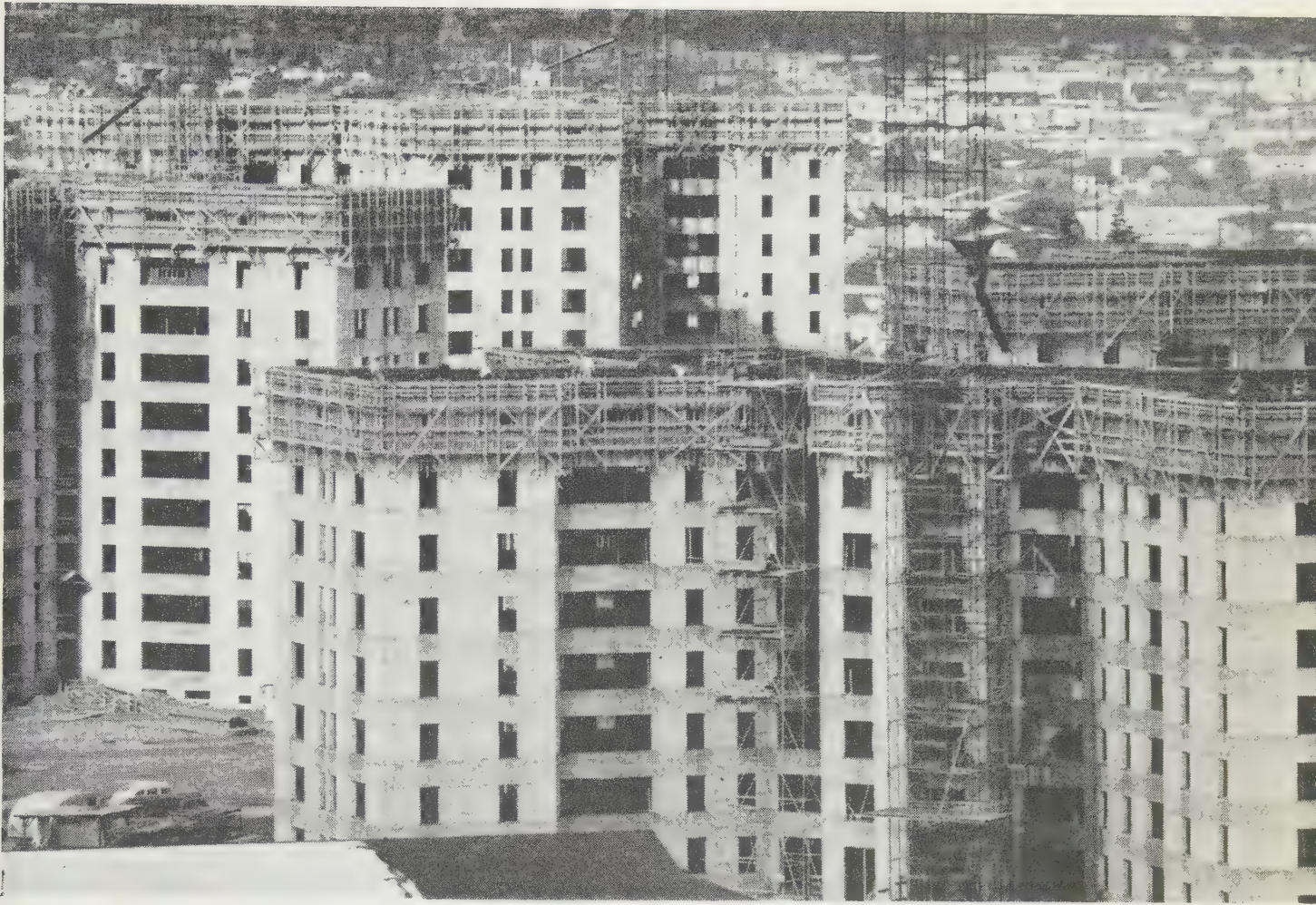
For instance, it became the officially recognized policy in more than one country to grant preferential treatment, e.g. in the matter of essential goods still in short supply, to establishments concerned with tourists compared with establishments off the tourist maps. With the exception, however, of a comparatively small number, the establishments which catered primarily to tourists were not easy to identify and in any case had to rely on a solid cushion of home trade in order to prosper.

Other trends affecting hotels, restaurants and inns during 1950 included the further decline in public spending, the steep rise in operating costs and the more severe competition for guests, nationally and internationally.

In Great Britain the Meals in Establishments order, a legacy of World War II, was revoked. This ended a complicated structure of price, food and service controls on a meal.

The burden of the purchase tax, heavily felt by British hotels, after prolonged representations was alleviated to some extent by a government-approved scheme to refund some of the





HOUSING PROJECT in Los Angeles, Calif., financed by the Metropolitan Life Insurance company, accommodating 4,253 families. The last of the suites were scheduled for occupancy in 1951.

tax to those establishments which were considered to qualify as tourist hotels (an example of the preferential treatment for this class mentioned already).

More attention was paid in 1950 to the important matter of hygiene in the preparation and handling of food.

There was evidence of a growing interest and eagerness with which hotelkeepers in all countries regarded the latest improvements in design, equipment and amenities in general. Meetings and conferences took place, in which problems were discussed and ideas exchanged: for example, a number of Irish hotelkeepers visited United States hotels on a tour of inspection; and a party from Britain visited Europe, including the wine districts of France. The annual congress of the International Hotel association was held in Nice, Fr.

As the year advanced there was a growing interest in the plans and preparations for the Festival of Britain in 1951: a new London Hotels Information service was set up and by the end of the year plans to accommodate many additional home and overseas visitors were well advanced. (H. C. CE.)

**Housing.** All previous records for home building in the United States were completely overshadowed in 1950 when work was started on 1,395,600 new family dwelling units of all types, exclusive of farm housing. The 1949 record-breaking total of a little more than 1,000,000 new homes was exceeded by 36% and the previous 24-year-old record of 937,000 by almost 50%.

Aided by favourable weather, the boom which began in the

latter half of 1949 continued through the winter months. The first month of 1950 showed a 54% gain over the preceding January; the next month was up 64% over the previous February. These were record-breaking months, and each succeeding month until October continued to eclipse all former marks. May, with the start of 149,100 new homes, set the high point. By this time the boom had gathered such momentum that the outbreak of war in Korea and the imposition of increasingly restrictive government regulations had relatively little braking effect. October and November dipped slightly below the comparable boom months of 1949 but housing starts in December again established a new all-time record for that month.

Steadily mounting construction costs and the spectre of material shortages likewise failed to exert any substantial retarding effect until late in the year. A downward cost trend had been reversed in the fall of 1949. From that point both materials and labour costs began a slow steady climb to an all-time peak in August after which a slight easing of prices was evidenced. The Boeckh index, based on costs in 20 representative cities, stood at 220.6 in June (1939=100), exceeding by 0.1% the previous high established in Oct. 1948. In Aug. 1950 the Boeckh index reached a new high of 228.3, then receded fractionally to 227.8 in September and to 226.6 in October, the last month for which figures were available at the close of the year. Average construction cost of privately-built one-family houses started in the first quarter of 1950 was estimated by the bureau of labour statistics at \$7,950 as compared with \$7,525 in the preceding year. By the third quarter of 1950 the figure had climbed to \$8,975. The estimates do not include land and development cost or profit on the sale of the house.



The government had set off the boom in the summer of 1949 by increasing the secondary market for veterans and FHA (Federal Housing administration) insured mortgages. A bureau of labour statistics study of nine metropolitan areas containing one-fifth of the nation's nonfarm families highlighted the results. The study showed that 75% of all sales were made to veterans of World War II and one-half of these availed themselves of the government-provided opportunity to purchase without cash on 100% loan basis. It was estimated in Feb. 1950 that 70% to 75% of all new rental housing was being built with government assistance and that 50% of all housing in 1950 would be directly under government influence.

The prediction seemed well-founded since the credit expansions authorized the preceding summer were sufficient to carry over well into the spring of 1950. By the end of April congress had enacted and Pres. Harry S. Truman had signed the Housing act of 1950 which included additional authorizations for FHA mortgage insurance and further liberalized G.I. loan provisions.

The Housing act of 1950 constituted an effort by congress to end the very liberal emergency credit facilities authorized under FHA title VI during World War II as a temporary measure to stimulate home construction in centres of defense industry and return to the normal long-range program under which FHA had previously operated. Its effect was to liberalize the permanent program so that it approached closely the title VI provisions which were permitted to lapse.

The main emphasis throughout was on stimulating the construction of lower-price homes and to this end a new section was added to title I of the National Housing act (the law under which FHA operates) permitting the insurance of 30-year mortgages for up to 95% on \$5,000 homes in outlying areas where FHA's normal site-improvement standards might be waived.

Title II, the backbone of the normal FHA program since its inception in 1934, was expanded almost four-fold. The former \$2,250,000 revolving fund maximum for mortgage insurance under this title was increased to \$9,000,000,000 with \$1,000,000,000 of the increase immediately available and the balance subject to the approval of the president. Incentive emphasis under title II also was placed on lower-price homes by modifying the insurance formula so as to favour the lower end of the bracket.

The most radical innovations in the Housing act of 1950 dealt with multifamily rental housing, an area in which the lawmakers faced two difficult problems: (1) how to answer a well organized demand from labour unions, civic, housing and welfare groups for direct government low-interest loans and other aids to nonprofit co-operatives on the Scandinavian pattern; and (2) how to meet the still acute housing needs of moderate income families, particularly in metropolitan areas.

Private enterprise opposition to the government co-operative program was powerful, equally well organized and insistent. In a preliminary skirmish at the previous session the plan had been defeated. At the last session of congress the proposal was again defeated, this time even more emphatically, in the face of all the pressure the administration could bring to bear. The one point on which the lawmakers agreed was that section 608, the rental housing section of the temporary liberal credit war emergency program, would not be renewed. Section 608 had spurred construction of a great deal of multifamily rental housing in 1948 and 1949 with a large carry-over for 1950, but FHA approved rentals were somewhat high to serve the mass market and there were increasing signs of overbuilding and even some foreclosures.

The result was a compromise on all points. Section 608 was not renewed but an additional \$500,000,000 of mortgage insur-

ance authorization was approved to cover the backlog of project applications filed before the expiration but after the exhaustion of previously authorized funds. Then section 207, the rental housing section of the permanent FHA program, was liberalized so as to permit the insurance of mortgages up to 90% of value on the first \$7,000 of cost per apartment and 60% on the balance up to \$3,000 of cost. The credit incentives were designed again to favour construction of lower-cost housing and to require less investment from the builder-developer than previously had been contemplated under the permanent FHA formula.

A co-operative housing program was included also, but with the familiar FHA insured mortgage type of financing rather than direct government low-interest loans or other direct government participation. Section 213 was added to title II of the National Housing act to provide mortgage insurance of 95% on projects costing up to \$5,000,000 where 65% or more of the co-operators were veterans of World War II. Other co-operative developments could get between 90% and 94% insured mortgages depending upon the proportion of veterans participating in the venture. The program started slowly and at the end of the year only a handful of projects had been announced, too few to offer any indication of its effectiveness, particularly under the changed conditions which prevailed.

In late June, the war in Korea set the stage for radical changes in the housing outlook. These developed slowly amid considerable confusion and with relatively little visible effect up to the end of the year. Since restrictive regulations were anticipated and not made retroactive, much homebuilding was rushed into the initial construction stage to escape possible hampering effects.

The first federal action came on July 18 when the president called for ten curtailments of federal housing and credit aids to conserve construction materials for defense needs and to check inflation. Mortgage credit was to be tightened by reducing maximum allowable amounts; discontinuing 100% G.I. loans, and requiring cash down payments of at least 5%; prohibiting the inclusion of inflationary costs in fixing values for mortgage purposes; slowing up secondary mortgage market operations of the Federal National Mortgage association; and reducing credit availability from the Federal Home Loan Bank administration to retard saving and loan association operations. A new program of direct loans to educational institutions for student and faculty housing, enacted three months before, was stopped and a 30,000 unit ceiling was put on federal subsidized public housing to be built during the year.

These curbs were followed on Oct. 12 by further restrictions on home mortgage credit in which the Reconstruction Finance corporation and the Housing and Home Finance agency joined. Regulation X, as it was soon generally known, was directed at both conventional and government-aided loans for the purpose of further stiffening home-purchase terms, moderately in the low-price brackets and very substantially for higher price houses. Required cash down payments were now pegged at from 10% on the lowest price house to 50% in the \$25,000 and over category. Veterans could purchase with about 5% less cash than nonveterans, but every purchaser had to have his own cash for the down payment; it might not be borrowed.

October starts were down 10% from the preceding month but almost equalled Oct. 1949 which was the banner month in that record-breaking year. November showed a further and more substantial drop caused, in part at least, by poor building weather, but December was again a record month.

The extent to which these and other changed conditions resulting from the international emergency had been discounted in advance was evident in materials prices. While there was some talk of gray markets and pirating of labour, the Boeckh index



moved slightly downward in September and October from its August peak.

Hardest hit by the upward trend of construction costs in 1950 was the government-subsidized public housing program authorized after years of congressional strife in the Housing act of 1949. The program got under way very slowly, first because of congressional tardiness in voting the necessary appropriations, and later because of the time required to get projects to the construction stage. The real-estate, home-building, and mortgage-lending groups which had fought the program in Washington carried the fight back to the communities when projects came up for local action. They succeeded in a sizable number of instances in blocking public housing proposals at the local level. As of Nov. 30, somewhat more than 10,200 units of public housing authorized by the 1949 act were put under construction, plus 5,400 units under an earlier program. Up to that date the Public Housing administration had 698 active applications for the construction of 443,000 dwelling units.

The Public Housing administration's difficulties were further compounded by the rising construction costs. In a number of instances contractors' bids were rejected because they ran substantially above the estimates and new bids were invited. In mid-October the Public Housing administration announced new regulations designed to reduce costs by cutting room-size standards, increasing site densities and discouraging heavy construction.

Major interest in the field of prefabricated housing centred in the stalling of the ambitious Lustron steel house program into which the government had put \$37,000,000 in RFC (Reconstruction Finance corporation) loans. Lustron's troubles started in 1949 with a congressional investigation and defaults on repayments to the RFC. In Feb. 1950, RFC foreclosed and then followed bankruptcy, receivership, injunction suits, investigations and court orders in Ohio and Illinois.

Rent control ended for 4,000,000 of the nation's dwelling units during the year under provisions of the Housing and Rent act of 1950. By its terms all federal control would have ended on Dec. 31, except for those localities that voted its continuance before that date, in which case it might be extended to June 30, 1951. As a result of the defense emergency the Dec. 31 deadline was extended to March 31, 1951, to enable the new congress to restudy the need for continued controls.

As the year drew to a close the housing outlook was under close study in terms of defense emergency needs. The expectation was that home-building would be restricted increasingly to military or war industry needs, and plans were being made for a new defense housing emergency program. (See also ARCHITECTURE; BUILDING AND CONSTRUCTION INDUSTRY; BUSINESS REVIEW; LAW; MUNICIPAL GOVERNMENT; TOWN AND REGIONAL PLANNING.) (H. M. Pr.)

**Canada.**—Estimates of federal housing authorities set 1950 completions at about 100,000 (revised figures—1948: 81,243; 1949: 90,955). On Jan. 1, 1950, there were 58,169 unfinished dwellings, compared with 56,456 on Jan. 1, 1949.

Parliament voted the government-owned central mortgage and housing corporation \$75,000,000 for the acquisition of land, installations of services and purchase of building materials, for houses for veterans and married service personnel. Of the sum, \$10,000,000 was for the construction of schools for the children of married personnel in military camps.

Housing costs went up considerably. According to the federal department of resources and development, construction wages in 1945 averaged \$34.03 per week; in 1949 they averaged \$44.37 per week, an increase of 33%. In 1945, working hours averaged 44 per week, in 1949, 40 per week. That had the effect of increasing the cost of a house by 13%. In the 1945-49 period, labour got compulsory holiday pay, which increased the cost of a house

by another 4%. On Dec. 31, 1949, the cost index of housing stood at 199.9; by Oct. 31, 1950, it had risen to 232.6, or an advance of 16%.

The disinclination of the federal government to continue rental controls after April 30, 1951, stimulated housing construction, despite the higher costs. For example, in the Jan.-Aug. 1950 period Canadians borrowed \$188,000,000 for home financing compared with \$78,000,000 for the same 1949 period.

The Interprovincial Building Credits company was organized by private capital to take up where the former federal government home-improvement plan left off. Remodelling and renovations up to \$2,000 qualified for credit up to 100% over a 24-month period.

(C. Cv.)

**Great Britain.**—At Aug. 31, 1950, 1,241,972 new houses, flats and other units of accommodation for families had been provided in the United Kingdom since the end of World War II. Of this total, which included all forms of accommodation except temporary emergency accommodation, England and Wales had built 671,362 new houses and Scotland had built 81,752. In addition, local authorities had built 124,455 temporary houses in England and Wales, and 32,156 in Scotland. It must be remembered that at the same time much labour and material had to be diverted to the repair of war-damaged properties. At the end of World War II 4,000,000 houses, one of every three in the United Kingdom, had suffered to a greater or less degree by damage from enemy bombing. Some of those which were totally destroyed had since been made good; and the repair of unoccupied war-damaged dwellings accounted for 144,000 of the new units of accommodation provided since the war.

When the Labour party was returned to power in 1945 it had promised the electorate that it would create a ministry of housing. This proposal was not put into effect. That many members of the Labour party remained unconvinced that such a ministry would not be necessary was shown at the Labour party conference in the autumn of 1950 when this plea was rejected by Aneurin Bevan, minister of health. At the Blackpool conference of the Conservative party, delegates were equally restive and won the acceptance by the party leaders of a minimum target of 300,000 houses a year as the party's policy.

One of the basic ideas in the postwar housing program was that it would fit in with the general, declared government policy for the decentralization of population and industry. This policy received a severe set-back when Aneurin Bevan awarded special subsidies to local authorities that built multistory flats on expensive central sites. This put a premium on high-density building and congestion in the central parts of cities with the result that flats being built in London and other large cities cost more than twice as much as a house with equivalent accommodation built elsewhere. In only a few cases was the local authority able to provide a reasonable amount of open space. These flats were built at such a cost that they were uneconomic, but the subsidies for elevators and for high-cost land to some degree concealed this. In spite of the general policy of decentralization of population and industry, the number of houses erected in the new towns was, up to the end of 1950, less than 1,000. The new town development corporations necessarily had to undertake the preparatory work of dealing with long-term programs for roads, sewers, water supplies and the other services generally before house building on a large scale could begin. But in spite of this there was a feeling of dissatisfaction with the progress that the towns had made in the previous four years. Again, the corporations had been persuaded by the ministry of town and country planning to adopt plans for houses at densities of 16, 18 and 20 to the acre, far in excess of densities considered desirable by the architects and sociologists employed by the corporations.



**France.**—When the war ended, France found itself with 1,450,000 houses which had been made uninhabitable. When slum and overcrowded dwellings were taken into account, there was an urgent need for 1,800,000 new dwellings. By Oct. 1950, 90,380 new houses had been completed since the country's liberation, and at the end of 1949, 60,000 war-damaged dwellings had been repaired and made habitable.

**Germany.**—The need for houses in western Germany alone was estimated at 5,000,000 and there were in 1950 still 2,250,000 houses destroyed during World War II which were to be rebuilt. Between 180,000 and 200,000 houses were built in 1949, and it was hoped that this figure would be surpassed by 25% in 1950.

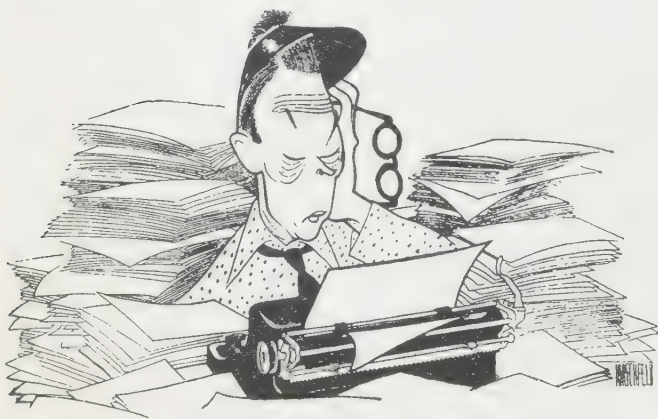
(G. MCA.)

**Housing and Home Finance Agency:** see HOUSING.

**Human Nutrition and Home Economics, Bureau of:** see AGRICULTURAL RESEARCH ADMINISTRATION; HOME ECONOMICS.

**Human Rights, Universal Declaration of:** see CHILD WELFARE; INTERNATIONAL LAW; UNITED NATIONS.

**Humour of 1950.** A letter from the author on his own stationery:



walter yust - november 11th

i am sorry that i cannot accept your kind offer to prepare an article on the humor of 1950.

the assorted problems that attend the preparation of my television show leave me no time for comments on humor.

if i remain in television too long i will probably forget what humor is.

sincerely -

fred allen  
180 west 58

**Hungary.** A people's republic of southeastern Europe, Hungary is bounded on the west by Austria, on the north by Czechoslovakia, on the east by Rumania and on the south by Yugoslavia. Area: 35,893 sq.mi. Pop.: (Dec. 31, 1948, census) 9,201,158. Languages: (1947 est.) Hungarian 92.9%, German, 5.1%. Religions: (1947 est.) Roman Catholic 65.6%, Calvinist 20.8%, Lutheran 6%. Chief towns: (1941 census) Budapest (cap., 1,164,963; 1948 est., 1,058,288); Szeged (136,752); Debrecen (125,933); Miskolc (109,433); Kecskemét (87,269); Pécs (78,512). Chairmen of the presidium of the people's republic in 1950: Árpád Szakasits and, from April 26, Sándor Rónai; prime minister: István Dobi.

**History.**—The president of the republic, Árpád Szakasits, resigned on April 26, 1950, and was succeeded by Sándor Rónai, who was formerly minister of trade and was, like Szakasits, a collaborationist Social Democrat. In February there was a cabinet reshuffle. István Kossa was replaced as minister of finance by Gyula Olt, Gyula Ortutay as minister of education and religious affairs by József Dárvas, and Dárvas as minister of building by László Sándor. As consolation prizes, Ortutay was appointed chairman of the Central Office of Museums and Monuments, while Kossa became president of the National Wages committee. In Aug. 1950 another change was announced: György Marosán was replaced as minister of light industry by Árpád Kiss.

Friction between government and Catholic Church once more became acute in May, when the bishops refused to sign the international Communist-organized "Stockholm peace appeal." At the end of August, however, it was announced that an agreement had been made between the Catholic hierarchy and the government. It followed lines rather similar to those of the agreement reached in Poland (*q.v.*) earlier in the year. It was signed for the government by Dárvas, for the hierarchy by Archbishop Groesz of Kálcso. The church recognized the form of the state and the constitution; condemned all subversive action; declared that religion must not be abused for political aims or "anti-state purposes"; appealed to the faithful to support the five-year plan; warned the clergy not to oppose the movement for the formation of agricultural producers' co-operatives; and promised its support to the "peace campaign." On its side the government guaranteed freedom of religious belief and free religious activity for the Catholic Church; promised to restore eight schools to the church and to permit the employment in them of sufficient educational staff; and promised money grants to the church at a diminishing rate for the next 18 years.

During the year the pace of collectivization of agriculture was quickened. Teams of peasants were sent to the Soviet Union to study *kolkhoz* methods, in order to serve as propagandists on their return. A special drive began in the late summer. The Communists' chief economic planner, Ernő Gerő, in a speech on Aug. 22 to peasants returned from the U.S.S.R., said that the number of peasant families belonging to collective farms in Hungary, at present 70,000, must be rapidly increased. As a result of this drive, Premier István Dobi was able to announce on Sept. 9 that a further 35,000 families had joined. The collectivization drive was combined with increased repression of better-off peasants and "harvest saboteurs."

A decree Jan. 27 on labour discipline provided heavy penalties for both wilful damage and negligence to state property in factories. A congress of Hungarian Stakhanovites was held at the end of February. It was claimed that in the last year innovations in methods of production, proposed by the workers themselves, had saved the state 340,000,000 forints. An industrial conference at the end of May, however, showed a less happy picture. The manager of the Rákosi (formerly Manfred Weiss) metallurgical works in Budapest denounced malingering by the workers and the too kind-hearted attitude of National Health service





HUNGARIAN STAKHANOVITES assembled at Budapest in 1950 for their first nation-wide meeting. Stakhanovism is a system of soviet origin for speeding up industrial output by rewarding individual production records

doctors. Gerö in a speech to the central committee of the party on May 31, complained of "undisciplined consumption" by the workers. "If the standard of living rises more rapidly than productivity," he said, "then we partly consume today the factories, enterprises and machines which are meant to raise our standard of living at a much greater pace tomorrow, to strengthen the peace front and to consolidate our future." In order to prevent this, and to make clear the meaning of the last two euphemisms, Gerö recommended that labour discipline be greatly tightened, norms of production be raised, and large-scale enlightenment work be conducted among the workers by party organizations and the party press.

A new nationalization decree of Dec. 28, 1949, had made possible the expropriation of the remaining foreign (Allied) business concerns in Hungary. This was followed by the trial of Edgar Sanders and Robert Vogeler, respectively British and U.S. business men, for espionage. They were condemned to long periods of imprisonment after making public confessions. During their weeks of preliminary imprisonment they had not been allowed to see the British or U.S. consuls. As a reprisal for this attitude the British government broke off commercial negotiations with Hungary. (H. S.-W.)

**Education.**—Schools (1950-51): elementary 6,185, pupils 1,229,957, teachers 36,819; secondary 389, pupils 94,046; universities and institutions of higher education 21, students 31,000, professors and lecturers 7,113. Illiteracy (1941) 6.0%.

**Finance and Banking.**—Budget (1950 est.): revenue 17,537,000,000 forints, expenditure 17,454,000,000 forints. Currency circulation (Feb. 1950): 2,805,000,000 forints. Bank deposits (Feb. 1950): 6,914,000,000 forints. Monetary unit: forint with an official exchange rate of F.11.82 to the U.S. dollar.

**Foreign Trade.**—(1948) Imports 1,975,000,000 forints; exports 2,965,000,000 forints.

**Transport and Communications.**—Roads (1949) 10,248 mi. Licensed motor vehicles (Dec. 1949): cars 16,000; commercial vehicles 15,000. Railways: (1949) 4,773 mi.; passenger-miles (1948) 2,983,000,000; freight

net ton-miles (1948) 2,036,000,000; freight carried (1948) 21,936,000 tons. Danube shipping (Dec. 1947): merchant vessels 514; total tonnage 118,717. Telephones (1948): subscribers 106,768. Radio receiving set licences (Dec. 1948) 475,000.

**Agriculture.**—Main crops (metric tons, 1948): wheat 1,583,000; maize 2,862,000; barley 692,000; oats 334,000; rye 786,000; rice 37,000 sugar, raw value (1949) 265,000; potatoes (1949) 2,585,000; linseed (1949) 10,000; tobacco (1948) 27,000. Livestock: cattle (1948) 2,004,000; sheep (spring 1949) 650,000; pigs (May 1949) 2,677,000; horses (Feb. 1949) 569,000.

**Industry.**—Fuel and power: coal and lignite (metric tons, 1949): 10,620,000; electricity (1946) 1,162,000,000 kw.hr.; crude oil (1949) 510,000 metric tons. Raw materials (metric tons, 1947): iron ore, iron content 61,000; pig iron 345,000; crude steel 719,000; bauxite 374,000; manganese ore 127,000. Manufactured goods (1947): cement 281,000 metric tons, cotton piece goods 148,000,000 m.; woollen piece goods 13,000,000 m.

**Hunting:** see WILDLIFE CONSERVATION.

**Hurdling:** see TRACK AND FIELD SPORTS.

**Hutchins, Robert Maynard** (1899— ), U.S. educator, was born on Jan. 17 in Brooklyn, N.Y. He left Oberlin college, Oberlin, O., in 1917 to enlist in the U.S. ambulance corps. Entering Yale university, New Haven, Conn., in 1919, he received his A.B. in 1921 and his LL.B. (*magna cum laude*) in 1925. In 1923 he was appointed secretary of Yale university and in 1927 dean of its law school. In 1929, at the age of 30, he became the fifth president (and, in 1945, the first chancellor) of The University of Chicago.

The resignation of Hutchins as chancellor of the university, and as a member of its board of trustees, to become an associate director of the Ford Foundation, a philanthropic trust, was announced Dec. 19, 1950. Hutchins had served as the administrative head of the university for almost 22 years, a period longer than that of any of his predecessors. He also was senior in point of service among the contemporary heads of any of the major U.S. universities and colleges. His resignation was to become effective at the end of the university's academic year, June 30, 1951, unless a successor was named earlier. He was, however, granted a leave of absence as of Jan. 1, 1951, to participate in the formulation of the foundation's policies. Hutchins continued as chairman of the board of editors of *Encyclopædia Britannica, Inc.*

University administrative responsibilities largely occupied Hutchins during the year. As in the past, much of his effort was concerned with obtaining additional financial support for the university. The total of funds pledged to the university in 1950 was approximately \$4,000,000.

During the month of May Hutchins was abroad, at Oxford, Eng., and in the Scandinavian countries, speaking at the University of Stockholm, Swed., which had conferred the honorary LL.D. degree upon him *in absentia* in 1949, and at the University of Lund, Swed. (W. V. M.)

**Hydrogen Bomb:** see ATOMIC ENERGY.

**ICC:** see INTERSTATE COMMERCE COMMISSION.

**Ice Cream:** see DAIRY PRODUCTS.

**Ice Hockey:** see HOCKEY, ICE.

**Iceland.** An island republic of the North Atlantic, Iceland has an area of 39,768 sq.mi., and a population (census 1940) of 121,474 (est. mid-1949) 140,000. Capital: Reykjavik, the only large town (est. pop. 1949: 54,707). Religion: Lutheran Christian.

President in 1950: Sveinn Björnsson; prime ministers: from Dec. 6, 1949, Olafur Thors; from March 14, 1950, Steingrímur Steinthorsson.

**History.**—Economic and political difficulties combined to force a revamping of Iceland's cabinet in March 1950. Olafur Thors, who had been prime minister for about three months, was



the strong leader of the Independence (conservative) party, largest single group in the *althing*, but which lacked a majority. When a special investigation headed by Benjamin Eiríksson (regularly on the staff of the International Monetary fund in Washington) recommended a drastic new devaluation of the króna it was impossible for one party to carry out the proposal. Necessity brought a coalition of the Independence and the Agrarian (progressive) parties, and made the dark horse Steingrímur Steinthorsson prime minister.

The leaders of the two major parties were both members of the new ministry, and the foreign minister, Bjarni Benediktsson, remained in his post.

The new devaluation meant a 42.3% drop in the value of the króna. In 1949 the unit of currency had been worth 15.4 U.S. cents; after the general devaluation of Sept. 1949 it was worth 10.7 cents; after the purely Icelandic devaluation of March 1950 it was valued at only 6.1 U.S. cents. Reasons assigned for the trouble were wartime prosperity-inflation; failure of successive herring seasons; and decline in the European market for fish, Iceland's great export.

The adjustments made travel and foreign purchases for Icelanders extremely dear, but would, it was hoped, attract tourists and aid the country better to compete on the world markets with its fish products.

Despite financial complications Iceland pressed forward with industrial expansion. The 4,000 ton, 200-passenger "Gullfoss" began regular runs to Scotland and Denmark. Electric power stations were expanded, partly with the help of the Economic Cooperation administration, which in May granted \$5,000,000 for the developments at Sog and Laxá. Projects for a cement plant and a fertilizer plant were also active.

The government attempted to safeguard its fishing potentialities by declaring a protected zone of four miles along the north of the island.

The government gave 150 tons of cod liver oil for the use of the United Nations in Korea, and Reykjavik was the seat of several conferences: including those of the Union of Scandinavian Cooperatives, and of the Scandinavian foreign ministers. The island was also visited by naval and air units of the U.S., Great Britain and Norway.

Local achievements were the creation of a symphony orchestra (with a few of the players being brought from Germany), the presentation of *The Marriage of Figaro* by the Royal Opera company of Stockholm, Sweden, and the completion of the modernistic National theatre. (F. D. S.)

**Education.**—Schooling is compulsory for those from 7 to 15 years of age. Schools (1949): elementary 216, pupils 16,000, teachers 600; secondary 46, pupils 4,200, teachers 300; technical 44, pupils 3,570, teachers 359. University of Iceland (1950): students 600, professors and lecturers 50.

**Finance and Banking.**—Budget: (1950 actual) revenue 298,000,000 kr., expenditure 262,000,000 kr.; (1951 est.) revenue 287,500,000 kr., expenditure 246,000,000 kr. National debt (Dec. 1950): internal 148,000,000 kr., external £2,000,000. Currency circulation (Sept. 1950) 198,000,000 kr. Bank deposits (Sept. 1950) 216,000,000 kr. Monetary unit: króna (pl. knónur). Exchange rate from March 20, 1950: one króna = 6.14 U.S. cents.

**Foreign Trade.**—(1949) Imports 424,300,000 kr., exports 289,200,000 kr. Main sources of imports (1949): United Kingdom 26.9%; U.S. 16.8%; Denmark 10.4%; Italy 4.8%. Main destinations of exports: United Kingdom 36.0%; Germany 22.9%; U.S. 6.2%; Italy 5.4%.

**Transport and Communications.**—Iceland has no railways. Roads (1949): 3,728 mi. Licensed motor vehicles (Dec. 1949): cars 6,119; commercial 4,486. Shipping (July 1949): number of merchant vessels of 100 gross tons and over 134; total tonnage 72,862. Air transport (1948): km. flown 2,320,500; passengers flown 48,613. Telephones (1947): 16,500. Radio receiving sets (1949): 34,692.

**Livestock and Fisheries.**—Livestock (Jan. 1948): sheep 454,255; cattle 41,633; horses 46,106; poultry 117,083. Fisheries: total catch (1949) 394,200 metric tons.

**BIBLIOGRAPHY.**—Franklin D. Scott, *United States and Scandinavia* (1950).

**Ice Shows:** see SHOWS.

**Ice Skating.** After capturing his third successive world title at London, Eng., in 1950, Richard Button of Englewood, N.J., proved that he still was the top figure skater in the United States by winning national laurels at Washington, D.C., for the fifth consecutive season. The Olympic star was credited with 942.1 points in the compulsory tests alone and drew far ahead of all his challengers.

Mrs. Yvonne Sherman McGowan of New York city successfully defended her women's senior crown although Sonya Klopfer of Brooklyn, N.Y., gave her a keen battle in the compulsory figures. The sister-brother team of Karol and Peter Kennedy from Seattle, Wash., that had triumphed at London earlier in the year, retained the senior pairs title. The St. Paul (Minn.) Figure Skating club stars, Janet Gerhauser, Marilyn Thomsen, John S. Nightingale and Marilyn Thomsen, repeated in the competition for fours.

Lois Waring and Mike McGean of Baltimore, Md., added to the laurels they had won in the world championships by scoring in the gold dance, while Carol Ann Peters and Daniel Ryan of Washington, D.C., captured the silver dance. Donald Laws of Washington, D.C., skated away with the junior men's crown and Tenley Albright of Boston, Mass., was tops among the junior women.

Roger Wickson of Vancouver, B.C., annexed men's honours in the Canadian national and Suzanne Morrow of Toronto, Ont., led the women. Marlene Smith of Niagara Falls, Ont., teamed with Donald Gilchrist of Toronto to capture the pairs event.

Speed skaters had a busy campaign despite a comparatively mild winter and once more Ray Blum of Nutley, N.J., was among the nation's top stars. He successfully defended both his middle Atlantic and North American outdoor championships. Edgar Dame of Revere, Mass., won the North American indoor crown.

Ken Bartholomew of Minneapolis, Minn., took the national outdoor title and Emanuel Babayan of Pasadena, Calif., the indoor laurels. Barbara Marchetti of Wyandotte, Mich., carried off championships in both the North American and national indoor meets.

Betty Mitchell of Winnipeg, Man., won the North American women's crown outdoors and Janice Christopherson of St. Paul triumphed in the national outdoor competition.

FILMS OF 1950.—*Beauty and the Blade* (Teaching Film Custodians, Inc.). (T. V. H.)

**Idaho.** One of the far northwestern states of the U.S., belonging to the group regionally designated as the Pacific northwest and part of the original Oregon territory, Idaho is the 12th largest state, with an area of 83,557 sq.mi. It was admitted as a territory by Pres. Abraham Lincoln in 1863 and became a state on July 3, 1890. Idaho is popularly known as the "Gem state." Pop. (1950) 588,637, which represents an increase of 12.1% over the population in 1940. The 1950 U.S. census preliminary estimate set the population for leading cities as Boise (capital), 34,152; Pocatello, 25,882; Idaho Falls, 18,855; Twin Falls, 17,544; Nampa, 16,142; Lewiston, 12,910; Coeur d'Alene, 12,189; Caldwell, 10,462.

**History.**—On Jan. 1, 1951, state elective and appointive officials began the first year of the second four-year term of office in Idaho's history. With the exception of the office of secretary



LEN B. JORDAN, Republican, elected governor of Idaho, Nov. 7, 1950



of state, which was held by Ira Masters, all were Republicans and were elected to office in Nov. 1950. The governor was Len Jordan. Other officials were lieutenant-governor, Edson Deal; attorney general, Robert E. Smylie; auditor, N. P. Nielson; treasurer, Lela D. Painter; superintendent of public instruction, Alton Jones; inspector of mines, George McDowell. Idaho also elected two Republicans to the United States senate, Henry C. Dworshak, succeeding himself, and Herman Welker. Elected to congressional posts were also Republicans John T. Wood from the first district and Hamer Budge from the second. Elected to the supreme court of the state were Darwin Thomas and C. J. Taylor.

Several special legislative committees, created as a part of the "Little Hoover" commission during the 1949 session of the state legislature, were to report on findings concerning workmen's compensation and other governmental reorganization during the 1950 session, which convened Jan. 8. Only an interim report was made on workmen's compensation during 1950, however, and a full report was to be ready for the 1951 session. The report on the reorganization of the state government was made and part of it was activated by the legislature.

**Education.**—In 1947 the legislature adopted a school district reorganization program under which 781 of Idaho's 1,082 school districts had been eliminated by 1950. Only 10 of the 44 counties remained to be completely reorganized. The public-school enrolment in Idaho for the 1949-50 school year was 127,031. There were 4,786 teachers employed in 1949-50.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Idaho has two institutions for the mentally ill—one at Orofino and one at Blackfoot; a home for the feeble-minded at Nampa; a school for the deaf and blind at Gooding; an industrial school at St. Anthony; a tuberculosis hospital at Gooding, and a recreational centre at Lava Hot Springs. The prison, located at Boise, had an average of 505 inmates during the year 1950, which was far above capacity.

**Communications.**—During the period from Jan. 1, 1950, to Oct. 1, 1950, the Idaho highway department expended \$6,117,968.83 for construction of highways and \$2,559,610.18 for maintaining highways. It was estimated that the department would expend \$10,500,000 for construction during the calendar year of 1951 and \$3,100,000 for maintenance. There were 5,172.2 mi. of state highways in Idaho in 1950, and all roads in the state totalled 38,789.3 mi.

**Banking and Finance.**—At the end of 1950 there were 37 state banks and branches with deposits of \$99,221,000 and assets of \$105,472,000; 59 national banks and branches with deposits of \$305,390,000 and assets of \$322,113,000; and 11 savings and loan associations with resources of \$38,491,143.

The state budget for the fiscal year ending June 30, 1950, showed the following items: general fund receipts \$19,044,040.77; general fund expenditures \$20,241,909.41; free balance general fund, June 30, 1950, \$8,241,650.28; special fund receipts \$91,100,382.69; special fund expenditures \$77,229,824.33. On Nov. 30, 1950, the bonded gross debt was \$17,000, and there was \$5,640.98 on hand, toward retirement of this.

**Agriculture.**—The main sources of income in southern Idaho are potatoes, hay, wheat, sugar beets, beans, fruit, dairying and sheep and cattle raising.

Table I.—Leading Agricultural Products of Idaho

Crop	1950	1949	Average 1939-48
Wheat, bu. (all)	37,350,000	38,106,000	29,648,000
Corn, bu.	1,645,000	1,598,000	1,644,000
Oats, bu.	9,540,000	7,470,000	7,367,000
Barley, bu.	13,896,000	10,098,000	11,071,000
Sugar beets, short tons	1,514,000	1,067,000	1,037,000
Dry beans, cwt.	2,460,000	2,608,000	2,106,000
All hay, tons	2,424,000	2,422,000	2,401,000
Potatoes, bu.	46,610,000	36,000,000	36,548,000
Apples, bu.	1,220,000	1,825,000	1,911,000

**Manufacturing.**—Idaho is not a highly developed industrial state. Manufacturing is built mainly upon transformation of raw products of the agricultural, mining and lumbering industries. In 1950, 1,053 establishments, including many small plants, employed 20,262 persons. Value by manufacture was not known.

**Mineral Production.**—Production of minerals in Idaho, and their values, are set out in Table II.

Table II.—Mineral Production in Idaho, 1949

Metal	Production	Value
Antimony, lb.	3,163,735	\$ 790,933
Cadmium, lb.	427,981	962,957
Copper, lb.	2,876,000	566,572
Gold, troy oz.	77,829	2,724,015
Lead, lb.	158,598,000	25,058,484
Mercury, flasks	(none)	(none)
Phosphate rock, tons	564,649	4,500,000
Silver, troy oz.	10,049,257	9,095,085
Tungsten, units	12,314	350,949
Zinc, lb.	153,116,000	18,985,640
Total		\$63,034,635
Cement, concrete, pipes, blocks, sand, gravel, lime, etc.		4,000,000
		\$67,034,635

(C. A. Rs.)

**Illinois.** A north central state of the United States, admitted to the union in 1818, nicknamed the "Sucker state." Illinois is sometimes called the "Prairie state." Total area: 56,400 sq.mi., of which 55,947 sq.mi. are land. Pop. (1950): 8,712,176 by the official census determination. The population increased 10.3% or 814,935 over 1940, when the official census showed 3,957,149 males and 3,940,092 females; 7,504,202 white, 393,039 nonwhite.

Population classed as urban in 1940 was 5,809,650, rural not on farms 1,119,488, rural farm 968,103.

Chicago (pop., 1950 preliminary census, 3,606,436) is the largest Illinois city followed by Peoria (111,523); Rockford (92,503), East St. Louis (81,950) and Springfield (80,832).

**History.**—The election of Nov. 7, 1950, produced results of historic significance. After five earlier defeats, the Gateway amendment to the 1870 state constitution was adopted 2,512,323 to 735,903. It simplified the process of amending the constitution, unchanged since 1908. For the first time since 1915, the voters elected a state legislature controlled by the political party opposite to that of the governor. The senate had a Republican majority 31 to 20; the house of representatives also was Republican-controlled, 84 to 69. Governor Adlai E. Stevenson is a Democrat.

Republicans won all state offices at stake in the Nov. 1950 election. Everett McKinley Dirksen of Pekin, former congressman, was elected United States senator over Scott W. Lucas, Democratic majority leader, with a plurality of 294,354 votes. William G. Stratton was elected state treasurer; Vernon L. Nickell was re-elected superintendent of public instruction and Earle Benjamin Searcy was re-elected clerk of the state supreme court. Republicans also elected three trustees of the University of Illinois. In addition to the governorship, Democrats occupied four major state offices not at stake in the election: lieutenant governor, Sherwood Dixon; secretary of state, Edward J. Barrett; attorney general, Ivan A. Elliott, and auditor of public accounts, Benjamin O. Cooper.

**Education.**—Public and private elementary and high schools enrolled approximately 1,486,000 pupils for the fall term in 1950, reflecting a continued marked increase. The number of public school districts was reduced from 11,955 in 1945 to 4,580 in 1950, a decline of 7,375 or 61%. State aid to schools was increased by 53% to \$124,247,752 for the 1949-51 biennium and the legislature's school problems commission, in a late 1950 report, recommended a further \$24,000,000 increase for 1951-53.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The legislature appropriated \$265,465,000 for old-age pensions, aid to dependent children, blind assistance and general relief for the 1949-51 biennium. As of Oct. 1950 the Illinois public aid commission reported 4,340 blind receiving an average monthly grant of \$48.51. There were 125,752 receiving an average monthly old-age pension of \$45.19; 85,732 dependent children receiving an average of \$25.95 and 86,234 persons receiving general assistance averaging \$29.61 monthly.

Public assistance volume and costs were reduced substantially during 1950 as a result of an intensive re-examination of public aid rolls. As against 345,013 persons receiving assistance in Jan. 1950, an estimated 287,745 were receiving help in Dec. 1950, a drop of 57,268. Assistance expenditures totalled \$11,986,996 in Jan. 1950, but declined to an estimated \$10,603,377 in December. The Illinois public aid commission reported Illinois was the only state in the nation in which reductions were recorded in all major assistance categories.

Unemployment compensation claims also declined sharply. For the week ended Dec. 23, 1950, the total number of unemployed filing compensation claims in the state was 84,407, as compared with 148,522 the same week in 1949. The number of claimants was about equally divided between the Chicago area and downstate. In the Chicago area the decline was from 85,199 in late 1949 to 43,918.

**Communications.**—The state division of highways expended \$27,859,000 in state and federal funds in construction on the 12,000-mi. primary road system during 1950. This included concrete pavement 41 mi.; concrete pavement widening 71 mi.; bituminous surfacing 93 mi.; miscellaneous surfacing and reconstruction 218 mi.; new bridges 26; highway and railroad grade separations 16. In addition to the expenditures for new construction, the state spent \$18,174,000 for maintenance. During the year various proposals were advanced for increasing state highway revenues, among them an increase in the three cents per gallon gasoline tax, which was one of the five lowest state gas taxes in the nation, and an increase in truck licence fees, in which Illinois ranked 36th among the states.

The Illinois highway system consisted of 125,000 mi. of all types of roads. There were 12,204 mi. of railroad (steam and electric) serving about 80% of the communities of the state. There were 168 government certified airports. The state was served by 14 major air lines.

**Banking and Finance.**—Banking facilities were provided in Illinois by



\$91 banks having total deposits at the close of 1950 of \$12,937,437,900. Of these, 382 were national banks and 509 state banks.

The budget voted by the legislature to operate the state government in the biennium ending June 30, 1951, was \$1,252,990,013, highest in the state's history. State tax collections increased. In the first 11 months of 1950 the 2% sales tax produced \$160,227,107.98, a gain of \$5,909,986.65 over the same period of 1949. Motor fuel taxes were up \$5,483,323.62 but motor vehicle licences declined by \$45,758.53. The cigarette tax was up \$320,178.40. The state government closed the fiscal year 1950 with a cash balance of \$294,426,000 in state funds and \$464,059,000 in trust funds. As of Aug. 31, the total bonded indebtedness of the state was \$419,148,900 of which \$352,300,000 consisted of veterans' compensation (bonus) bonds.

**Agriculture.**—Production of the principal crops during 1950 and 1949 and the average production during 1939-48 are shown in Table I.

Table I.—Leading Agricultural Products of Illinois

Crop	1950	1949	1939-48 Average
Corn, bu. . . . .	419,934,000	518,112,000	417,760,000
Soybeans, bu. . . . .	94,752,000	85,462,000	64,513,000
Oats, bu. . . . .	166,218,000	164,862,000	136,758,000
Wheat, bu. . . . .	27,538,000	46,856,000	28,174,000

**Manufacturing.**—The value added by manufacture to products in Illinois in 1947 was \$6,680,137,000, and the number of employees 1,184,820 of whom 954,415 were production workers. Total salaries and wages were \$3,585,093,000, wages \$2,627,318,000, number of establishments 15,988.

Principal industries and values added by manufacture were meat packing \$187,695,000; blast furnaces and steel mills \$205,187,000; petroleum refining \$101,871,000; tractors \$168,844,000.

Table II.—Production of Coal and Petroleum in Illinois

	1949	1950 est.
Bituminous coal, net tons . . . . .	47,630,380	55,000,000
Petroleum, bbl. . . . .	64,528,000	62,528,000

**Mineral Production.**—Illinois ranked fourth among the states in the total number of persons engaged in mining industries and sixth in the value of products mined. In 1949, the mineral production of the state was valued at \$448,565,000. The value of minerals processed was \$259,051,000, making a total for all mineral enterprises of \$747,613,000. The coal industry in the state was strengthened during 1950 by the opening of three major new mining operations. Petroleum production declined slightly.

(A. E. St.)

**Illiteracy.** The 1950 world census defined literacy as the ability to read and write a simple message in any language. At least one-half of the world's population was illiterate by that definition.

During 1950, the world-wide fight against illiteracy steadily increased in tempo. In addition to the United Nations Educational, Scientific and Cultural organization's growing number of literacy programs, the United States began to provide more bilateral help through its Point Four program. However, as plans were made for the extension of literacy to more remote regions of the world, the complexity of the problem became more and more apparent.

For example, a group of educators who surveyed the situation in Iraq early in 1950 reported that there was no way of knowing how techniques which had been successful in rural areas of the United States would fit into the behaviour patterns of an illiterate Moslem Arab rural or tribal community. It was reported that the problem of the use of several different languages within the country constituted one of the greatest deterrents to the spread of literacy in Afghanistan.

In Turkey, the community centres extended their activities to cover the whole country and the number of graduates from the literacy courses as well as the number of primary school pupils was steadily increasing.

India's problem is the provision of free, compulsory education for about 45,000,000 children of school age. Emergency training programs for student teachers were under way, and compulsory primary education had been introduced in many towns and villages. Another problem was the preparation of suitable literature for illiterate as well as for barely literate adults. The authorities were also striving to overcome obstacles to education for women.

Pakistan, like India, had an illiteracy rate of approximately 90%, and its literacy education programs were similar to those

in India with emphasis on mass education.

The mass education movement in China had completed a valuable experiment in the production of audio-visual materials capable of conveying basic ideas and knowledge without the use of written words. The Chinese Communists were paying special attention to the education of peasants and workers in their drive to wipe out illiteracy and provide technicians for their 10-to-15-year industrialization program.

Until the outbreak of the war in June 1950, literacy instruction was being provided in Korea and the rate of illiteracy dropped from 50% to 20%. One important step was the reintroduction of the old Korean language with its simple phonetic script of 24 characters.

Approximately eight people out of every ten in southeast Asia were unable to read and write. In the area of the Federation of Malaya, only about one-third of all children of school age were receiving any kind of schooling.

It became increasingly evident during the year that Africa's mass illiteracy was fast yielding to the intense eagerness for learning. It was reported that in Ethiopia only about 4% of the population was literate in its own language; in Liberia only about 5%, but in these countries, and in all sections of Africa, literacy education programs were being increased.

In the Caribbean area, also, there was increased emphasis on literacy education. In Haiti, plans were made for an extension of the type of literacy education program which was operated in connection with the Pilot Project in Fundamental Education. Jamaica planned an intensified program of literacy education. The Latin-American countries continued and extended literacy training programs in order to reduce as rapidly as possible the 50% rate of illiteracy still reported for that region.

(E. W. Gn.)

**I.L.O.:** see INTERNATIONAL LABOUR ORGANIZATION.

**Immigration and Emigration.** Alien and citizen entries into the United States totalled more than 90,000,000 at 468 land, air and sea-ports in the year ended June 30, 1950. Ninety-seven per cent of these entries were of alien and citizen border crossers, who may have made numerous entries across the Canadian and Mexican borders.

**Immigrants.**—Immigrants are aliens admitted to the United States for permanent residence. The 249,187 immigrants who found a haven in the United States in 1950 constituted the largest number admitted in any single year since 1929. Half of them, more than 124,000, were admitted under the Displaced Persons act of 1948. Other quota immigrants numbered 73,340, while 51,727, chiefly wives of United States citizens and natives of west-

Table I.—Immigrant Aliens Admitted to the United States by Classes and Principal Countries of Birth

Country or region of birth	Number admitted	Quota	Husbands and children of U.S. citizens	Natives of non-quota countries, their wives and children	Ministers, professors, their wives and children	Other classes
All countries . . . . .	249,187	197,460	16,275	33,238	1,436	778
Europe . . . . .	206,547	191,114	13,663	389	1,034	347
Germany . . . . .	31,225	26,990	4,106	21	55	53
Great Britain . . . . .	12,188	11,700	279	133	64	12
Italy . . . . .	9,839	5,829	3,733	120	84	73
Latvia . . . . .	17,494	17,433	38	—	6	17
Lithuania . . . . .	11,870	11,751	62	3	26	28
Poland . . . . .	52,851	51,820	795	16	164	56
U.S.S.R. . . . .	10,971	10,789	134	10	26	12
Yugoslavia . . . . .	9,154	8,939	169	3	26	17
Other Europe . . . . .	50,955	45,863	4,347	83	583	79
Asia . . . . .	4,020	2,232	1,490	28	265	5
Canada . . . . .	18,043	1	46	17,883	45	68
Mexico . . . . .	6,841	—	7	6,798	13	23
West Indies . . . . .	6,093	2,675	183	3,217	11	7
Central America . . . . .	2,151	103	13	2,031	2	2
South America . . . . .	2,777	201	26	2,535	9	6
Other countries . . . . .	2,715	1,134	847	357	57	320

Source: U.S. Department of Justice Immigration and Naturalization Service.





PIONEER IMMIGRANTS at a settlement in Goiás, central Brazil, working at a primitive tile plant. About 5,000 farm families were brought from Italy in 1950 to join the polyglot community of displaced persons from Europe already settled in Goiás under Brazilian land grants

ern hemisphere countries, entered as nonquota immigrants.

The 73,340 quota immigrants who were not displaced persons, added to the quota displaced persons, brought the total quota immigration to 197,460, thereby exceeding the annual authorized quota of 154,206 by 28%.

The principal countries of birth of immigrants and their class of admission under immigration laws are reported in Table I.

**Nonimmigrants.**—Nonimmigrants are aliens who enter the United States for temporary periods, or resident aliens returning from a temporary stay abroad. The figures in Table II do not include such special groups as agricultural labourers, border crossers and crewmen.

Table II.—Nonimmigrants Admitted to the United States,  
Year Ended June 30, 1950

Total nonimmigrants admitted . . . . .	426,837
Government officials . . . . .	13,975
Members of international organizations . . . . .	5,010
Temporary visitors for business . . . . .	67,984
Temporary visitors for pleasure . . . . .	219,810
In transit . . . . .	68,640
Returning residents . . . . .	40,903
Students . . . . .	9,744
Treaty traders . . . . .	766
Other nonimmigrants . . . . .	5

**Emigrants and Nonemigrants.**—During the fiscal year there were 456,689 aliens (exclusive of border crossers, Mexican agricultural labourers and crewmen) who departed from the United States. Only 27,598 were emigrants; *i.e.*, aliens who left a permanent residence in the United States for a permanent residence abroad; 48,054 of the nonemigrants were resident aliens who planned to return to the United States after a temporary stay abroad, and 381,037 were aliens who had been admitted as visitors or persons in transit and others temporarily admitted. (See also ALIENS; CENSUS DATA, U.S.; REFUGEES.) (A. R. MY.)

**Great Britain.**—As in all previous years since the end of World War II, in 1950 movements from the United Kingdom greatly exceeded movements in. Estimated emigration figures stood at about 485,000 to all extra-European destinations but mainly to the commonwealth countries.

**Australia.**—Under the ten-year program to build up Australia's population to more than 10,000,000 by 1960, the target for 1950 was 200,000 new settlers from all sources of whom one-half were to be British.

**Germany.**—At the beginning of 1950 about 37,000 displaced

persons, neither repatriable nor capable of being resettled under International Refugee organization schemes, were accepted into the economy of western Germany.

In February the speaker of the *bundestag* stated that within the preceding 15 months nearly 600,000 migrants had entered western Germany from the soviet zone. Since then the influx had continued and something like 300 to 400 political and nonpolitical refugees crossed the east-west frontier daily. About 20,000 Germans were accepted from Czechoslovakia. The German federal government made repeated requests for extension of the categories of persons to be admitted and in April the Allied High commission agreed that in addition to the 25,000 on the agreed list admission could be granted to their dependents, those in possession of special permits issued by the Combined Travel board in Warsaw, those who had residence permits for any of the three western zones and those refugees named on special lists supplied by the U.S. and French occupation authorities. (See also REFUGEES.) (B. L. B.)

**Israel.**—Although the vast scale on which immigration into Israel was organized greatly augmented the strain on that country's economy, the policy of unrestricted entry was continued, and on July 5, 1950, the *knesset* (assembly) passed unanimously the Law of Return which stated that every Jew had the right to settle in Israel. On Nov. 1 Prime Minister David Ben-Gurion stated that, since May 1948, 510,000 Jews had immigrated to Israel. It was estimated that more than a third of these immigrants had come from Asia and Africa, of whom about 50,000 originated in Yemen. (D. F. K.)

FILMS OF 1950.—*America and the Immigrant* (March of Time Forum Films).

**Imports:** see INTERNATIONAL TRADE; TARIFFS. See also under various countries.

**Income, Distribution of:** see WEALTH AND INCOME, DISTRIBUTION OF.

**Income and Product, U.S.** According to preliminary estimates, the United States' national income amounted to \$236,000,000,000 in 1950 and the gross national product to \$279,000,000,000. Both of these comprehensive measures of the nation's economic activity rose to all-time highs under the stimulus of economic expansion and rearmament. The corresponding totals for 1949 were \$216,800,000,000 and \$255,600,000,000.

The same factors resulted in a corresponding increase in personal income to \$222,500,000,000 in 1950 from the level of



\$206,100,000,000 in the preceding year. The trend of production and the flow of income were continuously upward throughout all of 1950.

**Meaning of Income and Product Measures.**—National income, as measured by the U.S. department of commerce, is the sum of the net earnings of labour and property arising from the current production of goods and services by the nation's economy. It measures, therefore, the total factor cost of the goods and services produced by the economy. It includes income in kind as well as money income, but such receipts as relief, unemployment benefits, pensions and capital gains are excluded since they do not represent earnings derived from current productive activity. The national income consists of compensation of employees, the net income of unincorporated businesses, corporate profits, net interest and the rental income of persons.

Personal income is the current income received by persons from all sources, including transfers from government and business but excluding transfers among persons. Not only individuals (including owners of unincorporated enterprises), but non-profit institutions and private trust and welfare funds are classified as persons. Personal income differs from national income by the inclusion of transfers (such as relief, pensions and government interest disbursements) which are not in return for current productive services, and by the exclusion of earnings (social insurance contributions, undistributed corporate income and corporate income taxes) which are not actually received by persons in the current period.

Gross national product or expenditure is the market value of goods and services produced by the nation's economy, before deduction of depreciation charges and other allowances for business and institutional consumption of durable capital goods. Other business products used up by business in the accounting period are excluded. The gross national product consists of consumers' purchases of goods and services; the gross output of capital goods retained by private business, including the change in inventories; net foreign investment; and the goods and services purchased by governmental entities.

**Distributive Shares of the National Income.**—The two most important increases in income flows occurred in wages and salaries and corporation earnings. It may be seen in Table I that wages and salaries rose by a little more than \$10,000,000,000 in 1950 to attain a total of \$144,800,000,000. Approximately \$2,000,000,000 of this increase occurred in the government sector of the economy, primarily because of the increase in the armed forces after the middle of the year. The bulk of the expanded wage flow took place in the private sector of the economy.

The main reason for the expanded flow of wages was the rise in volume of employment and the longer hours worked per week that marked the expansion of economic activity. As contrasted with the situation during the recession year of 1949, the increasing demand in 1950 drew more persons into the labour force and significantly reduced the volume of unemployment. At the same time, however, there was a general movement toward increasing wage rates which further augmented the total flow of wage payments. This movement occurred particularly after the outbreak of war in Korea when major groups of organized labour secured higher wages largely on the ground of the rising cost of living.

In the case of corporation profits before taxes, the increase in 1950 was particularly large. It is normal for profits to show a greater degree of fluctuation with changes in the level of business activity than the other income shares. Since they represent a residual type of income, they tend to fall more in periods of recession and to rise more in periods of prosperity. It may be seen that profits declined more sharply than the other shares in

Table I.—National Income by Distributive Shares

(In 000,000,000s of dollars)*					
Item	1950†	1949	1948	1939	
National income . . . . .	236.0	216.8	223.5	72.5	
Compensation of employees . . . . .	152.2	140.6	140.2	47.8	
Wages and salaries . . . . .	144.8	134.2	134.4	45.7	
Private . . . . .	122.3	113.7	115.7	37.5	
Military . . . . .		4.3	4.0	.4	
Government civilian . . . . .	22.5	16.1	14.7	7.8	
Supplements to wages and salaries . . . . .	7.4	6.4	5.8	2.1	
Employer contributions for social insurance . . . . .	4.1	3.5	3.1	1.5	
Other labour income . . . . .	3.3	2.9	2.8	.5	
Income of unincorporated enterprises and inventory valuation adjustment . . . . .	36.2	34.4	39.8	11.3	
Business and professional . . . . .	23.2	21.0	22.1	6.8	
Income of unincorporated enterprises . . . . .	24.7	20.3	22.5	6.9	
Inventory valuation adjustment . . . . .	—1.5	.7	—4	—2	
Farm . . . . .	13.0	13.4	17.7	4.5	
Rental income of persons . . . . .	7.4	7.3	7.5	3.5	
Corporate profits and inventory valuation adjustment . . . . .	35.2	29.9	31.8	5.8	
Corporate profits before tax . . . . .	39.8	27.6	33.9	6.5	
Corporate profits tax liability . . . . .	n.a.	10.6	13.0	1.5	
Corporate profits after tax . . . . .	n.a.	17.0	20.9	5.0	
Dividends . . . . .	8.9	7.8	7.5	3.8	
Undistributed profits . . . . .	n.a.	9.2	13.4	1.2	
Inventory valuation adjustment . . . . .	—4.6	2.2	—2.0	—7	
Net interest . . . . .	5.0	4.7	4.1	4.2	

\*Detail will not necessarily add to totals because of rounding.

†Preliminary.

n.a., not available.

Source: U.S. Department of Commerce (except 1950).

the recession year of 1949, falling from a level of \$33,900,000,000 in 1948 to \$27,600,000,000 in the succeeding year. By contrast, the total flow of wages was relatively stable over this period.

In 1950, however, the gain in profits was exceptional, the total for the year reaching close to \$40,000,000,000. The profit level had risen appreciably during the first half of the year in line with the expansion of business activity. But, with the sharp increase in prices after the outbreak of the Korean war, the upward movement of profits was much accelerated. Hence, for the year as a whole, rising prices resulted in a substantial amount of inventory profit, the preliminary estimate of which was \$4,600,000,000.

At the end of the year an estimate of corporate profits after taxes was not available because of the changes that had been made in the tax laws. These involved an increase in the surtax rates on corporate income and the imposition of an excess-profits tax. Although these new taxes meant a substantial increase in corporate tax liability, it was apparent that corporate profits after taxes would still reach a new high level. Dividend payments responded to the increase in profits and, in the second half of the year particularly, many corporations declared extra dividends. The dividend total for the year was \$8,900,000,000 compared with \$7,800,000,000 in 1949.

**National Income by Industrial Origin.**—Estimates of national income by industries are shown in Table II. National income classified by industrial origin furnishes a measure of the net value added by each industrial segment to the net national output. Viewed from a different standpoint, "income originating" measures the earnings of the economic resources utilized in the various industries.

More than half of the increase in total national income in 1950 was centred in the manufacturing area of the economy, in

Table II.—National Income by Industrial Origin

(In 000,000,000s of dollars)*					
Industry	1950†	1949	1948	1939	1929
Total national income . . . . .	236.0	216.8	223.5	72.5	87.4
Agriculture, forestry and fisheries . . . . .	16.9	17.4	21.8	6.1	8.0
Mining . . . . .	4.9	4.4	5.3	1.6	2.1
Contract construction . . . . .	11.3	10.4	10.5	2.3	3.7
Manufacturing . . . . .	72.9	62.9	67.3	17.9	22.0
Wholesale and retail trade . . . . .	45.8	42.7	42.9	12.1	13.1
Finance, insurance and real estate . . . . .	19.0	18.1	17.6	8.4	13.7
Transportation . . . . .	12.7	12.0	12.8	4.5	6.6
Communications and public utilities . . . . .	7.3	6.6	5.9	2.9	2.9
Services . . . . .	21.7	20.5	19.8	8.1	10.2
Government and government enterprises . . . . .	23.5	21.8	19.6	8.6	5.1

\*Detail will not necessarily add to totals because of rounding.

†First three quarters actual; last quarter estimated.



which income originating rose from \$62,900,000,000 in 1949 to \$72,900,000,000 the following year. This rise is typical of a period of business expansion but was accentuated in 1950 by the rearmament program. The other significant increases occurred in the construction, trade, services and government sectors of the economy. Both the trade and services fields reflected the sharp expansion in consumer demand while the construction industry reflected the fact that housing construction was at an all-time high. The increase in government was largely because of the rise in the armed forces.

**Gross National Product.**—The character of the economic situation in 1950 can perhaps best be seen from the changes in the gross national product shown in Table III. Economic activity had declined in 1949 to produce the first recession of the post-war period. From the beginning of 1950 there was marked recovery from this recession. This upward trend was every much accelerated after the outbreak of the Korean war both because the government initiated a large rearmament program which had an immediate impact on the economy, and because the fear of future shortages led to a substantial increase in buying by both consumers and businesses.

Table III.—Gross National Product or Expenditure

(In 000,000,000s of dollars)\*

Item	1950†	1949	1948	1939
Gross national product . . . . .	279.0	255.6	259.1	91.3
Personal consumption expenditures . . . . .	191.0	178.8	177.4	67.5
Durable goods . . . . .	29.5	23.8	22.9	6.7
Nondurable goods . . . . .	101.9	98.5	100.9	35.3
Services . . . . .	59.6	56.4	53.7	25.5
Gross private domestic investment . . . . .	48.0	33.0	43.1	9.9
New construction . . . . .	21.7	17.3	17.7	4.6
Producers' durable equipment . . . . .	24.5	19.5	19.9	4.6
Change in business inventories . . . . .	1.8	-3.7	5.5	.4
Net foreign investment . . . . .	-2.4	-4	1.9	.9
Government purchases of goods and services . . . . .	42.1	43.3	36.6	13.1
Federal . . . . .	23.0	25.3	21.0	5.2
State and local . . . . .	19.4	18.0	15.6	7.9

\*Detail will not necessarily add to totals because of rounding.

†Preliminary.

Source: U.S. Department of Commerce (except 1950).

As a result the gross national product rose by more than \$23,000,000,000 from the level of the preceding year. In part this increase reflected a sharp rise in prices which occurred after the middle of the year. It may be estimated roughly that about half the increase in the gross product was caused by the rise in production while the other half was the result of the rise in the level of prices.

Although the government's rearmament program provided a significant stimulus to economic activity, the total volume of government spending in 1950 was not larger than in 1949. The lag in government expenditures was due to the fact that the organization of armament production is a time-consuming process. The 1950 increase in the gross product resulted from increased buying for private consumption and investment purposes.

Personal consumption expenditures rose to \$191,000,000,000 in 1950, \$12,000,000,000 above the level of the previous year. The increase was centred in the durable goods area where expenditures were almost 25% higher than in 1949. While a rise in income levels could be expected to produce a sharper increase in durable goods purchases, the fear of shortages in such items as automobiles, radios and electrical appliances was an added stimulus to consumer purchasing after the outbreak of the Korean war.

Gross private investment showed an even larger increase than consumption, rising from \$33,000,000,000 in 1949 to \$48,000,000,000 in 1950. With a housing boom that produced a record total of 1,300,000 housing units during the course of a year, new construction expenditures increased more than \$4,000,000,000. Expenditures on producers' durable equipment rose by \$5,000,000,000 under the influence of scare buying as well as the real

needs for capacity expansion.

A significant factor in the total investment movement was the change in inventories. The actual inventory accumulation amounted to about \$1,800,000,000 in 1950 which was not a large rise under the circumstances. It was indicative of the fact that final demand was sufficiently strong through a large part of the year to prevent inventories from rising. As inventories in 1949 had been liquidated to the extent of \$3,700,000,000, however, the total change in inventories between the years 1949 and 1950 amounted to about \$5,500,000,000.

**Disposition of Personal Income.**—Estimates of personal income and its disposition are provided in Table IV. The substantial increase in personal income in 1950 was offset to some ex-

Table IV.—Personal Income and Disposition of Income

(In 000,000,000s of dollars)\*

Item	1950†	1949	1948	1939
Personal Income . . . . .	222.5	206.1	209.5	72.6
Wage and salary receipts . . . . .	142.0	132.0	132.2	45.1
Total employer disbursements . . . . .	144.8	134.2	134.3	45.7
Less: Employees' contributions for social insurance . . . . .	2.8	2.2	2.2	.6
Other labour income . . . . .	3.3	2.9	2.8	.5
Proprietors' and rental income . . . . .	43.5	41.7	47.3	14.7
Dividends . . . . .	8.9	7.8	7.5	3.8
Personal interest income . . . . .	9.7	9.4	8.6	5.4
Transfer payments . . . . .	15.1	12.3	11.3	3.0
Less: Personal tax and nontax payments . . . . .	20.4	18.7	21.2	2.4
Federal . . . . .	17.6	16.2	19.0	1.2
State and local . . . . .	2.8	2.5	2.2	1.2
Equals: Disposable personal income . . . . .	202.1	187.4	188.4	70.2
Less: Personal consumption expenditures . . . . .	191.0	178.8	177.4	67.5
Equals: Personal saving . . . . .	11.1	8.6	10.9	2.7

\*Detail will not necessarily add to totals because of rounding.

†Preliminary.

Source: U.S. Department of Commerce (except 1950).

tent by the increase in taxes that became effective in the fourth quarter of the year. Nonetheless, disposable income rose appreciably from \$187,400,000,000 in 1949 to \$202,100,000,000 in 1950. As previously indicated, consumption expenditures responded to the increase in income and, no doubt, the usual relationship between spending and income was somewhat exceeded because of the heavy buying of goods in the second half of the year. There was, nonetheless, an increase in personal saving from the \$8,600,000,000 in 1949 to \$11,100,000,000 in 1950. As can be seen by contrasting the data for 1950 with those of 1948, savings were only a little higher than in the earlier year compared with the rather large amount by which disposable income exceeded the earlier year. (See also BUDGET, NATIONAL; BUSINESS REVIEW; DEBT, NATIONAL; WEALTH AND INCOME, DISTRIBUTION OF.) (M. GT.)

**Income Tax:** see TAXATION.

**India.** A republican self-governing member of the Commonwealth of Nations. India consists of a union of states in southern Asia. Area: 1,220,099 sq.mi. Pop.: (1941 census) 318,770,000; (March 1950 est.) 347,340,000. Languages: two main groups, Aryan or northern (incl. Hindi, used by 150,000,000; Bengali, 26,000,000; Marathi, 23,000,000; and Gujarati, 15,000,000) and Dravidian or southern (incl. Telugu 30,000,000; Tamil 24,000,000; Kanarese 14,000,000); English is the official language of the union, to be displaced by Hindi in the Devangari script by 1964. Religions: Hindu; Moslem, Christian, Sikh, Buddhist, Parsee, Jewish and other minorities. Chief towns (1941 census): New Delhi (cap., 521,849); Calcutta (2,108,891); Bombay (1,489,883); Madras (777,481); Hyderabad (739,159); Ahmedabad (591,257); Cawnpore or Kanpur (487,324); Amritsar (391,010); Lucknow (387,177). President: Rajendra Prasad (q.v.); prime minister: Jawaharlal Nehru (q.v.).

**History.**—On Independence day, Jan. 26, 1950, India was formally proclaimed as a sovereign democratic republic under the



constitution drawn up by the constituent assembly. India severed its allegiance to the British crown, recognizing it merely as a link uniting the members of the Commonwealth of Nations. Rajendra Prasad was unanimously elected first president. He was a disciple of Mahatma Gandhi and had been three times president of the Indian National Congress party and chairman of the Indian National assembly. Independence day was celebrated throughout India with public rejoicings, and in his inaugural speech the president said that for the first time in its long and checkered history the whole vast land found itself united under one jurisdiction and one union. The objectives of the new government would be to secure justice, liberty and equality among its citizens, to abolish disease, poverty and ignorance, to resettle displaced persons and to develop natural resources. In London, the India league held a meeting attended by representatives of all parties in the British parliament and Clement Attlee, the prime minister, welcomed the new republic as a member of the commonwealth.

At the Commonwealth conference held at Colombo in January Jawaharlal Nehru, the Indian prime minister, said that India would not align itself with any power bloc but would co-operate with the other members of the commonwealth in the preservation of world peace and the economic and industrial development of southeast Asia. On Jan. 30 the second anniversary of the death of Gandhi was celebrated as a day of national mourning. Nehru declared that the policy of India would be based upon Gandhi's ideal of the progressive realization of a nonviolent society, in which caste and class, exploitation and war would cease.

*Indo-Pakistan Relations.*—The chief bone of contention between the two countries was Kashmir, and much disappointment was felt when Sir Owen Dixon, the mediator appointed by the U.N. Security council, failed to break the deadlock. Nehru maintained his attitude that Pakistan was the aggressor and that

a plebiscite could be held only under the auspices of Sheikh Abdullah's government (*see KASHMIR*). Another cause of friction was the economic situation arising out of India's decision to devalue the rupee. This had a disastrous effect on trade, especially in Bengal, where the jute grown in Pakistan territory was processed in Calcutta for export. India's action in suspending coal supplies in retaliation for Pakistan's failure to deliver raw jute seemed at one time likely to end in an economic war, and the flame was fanned on either side by the more irresponsible sections of the press which clamoured for reprisals. As a result, communal rioting was resumed, especially in the mill areas of Calcutta, which had been hard hit, and the casualties were much exaggerated by rumour. This in its turn led to a resumption of migration, and as many as 20,000 fugitives a day began to flee across the border in either direction. Fortunately the responsible leaders of both countries were aware of the perils of the situation and at a meeting of the two prime ministers at New Delhi an agreement was drawn up, guaranteeing to minorities "the complete equality of citizenship irrespective of religion; a full sense of security in respect of life, culture, property and personal honour; freedom of movement within each country; and freedom of occupation, speech and worship, subject to law and morality."

The New Delhi agreement was presented to the Indian parliament on April 10 and was accepted by all except the small body who still dreamed of an undivided India. Two Bengali ministers, H. C. Mookerji and K. C. Neogy, resigned. Immediate steps were taken to implement the decision. Minority commissions were set up and an inquiry into the whole situation was opened at Calcutta. On May 17 A. M. Malik, Pakistan minister for minority affairs, arrived to hold conversations with C. C. Biswas, his opposite number in India. The two arranged to undertake a joint tour of the affected areas in Bengal and Assam, and this had a marked effect. Confidence was restored, and migrations declined from 20,000 to 5,000 a day.

Some 10,000,000 Hindus remained in East Bengal and about 11,000,000 Moslems in West Bengal.

**INDIAN OFFICIALS** at New Delhi after ceremonies proclaiming India a republic on Jan. 26, 1950. Left to right: Sheikh Abdullah, premier of Kashmir, Jawaharlal Nehru, prime minister of the new republic, and Chakravarti Rajagopalachari, last British governor general of India





In the meantime, on April 25, a six months' trade agreement had been signed at Karachi. The Pakistan Jute board consented to furnish Indian mills with 300,000,000 lb. of raw jute, and the government of India undertook in return to arrange for the supply of 20,000 tons of jute manufactures to Pakistan. In addition, Pakistan agreed to take through normal channels goods such as woollen and cotton textiles, mustard oil, tobacco, steel sheets, timber and cement, as nearly as possible of an equal value to the jute purchases by India. Trade in certain other commodities was to be allowed free of import and exchange restrictions, and Pakistan was to furnish India with 150,000 tons of wheat at an agreed price; but no reference was made to coal or to the disagreement over the exchange ratio of the rupee, the real root of the trouble. A frank discussion between the two prime ministers took place over other outstanding differences. Nehru said that it was not expected that the pact would solve all the points at issue by a stroke of the pen. Its value lay in the fact that it created a friendly atmosphere. He also proposed a "no war" agreement with Pakistan, by which all differences between the two countries should be settled by discussion or referred to arbitration. (See also PAKISTAN.)

**Foreign Relations.**—In pursuit of his policy of a united Asia, Nehru paid visits to the Indonesian and Burmese republics and to Malaya, where he was cordially received. The outbreak of war in Korea was regarded with mixed feelings in India, where "imperialism," as exemplified by the U.S. bombardment of North Korean towns, was more unpopular than communism. Nehru, while not offering his services either for war or mediation, put forward a suggestion for limiting the area of the conflict and eventually ending it. This lay in breaking the deadlock in the Security council by the admission of the representative of the People's Republic of China (the Communist regime) and so paving the way to the return of the Soviet Union to the council. The proposal was not favoured by the British or U.S. governments. After these endeavours, the news of the invasion of Tibet by the Chinese in October was received with surprise and regret, as Nehru had always regarded a firm understanding with China as the keystone of Asiatic nationalism and the only barrier to international chaos. A strong note was addressed to Peking, to which the Chinese government replied asserting its suzerainty over Tibet, and claiming that this was a purely domestic issue. In its answer, India pointed out that there was no point of difference between the two countries which could not be settled peacefully. The Indian government repudiated the insinuation that its action had been prompted by foreign powers hostile to China. (See also KOREAN WAR; TIBET; UNITED NATIONS.)

**Nepal.**—In view of events in Tibet and Russian activities in the neighbouring province of Sinkiang, where railways and aerodromes were being constructed and mineral resources exploited with the connivance of the Chinese, the importance of the border states of Sikkim and Bhutan and of the independent kingdom of Nepal (*qq.v.*) was greatly enhanced, and India had concluded with them treaties of mutual assistance. The Indian government gave asylum to King Tribhuvana after the palace revolution in November when he was replaced by his three-year-old grandson.

While professing studiously to respect the right of Nepal to settle its internal affairs, the government strongly advised the rulers to liberalize the institutions of the country.

**Domestic Affairs.**—Nehru's policy, though approved by the great body of moderate opinion, was unpopular with extremists on both sides. To the right were Sardar Patel and the supporters of Hindu orthodoxy and big business, who were opposed to any concessions to Pakistan. To the left were the Socialists under Jai Prakash Narayan, who were critical of the government's alleged failure to alleviate the lot of the masses. Still farther to

the left were the Communists, whose subversive activities in Hyderabad, Assam and other localities had caused considerable anxiety and had more than once required the use of armed force. Apprehensions were therefore aroused about the outcome of the 56th session of the Indian National Congress, held at Nasik on Sept. 21 under the chairmanship of Purushottamdas Taudon, one of Nehru's most outspoken critics. These were dissipated when, after some lively debate, the government's foreign and domestic policy was endorsed by a substantial majority. It was learned subsequently that Nehru, C. Rajagopalachari and Maulana Azad had joined the working committee. This re-established the Congress in its old position as the leading political party in the country.

In August, severe earthquakes devastated parts of Assam, causing much damage and loss of life. Among donations to relieve the sufferers were 10,000 maunds of rice from Pakistan. For the Plan for Co-operative Economic Development in South and Southeast Asia, see CEYLON.

On Dec. 15 occurred the death of Sardar Vallabhbhai Jhaverbhai Patel, deputy prime minister and veteran leader of the Congress party. (H. G. RN.)

**Finance and Banking.**—Budget: (1949-50) revenue Rs. 3,323,600,000, expenditure Rs. 3,361,000,000; (1950-51 est.) revenue Rs. 3,391,000,000, expenditure Rs. 3,378,800,000. National debt (1950-51): Rs. 16,092,600,000. Currency circulation (Sept. 1950) Rs. 12,090,000,000. Gold and foreign exchange (Sept. 1950) U.S. \$1,942,000,000. Bank deposits (Sept. 1950) Rs. 6,770,000,000. Monetary unit: rupee with an exchange rate of Rs. 4.775 to the U.S. dollar.

**Foreign Trade.**—(1949) Import Rs. 5,915,000,000, export Rs. 4,994,000,000. Main sources of imports (1949): United Kingdom 29%; U.S. 20%; Egypt 6%. Main destinations of exports: United Kingdom 24%; U.S. 17%; Australia 5%. Main imports (1949): grain, pulses and flour 19.7%; machinery and millwork 11.5%; raw jute 10.7%; raw cotton 9.7%. Main exports: jute manufactures 33.3%; tea 14.7%; cotton manufactures 9.7%.

**Transport and Communications.**—Roads (1948) 190,500 mi. Licensed motor vehicles (Dec. 1949): cars 120,444; commercial 103,537. Railways (1949): 34,141 mi.; passenger-miles 38,012,000,000; freight net ton-miles 24,993,000,000; freight carried 118,489,000 metric tons. Shipping (July 1949): number of merchant vessels of more than 100 gross tons 168; total tonnage 395,427. Air transport (1949): capacity ton-miles flown 36,600,000; passenger-miles 195,000,000; cargo net ton-miles 6,500,000; air mail carried 1,800,000 metric tons. Telephones (1949): 113,466. Radio receiving set licences (1949): 299,000.

**Agriculture.**—Main crops (metric tons, 1949): wheat 5,685,000; barley 2,302,000; maize 1,959,000; rice 34,519,000; tea 252,000; ginned cotton 520,000; potatoes (1948) 1,850,000; sugar, raw value 3,250,000; peanuts 3,454,000; rapeseed 783,000; cottonseed 1,040,000; linseed 432,000; sesame seed 300,000; jute 500,000; wool 26,000; coffee 22,700; tobacco 363,000. Livestock: cattle (Jan. 1950) 181,500,000; sheep (Jan. 1950) 39,000,000; pigs (1945) 3,709,000; horses (1945) 1,398,000; mules (1945) 45,000; buffaloes (1945) 40,732,000; camels (1945) 656,000; asses (1945) 1,131,000; poultry (1945) 58,248,000. Fisheries: total catch (1949) 513,764 metric tons.

**Industry.**—Industrial establishments (1945): 103,400; persons employed 1,843,797. Number of trade disputes (1949) 914; number of workers involved 684,188; number of days lost 6,560,887. Fuel and power (1949): coal 31,968,000 metric tons; electricity 4,920,000,000 kw.hr.; crude oil 250,000 metric tons. Raw materials (metric tons, 1949): pig iron 1,548,000; steel ingots and castings 1,380,000; copper 6,500; aluminium 3,500; asbestos 88,200; rubber 15,800; superphosphates 47,400; gold 161,000 fine ounces. Manufactured goods (1949): cement 2,136,000 metric tons; cotton yarn 618,800,000 m.; woven cotton fabric 3,576,000 m.; paper and paper boards 104,800 metric tons.

**India, French:** see FRENCH INDIA.

**India, Portuguese:** see PORTUGUESE COLONIAL EMPIRE.

**Indiana.** An east north central state of the United States, popular name, "Hoosier," Indiana was admitted to the union Dec. 11, 1816, as the 19th state. Total area of the state is 36,325 sq.mi., including 314 sq.mi. of inland lakes and rivers. The population of the state according to the 1950 census was 3,934,224, a gain of 14.8% since 1940. Capital: Indianapolis (pop. preliminary 1950 census, 424,683), the largest city. Other cities: Fort Wayne (132,840); Gary (132,496); South Bend (115,698); Evansville (109,869); Hammond (87,423); Terre Haute (64,047); Muncie (58,364); East Chicago (54,124); Anderson (46,809).

**History.**—The general assembly did not meet in 1950. Primary



conventions of both parties were held in June and nominated candidates for U.S. senator and state offices below the level of governor. In the senatorial race Homer E. Capehart was renominated by the Republicans and re-elected. Alex M. Campbell was the Democratic nominee. In the November elections, Republicans won most offices throughout the state. Out of 11 representatives to the national congress, 9 Republicans were victorious. In the general assembly the Republicans would have a 69-31 majority in the house and a 26-24 advantage in the senate. Officers of the state during the year remained the same as in 1949: Henry F. Schricker, governor; John A. Watkins, lieutenant governor; Charles F. Fleming, secretary of state; F. Shirley Wilcox, treasurer; James M. Propst, auditor; J. Emmett McManamon, attorney general; Deane E. Walker, superintendent of public instruction. All were Democrats. Elected for the coming year were: Leland L. Smith, secretary of state; William L. Fortune, treasurer; Frank T. Millis, auditor; Wilbur Young, superintendent of public instruction. All the newly elected officials were Republicans.

**Education.**—The number of public schools in the state in 1950 was approximately 2,200. Enrolment in the elementary or common schools was 498,685, with 12,901 teachers. Enrolment in the high schools (grades 9-12) was 165,007, with 8,197 teachers. Parochial schools had an enrolment of 59,061 in the elementary grades and 9,761 in high school. For the year 1949-1950 the state appropriated \$53,000,000 for the support of schools, in addition to the sums provided by local units of government. The state provided \$17,422,194.58 for the operating expenses of the four state colleges. Twenty-two Indiana colleges and universities enrolled 48,242 full-time students during 1950.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—In 1949-50 the state's welfare program cost \$42,358,461.52 of which \$19,907,498.54 was furnished by federal funds, \$10,759,276.66 by state funds and \$11,691,686.32 by county funds. Old-age assistance cost \$24,642,516.19, blind assistance \$945,819.91, aid to dependent children \$8,565,612.96. In addition, child welfare and committed adults cost \$2,344,203.93 from state and county funds. Receipts of the state for unemployment insurance for the year ending June 30, 1950, were \$22,197,522.40. Benefits paid out were \$25,669,997.30.

In 1950 the state maintained nine institutions for mental patients including an epileptic village; nine homes, hospitals and schools and four penal and correctional institutions. As of June 30, 1950, inmates of mental institutions totalled 13,494 and inmates of penal correctional institutions 6,728. A new state board of health building and the Northern Indiana Children's hospital were dedicated during the year.

**Communications.**—The total mileage of state highways in 1950 was approximately 10,530, with county roads totalling nearly 74,000 mi. In 1948-49 the state highway expenditure for roads amounted to \$41,289,787.26 during the fiscal year. Steam railroad first line trackage measured 6,600 mi. There were 69 mi. of electric railways. The estimated number of telephones in the state on Dec. 1, 1950, was 1,150,000. There were 130 commercial airports, 4 military airports, 83 personal landing fields and 1 seaplane base in the state as of July 1, 1950.

**Banking and Finance.**—On Dec. 1, 1950, there were 336 state banks and trust companies with 76 branches. On June 30, 1950, the total resources of these banks were \$1,557,504,573.12. Deposits totalled \$1,449,533,862.24. There were 125 national banks and 30 branches on Dec. 1, 1950. Their midyear resources amounted to \$1,783,038,000 and deposits totalled \$1,246,760,000. State savings and loan companies numbered 164 and their assets were \$210,799,474.80 as of Dec. 31, 1949. The state's 70 federal savings and loan associations listed deposits amounting to \$314,809,468.63 as of Nov. 30, 1950.

**Agriculture.**—Corn and wheat production declined in 1950. Potatoes set a new yield record of 255 bu. per acre. Fruit production was only 75% of 1949.

#### Leading Agricultural Products of Indiana

Crop	1950	1949	Average, 1939-48
Corn, bu. . . . .	213,790,000	249,548,000	207,605,000
Wheat, bu. . . . .	31,798,000	39,150,000	28,258,000
Oats, bu. . . . .	52,577,000	55,825,000	45,047,000
Soybeans, bu. . . . .	35,002,000	34,608,000	22,958,000
White potatoes, bu. . . . .	4,845,000	3,900,000	4,640,000
Barley, bu. . . . .	675,000	578,000	1,169,000
Hay, all, tons . . . . .	2,622,000	2,253,000	2,580,000
Tobacco, lb. . . . .	12,860,000	13,328,000	11,436,000
Mint for oil, lb. . . . .	751,000	944,000	—
Apples, bu. . . . .	1,020,000	1,715,000	1,333,000
Peaches, bu. . . . .	298,000	794,000	453,000
Watermelons, melons . . . . .	3,150,000	2,200,000	—
Tomatoes for processing, tons . . . . .	331,500	249,900	—

**Mineral Production.**—For the year 1949, 6,957,434 tons of coal were taken from approximately 50 shaft and slope mines; 48 strip mines produced 9,592,322 tons. About 9,556,000 bbl. of oil were pumped in 1949. There were 3,480 producing oil wells in the month of Dec. 1949.

(H. J. SR.)

Shungnak and Hydaburg natives of Alaska was put to a vote of the natives in 1950. Barrow natives voted on Feb. 8 against the proposed reservation, indicating that they considered it inadequate in size. Shungnak voted on April 24, also against the reservation. Hydaburg voted favourably on April 24, and its reservation became legal.

Despite the revival of the National Indian institute by a deficiency appropriation during the fiscal year 1950, the house of representatives disapproved the item in the 1951 Appropriation act, and to this extent, co-operation between the United States and the Inter-American Indian institute (in Mexico City) appeared to be closed.

Late in 1949 the Fort Berthold, N.D., Indians had voted to accept the terms of settlement offered by congress in public law



UTE TRIBAL COUNCIL held to discuss a decision made by the U.S. federal court of claims on July 13, 1950, to award the Ute Indians of Colorado and Utah about \$31,700,000 in settlement for land taken from them between 1891 and 1938

**Indians, American.** In accordance with law, the setting aside of reserved areas for the Barrow,



437 of the 81st congress, which awarded the Indians a total of \$12,605,625 in settlement of claims in connection with the construction of the Garrison dam on the Missouri river. The new reservoir was to occupy most of the bottom lands of the Indian reservation, breaking the remainder into five disconnected pieces. The money would assist the Indians in rebuilding their homes and restocking their ranches.

Another large Indian claim was settled when the court of claims decided on July 13, 1950, that 2,505 Utes and associated tribes of Indians of Utah and Colorado were entitled to receive \$31,938,473.43—the value of lands taken from them many years before without due process of law, less the sums spent on their behalf by the federal government and with accumulated interest on the remainder. On Sept. 27, 1950, the money was appropriated by congress.

Federal Indian policy continued to look toward the transfer of responsibilities for administration of Indian affairs to the organized tribes or to state and local governments. Recognizing this trend, Gov. Luther Youngdahl of Minnesota called a conference of state governors or their representatives at St. Paul on March 14, to discuss the problems which the states might face. The governors' Interstate Council on Indian Affairs was formed and met subsequently at Salt Lake City, Utah, and Oklahoma City, Okla. Many of the governors also called local meetings of educators, welfare workers and other officials to consider Indian problems. Some of the state legislatures authorized the establishment of Indian commissions.

On April 19, 1950, the Navajo-Hopi Rehabilitation bill was finally passed and signed by the president, committing the government to a total expenditure of \$88,570,000 over the succeeding ten years for the development of adequate economic, education and health facilities for these Indians. The Appropriation act for 1951 carried \$8,891,000 as the first instalment of these projected expenditures, principally for school construction and economic advancement. In the preceding four years, the government had also provided school facilities for an additional 4,500 Navajo children.

Congresswoman Reva Beck Bosone of Utah introduced into congress a joint resolution on July 28, calling for a survey by the Indian service (using already appropriated funds) of the tribes, bands and groups under jurisdiction of the bureau of Indian affairs, to "determine the respective qualifications of such Indians to manage their own affairs without supervision and control by the Federal Government." The results of this survey were to be presented to the 82nd congress, with concrete programs and proposed legislation. The resolution passed the house of representatives but did not pass the senate.

Dillon S. Myer, president of the Institute of Inter-American Affairs in the state department, was appointed commissioner of Indian affairs May 5, 1950. (W. W. B.)

**Indochina.** Until 1946 this name covered four French protectorates and the colony of Cochin-China, bounded north by China, west by Burma and Thailand and south and east by the South China sea. From 1949 Indochina had no legal existence, being replaced by the three associated states of the French union. Areas and populations are listed in the table.

Three-fourths of the population live on the coastal plain, on one-tenth of the total area. Annamites form the great majority

	Area (sq. mi.)	Population (1936 census)	(1949 est.)
Viêt-Nam . . . . .	126,608	18,972,000	22,973,000
Tonkin (Bac-Ky) . . . . .	44,660	8,700,000	10,006,000
Annam (Trung-Ky) . . . . .	56,974	5,656,000	7,299,000
Cochin-China (Nam-Ky) . . . . .	24,974	4,616,000	5,668,000
Cambodia . . . . .	69,866	3,046,000	3,279,000
Laos . . . . .	89,320	1,012,000	1,208,000
Total . . . . .	285,794	23,030,000	27,460,000



of the population of Viêt-Nam: they speak Annamese and Confucianism is their dominant religion. Cambodians (or Khmers) are Buddhist and Hindu influence shaped their cultural life. The Mois of the southern highlands of Annam and Laos are Indonesians, akin to Dayaks of Borneo: they are pagan and of a backward civilization. In the northern highlands of Laos and Tonkin there are tribes of Chinese origin. In the areas of Luang Prabang of Laos and of Battambang of Cambodia the inhabitants are Thais (or Siamese). In 1946 there were in Indochina 26,000 Europeans, including 23,000 French or *assimilés*. Chief towns (pop., 1949 est.): Saigon, capital of Viêt-Nam, with the seaport of Cholon (1,700,000); Hanoi (166,000); Haiphong (92,000); Pnom-Penh, capital of Cambodia (128,950); Vientiane or Vichan, capital of Laos (13,700).

Rulers and commissioners: Viêt-Nam: ruler, Bao Dai (*q.v.*); high commissioner and commander in chief, Gen. Jean de Lattre de Tassigny. Cambodia: ruler, King Norodom Sihanouk; commissioner, Jean de Raymond. Laos: ruler, King Sisavang Vong; commissioner, Miguel de Pereira.

**History.**—On Jan. 29, 1950, the French national assembly by 401 votes to 193 passed a bill ratifying the agreements establishing the independence of Viêt-Nam, Cambodia and Laos within the French union. An interstate conference presided over by Albert Sarraut, a former premier, opened at Pau on June 29 and

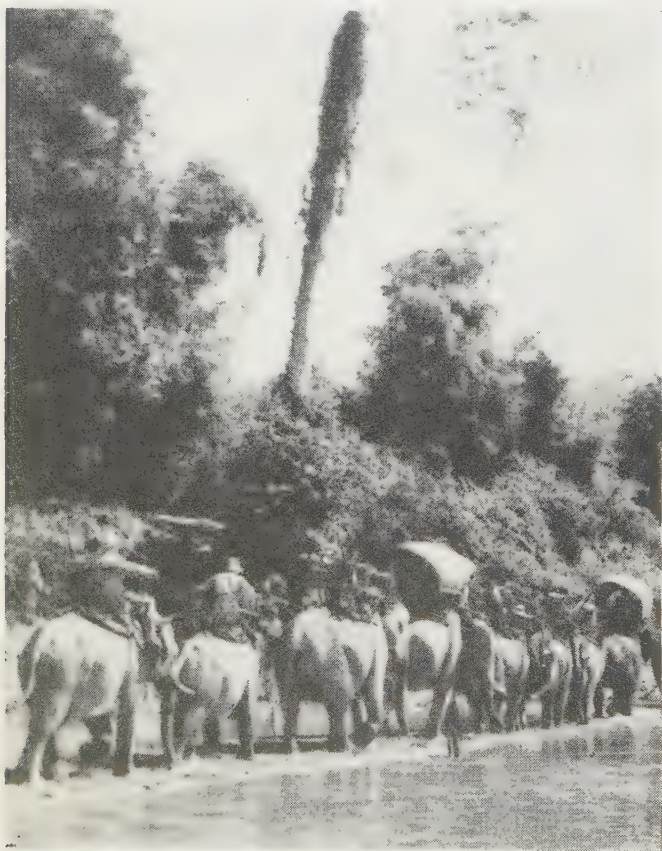


on Nov. 27 with some difficulty reached an understanding regarding the transfer of responsibilities from the French to the national authorities. On his return to Saigon, Tran Van Huu, premier of Viêt-Nam, expressed himself as dissatisfied with France, which he accused of seeking to set up Laos and Cambodia against Viêt-Nam and to keep control of the country by means of French officials. Nevertheless, on Dec. 21 he acknowledged that all important administrative and financial institutions were to have Viêt-Nameese managers from Jan. 1, 1951, but that it would still be necessary to call on the help of French managers for certain technical services.

The government of Bao Dai gained nothing in prestige or popularity, and he was forced, therefore, to try to outbid the nationalists without succeeding in averting suspicion either from himself or from France. Only the seriousness of the military situation succeeded on Oct. 17 in bringing to an end his stay in Cannes where he had been for four months. After renouncing personal control of the state, on Jan. 21 he nominated N'Guyen Phan Long as prime minister and on April 27 called on Tran Van Huu, former governor of south Viêt-Nam, to assume direction of the government. Recognition by the U.S.S.R. of Ho Chi Minh's People's Republic of Viêt-Nam led to similar action by Great Britain and the U.S. with regard to the Bao Dai government on Feb. 7.

On May 8 Dean Acheson, U.S. secretary of state, confirmed that the United States would provide economic assistance for the associated states.

The military situation steadily deteriorated. Viêt-Minh had come under the complete control of Communist elements relying on Chinese help. The French defense line 320 km. long, protecting the Sino-Viêt-Nameese frontier between Moncay and Cao Bang, had to be abandoned in deplorable circumstances. Of 4,800 troops and civilians who left the posts of Thatkhé and Cao Bang more than 2,000 men were lost to the enemy on Oct. 7 and 8.



JUNGLE PATROL DUTY in Indochina in 1950, showing French Viêt-Nam troops mounted on elephants

Doubts were cast on the competence of Gen. Marcel Carpentier, commander in chief, and the morale of the troops was affected. After an inspection by Jean Letourneau, head of the new ministry for associated states (established on May 23), and Gen. Alphonse Juin, joint civil and military powers were vested in Gen. Jean de Lattre de Tassigny on Dec. 7. On his arrival in Hanoi, the general declared that the days of wavering were over and the hour of order had arrived. Hanoi and Saigon thenceforward became fragile bridgeheads in southeast Asia, where a third of the French active forces were tied down. Pending the arrival of U.S. equipment, it was the task of the French to hold the Tonkin citadel whence there had already been partial civilian evacuation.

After dissolving the national assembly on Sept. 18, 1949, King Norodom Sihanouk of Cambodia supported Yem Sambaur as head of the government, with augmented powers, in defiance of the constitution which forbade the assumption in such circumstances of the functions of premier by the president of the assembly. Such was the hostility encountered by the government that the king was compelled on April 28 to take the reins himself and on May 30 to form a government of national union, presided over by Prince Monipong. The draft of an electoral law for the appointment of a new assembly was ill-received by the great majority of opinion. The central authority did not succeed in restoring security.

On Feb. 6 conventions were signed at Vientiane to put into effect the treaty of Paris (July 19, 1949) by which France recognized Laos as an independent associated state. The premier, Prince Boun Oum, resigned on Feb. 15 and was replaced by Phouy Samanikone. From April 14, the Laos new year, the royal government took over effective control of all state administration. To contend with incursions by Issarak and Viêt-Minh forces on the Bolovens plateau, the minister of the interior took in hand the formation of a counter guerrilla commando force.

**Finance.**—Budget (1949 actual) balanced at 1,569,814,400 piastres. Monetary unit: piastre, equivalent to 17 metropolitan francs. U.S. \$1 = 349.85 metropolitan francs (Nov. 1950).

**Foreign Trade.**—(1949) Imports 66,822,600,000 fr., exports 19,303,400,000 fr. Main exports: rice 5,181,700,000 fr.; rubber 6,096,700,000 fr.; spices 999,800,000 fr.; coal 627,500,000 fr.; maize 587,500,000 fr.

**Transport and Communications.**—Railways (1948): 3,245 km. Roads (1948): 20,370 km. Motor vehicles licensed (1948): cars 15,500, commercial 7,500. Ships entered at Saigon-Cholon (1949) 649; passengers: arrivals 81,016; departures 75,038; cargo (metric tons) unloaded 151,000, loaded 103,200. Air transport (1949): aircraft landed 937; passengers: international traffic, arrivals 9,289; departures 12,650; internal traffic, arrivals 63,606; departures 74,954.

**Agriculture.**—Rice production (metric tons, 1949–50): Cochinchina or south Viêt-Nam, 1,550,800 (56% of prewar production); Cambodia, 1,220,400; maize (1949, Cambodia) 35,000. Livestock (1949): 1,486,000; buffaloes 1,264,000; pigs 1,900,000; horses 26,300.

**Industry.**—Main products (metric tons, 1949): coal 371,100; cement (north Viêt-Nam) 152,900; rubber 43,700; alcohol (south Viêt-Nam and Cambodia) 131,977 hl.; timber 248,000 cu.m. Tin concentrates at 50% (Laos, 1950 est.) 550 metric tons. (C. A. J.)

**Indonesia.** The independence of Indonesia was proclaimed at Jakarta (Batavia) on Aug. 17, 1945, but the republic of the United States of Indonesia came into being on Dec. 27, 1949, when Queen Juliana of the Netherlands signed the charter transferring to the Indonesian people the sovereignty of the territories of the Netherlands Indies—with the exception of Irian or Dutch New Guinea (*see* NETHERLANDS NEW GUINEA). The provisional constitution of 1949 stipulated that the republic was to be a federation of seven states and nine autonomous territories. On Aug. 14, 1950, the parliament of the republic decided that the principle of federalism should be abandoned and that Indonesia should be a unitary nation-state divided into ten provinces. Total area (excluding Dutch New Guinea): 583,479 sq.mi. Total pop.: (1939 est.) 69,435,000; (mid-1949 est.) 79,260,000, all but 2.6% being indigenous; two-thirds of the total population lives on Java. Language: Malay is to a certain extent



a language of intercommunication between different population groups speaking 25 main languages and 250 dialects. Religion (1941 est.): Moslem about 90%, Christian 3.4%, Hindu 1.4%. Chief towns (pop., 1930 census): Jakarta (cap., 435,184; mid-1949 est., 1,200,000); Surabaya (341,675); Semarang (217,796); Bandung (166,815); Surakarta or Solo (165,484); Jakarta (139,649). President of the republic: Achmed Soekarno; prime ministers in 1950: Mohammed Hatta and (from Sept. 5) Mohammed Natsir; Netherlands high commissioners in 1950: H. M. Hirschfeld and (from Aug. 3) A. T. Lamping.

**History.**—The very foundations on which the political structure of the republic of the United States of Indonesia was built soon proved to be too weak to support it for long. The federal principle of government, a compromise reached between the original republic of Indonesia proclaimed in 1945 on the one hand and the regional states (*negara*) established since then on the other hand, had been laid down in the constitution, with elaborate safeguards, and ratified by all states. Nevertheless the intransigent nationalist spirit embodied in the old republic, which covered parts of Java and Sumatra, continued to clash with the federal conception of the state. Republican adherents in the territory of different states soon brought about a situation which made it impossible for the separate state governments to carry out their functions. The central (federal) government, observing the way things were going, adopted a passive attitude, and the state governments, unarmed and abandoned, resigned their constitutional powers to the central government one after another (East Java, Madura and Pasundan or West Java in January; South Sumatra and East Borneo in March; the rest of Borneo and East Indonesia in April).

The next phase was characterized by public demonstrations demanding the annexation of the states' territories by the republic of Indonesia. Again the central government, remaining passive, took steps to legalize the apparently inevitable trend, and on March 8 emergency legislation was enacted on the strength of which those territories as well as the federal district surrounding the capital, Jakarta, were incorporated in the republic of Indonesia.

The annexation of state territories did not proceed without hitch everywhere. In West Java armed malcontents, supported by a small number of soldiers from the former Netherlands Indies army led by a former captain ("Turko" Westerling), even succeeded in capturing the capital, Bandung, on Jan. 23 from the republicans. The Netherlands high commissioner and the Indonesian premier, however, issued a joint statement threatening "co-ordinating action" (that is, the using of the Dutch troops awaiting repatriation) against the insurgents, whereupon the movement petered out.

In East Indonesia some prominent Ambonense people, watching the imminent downfall of the East Indonesian state of which their country formed part, on April 25 seceded and proclaimed a South Moluccan independent republic. The central government waged a protracted blockade followed by active naval and land warfare against the islands of the South Moluccas groups, until it was claimed in November that the capital city, Ambon, had been taken and major resistance had ceased.

Meanwhile the central government and the government of the republic of Indonesia, enlarged by the above-mentioned annexations, had conferred on the means of legalizing the situation. On May 19 the conference resolved to have a new interim constitution enacted, which would be based on unitary instead of federal principles of government; limited provincial autonomy would be substituted for state rights and the senate consisting of equal numbers of members from each state abolished. This new constitution merging the republic of the United States of Indonesia with the republic of Indonesia was duly approved by

the representative bodies and promulgated on Aug. 15. The last of the states, East Sumatra, now ceased to exist; the name of the Republik Indonesia Serikat (United States of Indonesia) was officially changed to Republik Indonesia. President Soekarno retained his office, but the Hatta cabinet resigned and was succeeded by the Natsir cabinet.

**Internal Difficulties.**—While the political events summarized above demanded most of the central government's attention, internal conditions in nearly every region of Indonesia, whether directly affected by those events or not, deteriorated considerably. In some areas (notably Achin or Atjeh in north Sumatra) the authority of the central government was not recognized or was ignored; in west and central Java a fanatical Moslem group (Dar'ul Islam) terrorized the rural population and defied the government.

A big budgetary deficit threatened the country. Successive waves of strikes in various sectors of private enterprise curtailed production for home consumption and for export, thus affecting the balance of trade unfavourably. The Communist party infiltrated, and soon dominated, the trade union movement; politically their tactics followed the usual pattern of exploiting every available difficulty which Indonesia had to face, at home or abroad, to foster opposition to the responsible government and to discredit its attempts to meet its problems in a realistic spirit.

In October the Natsir cabinet met the parliament for the first time and after prolonged debates on general policy won a vote of confidence with a substantial majority. After a nationwide drive to collect all arms possessed illegally by civilians, a widespread campaign of army and police forces to stamp out terrorism and banditry was scheduled to begin on Dec. 4.

**Foreign Relations.**—Indonesian relations with the Netherlands and the Netherlands-Indonesia union which was designed to systematize their voluntary close co-operation as sovereign states went through more than one severe crisis. The "Westerling" affair in the eyes of the Indonesians and the liquidation of the federal states which was looked upon as a violation of the right of self-determination by the Dutch caused considerable tension between the union partners. Nevertheless the two governments agreed not to let these differences stand in the way of the regular half-yearly conferences of ministers, as called for by the union statute. The first of these conferences opened in Jakarta on March 25, the second in November at The Hague. Both successfully handled several legal, financial and economic subjects and ended in mutually acceptable agreements.

At the first union conference it was decided to establish a joint committee to study the problem of the future status of New Guinea, which was held over at the round-table conference. The committee's report showed diametrically opposed Dutch and Indonesian standpoints; violent agitation for the annexation of New Guinea started, sparked by a series of fiery speeches by President Soekarno. This campaign brought the country into open conflict with Australia, whose government declared itself firmly opposed to any Indonesian territorial ambitions in New Guinea.

In its external policy the Indonesian government followed on the whole, though not dependably, the guidance of India and adopted an attitude of neutrality in regard to the disputes dividing the Atlantic and the soviet blocs. After prolonged hesitation, influenced in the main by China, ever looming large on the Indonesian political horizon, Indonesia finally joined the United Nations in September, where its delegation entered the assembly among manifestations of good will toward the youngest member.

(W. G. P.)

**Education.**—Schools (1949-50): primary 24,542, pupils 4,212,031, teachers 74,751; secondary 1,250, pupils 165,399, teachers 7,500; teachers' colleges 397, students 21,023. Universities: faculties 14, students



3,238. Chinese schools 681, pupils 162,315, teachers 3,421.

**Finance and Banking.**—Budget: (1949–50 actual) revenue 2,602,200,000 guilders, expenditure 3,907,100,000 guilders; (1950–51 est.) revenue 1,871,100,000 guilders, expenditure 2,596,100,000 guilders. National debt (July 1950): 18,394,000,000 guilders. Currency circulation (Sept. 1950): 2,400,000,000 guilders. Gold reserves (Sept. 1950): U.S. \$178,000,000. Bank deposits (Sept. 1950): 813,000,000 guilders. Monetary unit: guilder or florin with an exchange rate of 3.81 florins to the U.S. dollar.

**Foreign Trade.**—(1949) Imports 1,574,000,000 guilders; exports 1,478,000,000 guilders. Main sources of imports (1949): U.S. 25%; Netherlands 21%; U.K. 10%; Japan 7%. Main destinations of exports: Malaya and Singapore 24%; Netherlands 23%; U.S. 16%; U.K. 4%. Main imports: textiles 25.5%; foodstuffs, beverages and tobacco 20.5%; vehicles and machinery 17.6%; metals 10.6%. Main exports: petroleum 28.3%; rubber 23.9%; tin and tin ore 11.7%; copra 10.8%.

**Transport and Communications.**—Roads (1940): 43,700 mi. Licensed motor vehicles (Dec. 1949): cars 17,200; commercial 28,000. Railways (1948): 2,389 mi.; passenger traffic (1948) 49,000,000; freight carried (1949) 4,992,000 metric tons. Shipping regularly serving Indonesia (1947): merchant vessels 154, gross tonnage 757,000. Garuda Indonesian Airways (1949): passenger-miles flown 7,788; freight ton-miles 4,296. Telephones (1940): subscribers 51,606. Wireless receiving sets (1949) 100,000.

**Agriculture.**—Main crops (Java and Madura only; metric tons, 1949): rice, paddy 5,796,000; maize 1,700,000; cassava 4,692,000; sweet potatoes (1948) 1,140,000; soybeans (1949) 227,000; peanuts (1948) 270,000. Livestock: sheep (1948) 1,820,000; cattle (1949) 3,598,000; pigs (1948) 1,171,000; horses (1948) 620,000; buffaloes (1948) 1,246,000; goats (1948) 6,910,000. Fisheries: total catch (1947) 28,000 metric tons. Total production of fats and oils (1949) 840,000 metric tons.

**Industry.**—Fuel and power (metric tons, 1949): coal 662,000; crude oil 5,930,000. Raw materials (metric tons, 1949): tin 29,400; natural rubber 438,000; bauxite 678,000.

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**Industrial Health.** During 1950 a state of national emergency in the United States drew attention to the manpower resources of the country and the ability of the health professions to contribute toward peak industrial production. The numbers of professional personnel engaged in industrial health services at the close of the year assured reasonable protection, and the facilities for recruitment and training were regarded as much improved. Industry, as a prime target in the event of hostile attack, revived discussions and plans for defense measures, both as regards plant security in the immediate sense and in the direction of integration with over-all community organization. Much thought was given to total mobilization and assignments to services either in the armed forces or supporting industrial facilities on the basis of special skills or physical and emotional fitness.

The division of industrial hygiene of the public health service embarked on a clinical and environmental study of uranium mining and milling. Air pollution continued to receive a major share of the division's attention, particularly through an international joint commission operating in Windsor, Ont., and Detroit, Mich. A field study instituted in ten eastern states represented the first steps toward uniform collection of occupational disease reports on a national scale. Field headquarters and laboratories were established in Cincinnati, O., in supplementation of similar services located in Salt Lake City, Utah, for the western area.

The Federal Security agency (*q.v.*) conducted a conference on aging which considered medical and health aspects of the older population, particularly suitable employment and preparation for retirement under medical and personnel supervision.

A National Conference on Workmen's Compensation and Rehabilitation was jointly sponsored by the Federal Security agency and the department of labour, to promote closer working relations. The second President's Conference on Industrial Safety reaffirmed the principle of joint action between official agencies, voluntary associations, labour and industry as a means for further substantial reductions in work injuries.

The President's Committee on National Employ the Physically Handicapped Week took action to alert the national security resources board to the potential contributions of the dis-

abled in current estimates of available industrial manpower.

The first Conference on Health Problems of Industries Operating in Tropical Countries was held at the Harvard university school of public health. The extensive operations of 22 English, Dutch and U.S. corporations were described as very largely dependent upon the control of epidemic disease and improvement of substandard nutritional and hygienic conditions found in the native populations of the orient, Africa and the East and West Indies.

Although there was no completely acceptable explanation for toxic manifestations associated with exposure to beryllium and certain of its compounds, the favourable results achieved through treatment with ACTH and cortisone were regarded as substantial progress. There was a definite trend toward a re-examination of pulmonary dust diseases in the light of functional tests and physiologic estimates of efficiency.

The interest in noise and its control was accelerated by conferences between otologists and industrial hygienists.

(C. M. PN.)

**Canada.**—According to A. Grut, chief of the industrial hygiene section of the International Labour office, Canada in 1950 was well to the front among the nations taking steps to combat occupational diseases. In March 1950 the industrial health division of the federal department of national health and welfare formed a new radiological health section, to meet potential health hazards created by the use of radioactive materials and radiation-producing apparatus. It acted as a source of government information on radiological health, and assisted provincial and municipal health agencies in health radiation problems. In June 1950 the National Research council Atomic Energy project disclosed a record of 1,181,148 exposure hours in 1949 without a single lost-time injury, and 84% fewer lost-time accidents than in 1948. The frequency of lost-time accidents was 1.44 and the severity 0.013 (international figures were 9.5 for frequency and 0.4 for severity in projects of similar size and type).

Quebec required annual medical certificates for men working more than 50 hours per month in dust-exposure jobs in mines. Ontario expanded its X-ray services for workers exposed to silica dust in foundries, quarries, mines and potteries. (C. Cy.)

**Great Britain.**—The year 1950 saw the publication of the report on *Industrial Lung Diseases of Iron and Steel Foundry Workers* (London) by A. G. McLaughlin, who, with the assistance of several specialists, had studied about 3,000 workers in 19 foundries in Great Britain. The main foundry occupations are sandblasting, the cleaning of castings by fettling, chipping and knocking out, grinding, moulding and furnace brick-laying. The report included the results of clinical and radiographic examinations, an analysis of earlier records and a study of the pathology of the lungs of 64 deceased foundry workers and of details relating to dust surveys, with descriptions of foundry processes and methods of investigation. In describing the X-ray appearances a fourfold classification was used; viz., normal, early reticulation, reticulation and nodulation (including massive shadows). It was shown that severe abnormalities are more likely to occur in steel foundry workers than in workers in iron or mixed iron and steel foundries; that fettlers are more liable to injury than any other foundry workers; and that moulders also are especially liable.

The Medical Research council published a comprehensive report on industrial fluorosis in Great Britain. Its investigation comprised the study of the hazard to man and animals in an area near Fort William, Inverness, Scot. The report dealt with the manufacture of aluminum and with the environmental studies within and without the factory and gave details of the effect of fluorine compounds on animals in the area together with clin-





INTENSIVE PUBLIC HEALTH inspection on a farm in Paulding county, O., during a severe epidemic of polio in the area in the fall of 1950. Blood samples were taken from children (right) and livestock (background), the water tested and counts taken of flies and other insects

ical, dental and other investigations on selected individuals. Although the older furnace-room worker inhaled a considerable quantity of fluoride, his urinary excretion of it roughly counterbalanced his intake. Some of the older workpeople showed bone changes now generally recognized as indicative of fluorosis, but none suffered any clinical disability. The residents in the neighbourhood showed no sign of injury to health.

There were two important meetings on industrial diseases in 1950: the third International Congress of Experts on Pneumoconiosis in Sydney, Austr., and an international meeting on industrial diseases in Milan, It. The Institute of Biology and the Atomic Scientists' association, with the support of the British association, held a two-day conference in October in the Royal institution. On the first day the biological and medical effects of nuclear radiation and tolerance levels and measures of protection were considered by a number of specialists in their respective fields. The second day was devoted to the biological implications of atomic energy and to the problems of the future. (See also ACCIDENT PREVENTION; MEDICINE; PUBLIC HEALTH ENGINEERING; PUBLIC HEALTH SERVICES.) (A. J. AR.)

**Industrial Production:** see BUSINESS REVIEW.

**Infantile Paralysis.** During 1950 an unusually high incidence of poliomyelitis (infantile paralysis) was reported from Australia, the Belgian Congo,

France, Germany, Israel, Mexico, the Philippines and the United States. During 1949 and 1950 a transition of the disease from endemic to epidemic form, previously noted in several other countries, occurred in Israel. Earlier, the highest annual total of cases reported from that area was 62 (in 1939). In 1949 there were 128, and during the first ten months of 1950 there were more than 1,500. The United States experienced its third epidemic year in succession, with 27,902 cases in 1948, 42,173 in 1949 and more than 30,000 in 1950. These figures may be compared with annual averages of 6,398 for the 5-year period 1938-42, and 16,306 for 1943-47.

An unknown fraction of the reported cases may have represented infection by the Cocksackie viruses rather than by viruses of the poliomyelitis group. During 1950 Cocksackie viruses were again repeatedly isolated from cases with symptoms indicative of poliomyelitis. While the majority of these patients were non-paralytic, Cocksackie and poliomyelitis viruses were isolated simultaneously from some paralytic cases. In these instances there were increases in antibodies against both viruses during convalescence. But the relation of the Cocksackie viruses to poliomyelitis in general and particularly to the paralytic disease was still to be clarified.

Several British and Australian observers reported that dur-



ing outbreaks of poliomyelitis a relatively high incidence of the disease was found among children who had recently received inoculations for immunization against other diseases; and that in such instances paralysis tended to affect the limb where the inoculation was made. The reason for this association was undetermined.

Earlier studies, on population samples from various parts of the world, had shown that antibodies against poliomyelitis virus (Lansing type) are acquired by the great majority of persons before maturity, indicating a wide dissemination of the virus and a high incidence of infection with the virus without evidence of disease. An exception to this appeared in a report on two relatively isolated communities of Eskimos in northern Alaska. Among 243 people, antibodies were present in more than 80% of those above the age of 20, but were absent, with few exceptions, in all below 20. Fatal cases of supposed poliomyelitis had occurred in the area 20 years before but no illness suggesting poliomyelitis had been observed since then.

The severe outbreak among Eskimos in northern Canada, reported in 1949, was found to behave in a manner typical of outbreaks of poliomyelitis in a population that had not previously been in contact with the virus.

Other developments in poliomyelitis research included the following:

The program of classifying the numerous poliomyelitis viruses that had been isolated from different human cases was continued. No new type of virus was reported to add to the three types previously identified.

Continuation of studies on growth of the virus in tissue cultures had opened the possibility of simplifying laboratory techniques for (1) detection of virus in suspected materials and (2) identification of virus types. Strains of virus were recovered for the first time by inoculation of tissue cultures with virus-contaminated materials without resort to animals. The virus in tissue cultures produces characteristic effects on the cells which effects are inhibited by specific poliomyelitis antibodies. (See also BACTERIOLOGY; EPIDEMICS; MEDICINE; PUBLIC HEALTH SERVICES.)

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**FILMS OF 1950.**—*His Fighting Chance* (British Information Services). (H. M. W.R.)

**Infant Mortality.** Within a brief period of 16 years, infant mortality in the United States had been cut by half by 1950. Provisional data for 1950 indicated a rate of about 30 infant deaths per 1,000 live births, compared with a rate of 60.1 per 1,000 for 1934; the earliest infant mortality rate available, for 1915, was 99.9 per 1,000 live births. The improvement from 1949 to 1950 was exceptionally rapid; in a nine-month comparable period, infant deaths fell by 7.3%, while the infant mortality rate declined by 6.4%. Except for April, each monthly rate for 1950 in this nine-month period was below that for 1949. A total of 111,200 infant deaths (under one year of age) was recorded in the United States during 1949; the infant mortality rate was 31.1 per 1,000 live births. In the same year, Canada recorded 15,158 infant deaths, and a rate of 42.8 per 1,000 live births. England and Wales experienced a marked decrease in infant mortality from 1949 to 1950 according to provisional urban data for the first ten months of both years; these data showed 13.5% fewer infant deaths and a 9% drop in the rate. For the whole of England and Wales, 23,682 infant

deaths were recorded in 1949 and the infant mortality rate was 32.4 per 1,000. New Zealand, in 1949, experienced the remarkably low infant mortality rate of 23.8 per 1,000.

In 1948, the latest year with complete data for the United States, the infant mortality rate ranged from a low of 28.9 per 1,000 in cities of 100,000 or more to a high of 36 in communities of 2,500 to 10,000 population; for the rural areas, the recorded rate was 33.1 per 1,000. Infant mortality in urban areas was at a minimum of 26.6 per 1,000 in the Pacific coast states, while the New England states were not much higher, with a rate of 26.9 per 1,000; the highest rate for urban centres was in the west south central states, where the rate was 42.1 per 1,000. As for rural areas, the low record was held by the west north central states with a rate of 26 per 1,000, and the high record by the mountain states with a rate of 46.6 per 1,000.

Infant mortality for the nonwhite population of the United States remained fully 50% higher than that for the white population; the respective rates for 1948 were 46.5 and 29.9 per 1,000 live births. Among the nonwhites, Negroes had a rate of 45.7 per 1,000 live births and other races a rate of 63.1 per 1,000. The infant mortality rates for males were appreciably higher than those for females. Thus, white males had a rate of 33.7 per 1,000, compared with 25.9 for white females; in the case of nonwhites, males had a rate of 51.4 and females 41.4 per 1,000 live births.

In 1948, just one-third of the infant deaths (under one year of age) occurred during the first day of life and one-tenth in the second day. More than two-thirds of the infant deaths were within the first month of life, more than one-fifth within the next five months and less than one-tenth within the second half year of infancy. Of the deaths within the first month of life, 48.8% were from premature birth, 15.3% from injury at birth, 13.1% from congenital malformations, 6.5% from asphyxia and atelectasis; and 3.7% from pneumonia and influenza. This mortality picture according to cause of death was greatly altered in the remaining 11 months of the first year of life. For that period, 28.8% of the deaths were due to pneumonia and influenza, 15.9% to congenital malformations, 15.3% to diarrhoea and enteritis, 8.1% to accidents, 2.3% to premature births and 2.1% to congenital debility. Almost one-half of the accidental deaths in infancy are from mechanical suffocation.

In the few years from 1940 to 1948, there was a reduction of almost 50% in the infant mortality rates for pneumonia and influenza, diarrhoea and enteritis and congenital debility; there were even more rapid decreases in the rates for syphilis and whooping cough. During the same period, however, there was practically no change in the infant mortality rate for congenital malformations; the rate for premature birth fell by about one-fifth.

Stillbirths (counting cases with a gestation period of at least 20 weeks) recorded in the United States during 1948 numbered 72,838; the ratio of registered stillbirths to live births during the year came to 20.6 per 1,000. The ratio for the white population was 18.3 per 1,000 live births, just half that for nonwhites who had a rate of 36.5. For the whites, the ratios ranged from a low of 15.1 per 1,000 live births for the Pacific coast states to a high of 21 for the middle Atlantic states; in the latter area, New York state had a very high rate, 22.9 per 1,000. However, interstate comparisons of stillbirth ratios are affected by differences in the definition of stillbirth and in the completeness of their reporting. It was found, in a New York city study, that two-thirds of the foetal deaths within the first three months of pregnancy were not reported; one-third of those in the next three months failed to be reported, and one-seventh of those in the three months following. (See also BIRTH STATIS-



TICS; DEATH STATISTICS.)

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**Inflation:** see BUSINESS REVIEW; CONSUMER CREDIT; PRICES. See also under various countries.

**Influenza:** see PNEUMONIA.

**Inland Waterways:** see CANALS AND INLAND WATERWAYS.

**Insanity:** see PSYCHIATRY.

**Insects and Insecticides:** see AGRICULTURAL RESEARCH ADMINISTRATION; HORTICULTURE.

**Instalment Buying and Selling:** see CONSUMER CREDIT.

**Insulin:** see DIABETES.

**Insurance.** **Life Insurance.**—During 1950 the legal reserve life insurance companies of the United States and Canada paid about \$4,000,000,000 to policyholders or beneficiaries, an amount larger than in any previous year. If the increases in reserves held to assure payment of future benefits are included with payments to policyholders and beneficiaries, then about \$8,000,000,000 was paid or credited in 1950 to United States and Canadian families.

New life insurance issued by the companies of the United States and Canada during 1950 exceeded \$30,000,000,000, constituting another record. At the end of the year, the insurance owned by the 88,000,000 policyholders of the United States and Canada amounted to about \$244,000,000,000. However, this amount was equivalent to only about a year's income of the people of the two countries. The premiums paid in 1950 for life insurance and annuities totalled about \$8,000,000,000 or slightly more than 3% of the people's income.

Because of the strained international relationships, life insurance companies took precautionary measures to protect the interests of existing policyholders against an undue number of persons taking out large amounts of insurance in anticipation of combat service. During the year, some companies began to insert war clauses in policies issued to military personnel or to young men, while others adopted restrictions on the amount of insurance written on persons subject to military service.

The assets of United States and Canadian legal reserve life insurance companies increased by \$4,600,000,000 during 1950 and reached \$68,500,000,000.

In the United States, the life insurance companies' holdings of mortgages increased by \$3,200,000,000 during 1950 to attain a total of more than \$16,000,000,000. The companies' portfolios of corporate bonds and notes increased by \$1,700,000,000 during 1950; this increase was much less than in 1949 as a result of lower demands from corporations for new debt capital. On Dec. 31, 1950, all corporate securities owned by these companies aggregated \$25,200,000,000. Their holdings of United States government securities declined again during 1950 to \$13,650,000,000, which holdings were nevertheless more than were held by any other private institutional investor group with the exception of commercial banks.

The 1950 interest rate earned by United States companies on their total assets was expected to be about the same as in 1949 (3.04%). During 1950, interest rates obtainable on new investments rose somewhat, but rates on new long-term investments were still below the level reached after World War II.

In the United States, at the end of 1950, men in military service and veterans held more than \$38,000,000,000 of United States government and National Service life insurance and there were also several billions of dollars of life insurance in force in fraternal organizations, assessment associations, etc. Further-

more, the equivalent of a very large amount of life insurance was available under Social Security survivorship benefits; these benefits provide a basic amount of protection around which a complete life insurance program can be built. (See also SOCIAL SECURITY.) (L. A. L.)

**Casualty Insurance.**—The volume of premiums on casualty lines showed an increase in 1950 over the preceding year. This increase was almost entirely automobile insurance. The profit margin for the companies declined from the results for the two preceding years, and it was believed that some companies might show underwriting losses when all claims had been adjusted.

Automobile liability is the major source of business written by casualty insurance companies. With a record output of 8,000,000 new automobiles and the accumulative effect of automobile financial responsibility laws in many states, the volume of this business increased substantially in 1950. The frequency and severity of claims under such policies were both rising steadily. Claims consciousness by the public, and the disposition of juries to make larger and larger awards, indicated the desirability of rate revision in some jurisdictions. Premium differentials for drivers under 25 years of age, approved in some states, might improve the experience on this class of insurance.

Workmen's compensation results were adversely affected by three factors: pay rolls, upon which premiums are calculated, were lower during the first six months of 1950; many rate reductions had been made following the profitable experience of preceding years; and the benefits had been increased under workmen's compensation laws. Toward the end of the year accelerated production in many industries and higher wage scales had begun to increase the volume of premiums for compensation insurance.

Burglary insurance, which had been unprofitable during 1946, 1947 and 1948, showed a modest profit for the companies in 1950, despite a general reduction in rates effective Oct. 30, 1950. The experience of the three-year period, used to calculate this rate reduction, had produced a net loss to the carriers under policies issued to householders, and a profit under policies for industrial and commercial assured. The expense of operating this business reached an all-time high in 1950 and inflationary trends promised a further increase in 1951.

In the general liability field (other than automobile) owner's, landlord's and tenant's liability insurance continued to represent about 50% of the volume of premiums written. This classification produced an underwriting loss for the companies in 1949 and again in 1950. Higher rates on owner's, landlord's and tenant's policies were being sought by underwriters, and substantial increases were approved by the supervisory authorities for New York. Manufacturer's and contractor's liability and products' liability insurance were profitable during 1950, but the trend of profits on these two lines was downward. Operating costs were rising and, with the pressure of activity in defense preparation, an increase in accident frequency was anticipated. Both of these affected the profit margin adversely.

Plate-glass insurance, which was profitable during the first ten months of 1950, suffered unprecedented losses in the windstorm which struck the eastern states in November. Plate-glass losses in that storm, at greatly increased labour and material costs for replacements, turned a profit into an underwriting loss for many companies.

Boiler and machinery insurance premium writings increased more than \$10,000,000 in 1950 over the 1949 writings of \$33,000,000. As most such policies are written for a three-year term, the full effect of the general rate increase adopted in 1948 would not be felt until 1951. The ratio of incurred losses to earned premiums was approximately 22% for the year. The



bulk of the premiums on such policies is used for engineering and inspection services to reduce loss frequency, and to insure longer life and uninterrupted service by boilers and machinery subject to this expert scrutiny. Much new equipment was placed in service during 1950 by the manufacturers of boilers and power machinery who had an accumulation of unfilled orders following World War II. (See also FIRES AND FIRE LOSSES; VETERANS' ADMINISTRATION, U.S.) (L. E. F.)

**Hospital, Medical and Surgical Insurance.**—Nearly half the population of the U.S. had some type of hospital insurance at the close of 1950. There was a marked increase in the number of union contracts providing health coverage, resulting in a heavy growth for both nonprofit and commercial insurance programs, and encouraging an earlier tendency toward more comprehensive offerings in all fields.

Membership in nonprofit Blue Cross plans exceeded 40,000,000 at the end of the year. Nonprofit Blue Shield plans covered more than 19,000,000 for surgical benefits, and about half that number for medical benefits. There was a pronounced trend toward raising income limits for full service benefits in Blue Shield plans to \$5,000. The Health Insurance council reported the Dec. 31, 1949, commercial coverage, after eliminating duplication, as 28,000,000 for hospitalization, 23,000,000 for surgical and 4,500,000 for medical. Estimated totals for all types of coverage at the close of 1950 were 73,000,000 for hospitalization, 57,000,000 for surgical and 19,000,000 for medical, including consumer-sponsored, industrial and group clinic programs.

Nearly 50 health bills were introduced in the 81st congress. These called for direct federal action, encouragement of voluntary organizations, direct federal subsidies or grants-in-aid to the states. New proposals not previously introduced included the Wolverton bill (H.R. 8746), reflecting a plan proposed by Harold Stassen; the Bosone bill (H.R. 6766); the Flanders-Ives bill (S. 1970); and the Humphrey bill (S. 1805), reflecting the Cooperative Health federation's proposals. None of these bills received committee action.

Except in local instances, health insurance was not a major factor in the 1950 elections. California added a modest direct allowance for hospitalization to its compulsory cash sickness law. New York became the fourth state to put such a law into operation, while a similar proposal in Washington was overwhelmingly defeated by referendum after passage by the legislature. (A. G. S.)

**Great Britain.**—World-wide trading figures of British insurance offices published during the year 1950 revealed a phenomenal growth in premium income, in part the result of inflationary pressure but largely a reflection of the realignment of currency values in the latter months of 1949—a complex transaction variously interpreted by individual companies. The aggregate fire and accident premium income for 24 representative British offices in 1949 was £286,075,000; the combined underwriting surplus was £25,350,000, representing 8.9% of the premiums. Marine premiums rose to £34,656,000, and after providing a surplus of £2,945,000 the total marine funds reached £54,542,000. New ordinary life sums assured in 1949 again exceeded £500,000,000 but new industrial life business showed a further recession, the total new sums assured of eight leading offices being only £170,991,000.

The demand for ordinary life assurance cover was sustained. Short-term business was written in connection with gifts *inter vivos*, and also to provide temporary life cover to meet commercial needs. Assurance against estate duty was increasingly made subject to the provisions of the Married Women's Property acts. When the chancellor of the exchequer appointed a committee to review the income tax treatment of superannuation and pension schemes, reaction was not entirely unfavourable, and

much new business resulted. "Family protection" assurance was still popular.

In fire insurance the trend in the first half of 1950 was to a levelling off in the volume of premium income and, in some important territories, to a slight recession; but with the events in Korea and the subsequent stockpiling, premium income regained a certain buoyancy. The rise in commodity prices involved heavy insurance commitments, and it was not easy to provide full insurance cover for wool stocks in Australia and the Union of South Africa. The strain imposed on underwriting capacity showed how much the growth of free reserves had been restricted by increased taxation. Reinsurance then assumed its vital role once again, with excess-of-loss reinsurance attracting much attention.

The trend of insurance values in the United Kingdom was again toward higher levels, but the rise in aggregate premiums was not considered commensurate with the increase in money value of individual risk losses. In Canada the fires at Rimouski and Cabano in Quebec accounted for £8,000,000 and £5,000,000, respectively. Fire wastage was heavy during 1950, but the underwriting account produced a reasonable margin of profit.

Automobile business was again preponderant in the accident departments. Third-party insurance cover was sought, and there was a demand under existent cover for the upward revision of limits of indemnity because of the depreciated value of money.

The marine insurance market viewed with concern the lower rates quoted for cargo risks and also the effect of devaluation on hull underwriting, especially in the case of vessels repairing in hard-currency countries. Marine funds were maintained at a high level, and the British market provided cover for more than £8,000,000 on each of the Cunard "Queen" liners without government assistance. Theft and pilferage losses remained a serious problem. (P. Ss.)

**Insurance, Old Age:** see SOCIAL SECURITY.

**Inter-American Highway:** see ROADS AND HIGHWAYS.

**Interior, U.S. Department of:** see GOVERNMENT DEPARTMENTS AND BUREAUS.

**Interior Decoration.** In terms of progress, interior decoration for 1950 presented a picture of contrasts wherein the confusion that developed during the last six months of the year, dating from the outbreak of hostilities in Korea, seemed in danger of over-shadowing the genuine accomplishments of the first half of the year. The sum total, however, actually showed greater advancement than at any time since before World War II.

With new-home construction at its highest point since the 1920s, the need for simple, well-made, and reasonably priced home furnishings was more important than ever. In response, there appeared, one after another, entire collections of furniture designed specifically to meet these needs, done in every important decorative style from most advanced contemporary classifications to those of Provincial, 18th century or traditional derivation.

Simplicity, versatility and a minimum of ornate decoration were the common characteristics of every new group. Chests, shelves and storage units were specifically designed with the modern home and contemporary living in mind. The light look became increasingly important in consideration of the new homes where space was at a premium and multiple-purpose pieces proved their versatility in serving with equal success in living room, dining room or bedroom surroundings. Built-in units, including sofas and tables as well as chests and cabinets, became more popular, and similar pieces, actually portable but with a built-in appearance were a great success. In every price range, chair and





PRIZE-WINNING STORAGE CHEST (right) and chair (left) in an international low-cost furniture design competition sponsored jointly by the Museum of Modern Art and the Museum Design Project, Inc. Award-winners were first placed on commercial display in May 1950

sofa designs reached new heights in comfort and construction, with the use of new woods, new metals and the increased application of foam rubber in upholstery.

Playing an important part in the development of good design in all types of products for the home was the inauguration of the Good Design competition, sponsored jointly by the Museum of Modern Art in New York and the Merchandise Mart in Chicago, Ill., and scheduled as an annual event. Selections made in January and June of each year would be judged on the basis of their compatibility with "design intended for present-day life, in regard to usefulness, to production methods and materials and to the progressive taste of the day." The initial selections, presented for the first time in Jan. 1950, were hailed as an outstanding constructive influence on the entire field of interior decoration.

In furniture design, new interpretations of separate and occasional chairs appeared in great variation, from those of moulded or laminated plywood to chairs made entirely of plastic or of metal and wood with seats and back of woven burlap, woven plastic, paper fibre or even of specially processed string. Many new types of knock-down furniture appeared on the scene, and most of the new presentations were distinguished by their unmistakable evidence of greater quality. Chests, tables, desks and chairs and even a few sofas, designed to be put together with a minimum of effort and workmanship, branched far afield in the designs offered, in woods and finishes and ingenuity of construction.

More and more metal appeared in combination with wood, used for construction efficiency as well as for interesting appearance, particularly in contemporary pieces. Tables were shown with tops of copper, stainless steel or slate combined with a variety of woods in interesting design. And in addition to metals, materials such as cork, rawhide and cane were used in combination with woods with sufficient frequency to make their mark as a genuine fashion trend.

Among the interesting new finishes were those especially created for table tops, and marked by their common characteristic of practicality, apparent in terms such as waterproof, stain-proof, burnproof, alcoholproof and the like. One group of furni-

ture, made by an aircraft company and designated as precision-made, featured a finish that was said to withstand almost every type of damage. Still another successful finish of the indestructible type was one of plastic which could be made to look like any light or dark wood. When used as a table top in combination with natural wood for legs it was indistinguishable in appearance from the natural wood.

Television had a strong influence on many new pieces of furniture, with the accent on portability. Furniture in this group made use of casters on tables or chairs to provide for easy moving about. Tables were designed to be converted into seating pieces, and seating units appeared which could be extended to double size, or as collapsible units which could be stored away when not in use, along with an increase in longer sofas and more sectional units for corner placement in room decoration.

Cotton rugs showed a wide range of improvements and an ever-expanding acceptability in 1950, considerably beyond the special and scatter-rug classification. In new versions in room sizes they were considered a highly satisfactory and decorative as well as practical type of floor covering. One of the important innovations in this group was a reversible rug of cotton, tufted and looped on both sides to give double use and wear.

In fabrics for window and upholstery use nylon was increasingly important and included patterned as well as plain-colour presentations. Highly recommended for its resistance to wear and to soil, it provided a very practical product in this field and at a cost no higher than most other fabrics for similar use.

(G. M. J.)

## International Bank for Reconstruction and Development.

The operations of the International bank proceeded at an accelerated pace in 1950. The volume of loans, amounting to \$276,630,000, was somewhat greater than in the previous year, and brought total loan commitments to \$1,020,775,000. The bank's activities in providing technical advice to member countries also increased during the year. Bank lending for the first time extended to countries in Africa, southeast Asia, Australasia and the near east. Nineteen of the 49 member countries had bank-financed projects either under way or planned. In cases where a private enterprise, rather than a member government, is the borrower, the government guarantees repayment of the loan.

**Loan Operations.**—In Brazil, a loan of \$15,000,000 was made to the São Francisco Hydroelectric company for power development in the northeastern area of the country where lack of power had been a major obstacle to development. In Colombia, a loan of \$3,530,000 was made to the Central Hidroelectrica del Rio Anchicaya Limitada for a hydroelectric plant to foster economic development in the western part of the country. In Mexico, a loan of \$26,000,000 went to the Mexican Light and Power Company, Ltd., to help the company finance the expansion of its electric power facilities to meet the rapidly growing needs of Mexico City and the surrounding area; and a \$10,000,000 line of credit was established to enable a consortium of eight commercial banks and a government agency to make loans of between \$25,000 and \$1,000,000 to finance the development projects of private enterprises. A loan of \$33,000,000 was made to the General Administration of Electric Plants and State Telephones of Uruguay to help finance projects to augment electric power facilities and expand telephone services.

Two loans totalling \$7,000,000 were made to the Ethiopian government: one of \$5,000,000 for the rehabilitation and maintenance of the country's road system; the other of \$2,000,000 to provide foreign exchange for projects to be financed by a new Ethiopian development bank.

A loan of \$12,800,000 went to the government of Iraq to



finance the foreign exchange costs of a flood control project on the Tigris river to prevent the recurrent flooding of large areas of agricultural land and urban centres, particularly Baghdad; and possibly eventually to increase agricultural production through a projected irrigation system.

Two loans totalling \$16,400,000 to the Turkish government consisted of: \$12,500,000 to assist in a program to improve major ports in Turkey, and \$3,900,000 for the construction and mechanization of grain storage facilities throughout the country. A third loan of \$9,000,000 was made to the new, privately owned Industrial Development Bank of Turkey to enable it to make available to private enterprises in Turkey foreign exchange needed for industrial development projects.

A loan of \$18,500,000 was made to the Indian government to assist in financing the first stage of a long-range plan to develop the resources of the Damodar valley. The bank's loan would purchase equipment for constructing the Bokaro power plant and the Konar dam.

Three loans totalling \$25,400,000 were made to the government of Thailand to help finance three projects basic to the country's economy: \$18,000,000 for irrigation, drainage and water communications; \$4,400,000 for the development of the port of Bangkok; \$3,000,000 for railway rehabilitation.

A loan of \$100,000,000 went to the Australian government to make possible the purchase abroad of capital goods and equipment needed for development during the next two years. The sectors of the Australian economy concerned included agriculture, public utilities, railways, mining and general manufacturing industries.

**Other Activities.**—The bank's technical assistance activities continued to expand during the year. Comprehensive survey missions, inaugurated by the mission to Colombia in 1949, were undertaken in Turkey, Guatemala and Cuba. The broad objective of these missions was to examine all important sectors of the country's economy and to make recommendations designed to help the government formulate a long-range integrated development program.

Technical assistance of a different character was extended to other member nations. For example, the bank joined with the United Nations Food and Agriculture organization in sending a mission to Uruguay to survey Uruguayan agriculture and make recommendations designed to increase agricultural production.

Early in 1950 the bank retired its outstanding 2½% bonds due in 1957, by refunding them with a \$100,000,000 issue of 2% serial bonds due 1953 to 1962. In March, it sold a second issue of Swiss franc bonds in Switzerland amounting to 28,500,000 Fr. (\$6,600,000) principal amount of 2½% serial bonds due 1953 to 1956. The bank also sold for the first time without its guarantee bonds totalling the equivalent of \$1,215,000 from its loan portfolio, both in Europe and in the United States. The obligations so disposed of had been received by the bank in connection with loans to the Netherlands Herstelbank, the Cr dit National of France and the Luxembourg and Netherlands governments.

The international character of the bank's funds available for lending was considerably enhanced during the year. Twenty-three countries agreed to make part or all of their local-currency subscription to the bank's capital stock available for use in the bank's lending operations. This brought to 27 the number of countries which had done so.

Net income from the bank's operations for the fiscal year ended June 30, 1950, amounted to \$13,698,398, compared with \$10,610,247 for the previous fiscal year. A general reserve was established in 1950, to which the bank's net earnings were allocated. This reserve and a statutory special reserve already in existence amounted on Dec. 1, 1950, to approximately \$49,000,000.

With the admission to membership of Pakistan and Ceylon in 1950, the bank had 49 member nations at the end of the year.

The annual meeting of the governors of the bank was held at Paris in September. The fifth annual report, presented to the governors at that meeting, included a major section on the lending policies of the bank as they had been developed, on the basis of the bank's charter, through four years of actual lending activity. Among other things, the report emphasized that the bank's lending standards are intended to bring maximum benefit to countries receiving bank loans, as well as to provide the bank with the reasonable prospect, required by its charter, that its loans will be repaid. (See also BANKING.) (E. R. BL.)

**International Children's Emergency Fund:** see CHILD WELFARE.

**International College of Surgeons:** see SOCIETIES AND ASSOCIATIONS.

**International Confederation of Free Trade Unions:** see DEMOCRACY; LABOUR UNIONS.

**International Court of Justice.** During the year 1950 the court gave the following advisory opinions and judgments:

**Admission of States to United Nations.**—On March 3 the court advised the U.N. general assembly, in response to a request, that the assembly was not competent under article 4, paragraph 2 of the charter to admit a state to membership in the United Nations without a recommendation from the Security council.

**South-West Africa.**—On July 11 the court gave an opinion regarding the mandated territory of South-West Africa. The territory, detached from Germany by the treaty of Versailles, had been placed under mandate with the Union of South Africa, to be administered under supervision of the League of Nations. Following dissolution of the League in 1946, differences arose between the Union and the general assembly concerning the international status of the territory, having in mind the trusteeship system established under chapter xii of the charter of the United Nations.

The assembly asked the advice of the court regarding the international status of the territory, the obligations of the Union arising therefrom, and in particular: (1) whether the Union continued to have obligations under the mandate; (2) whether chapter xii of the charter was applicable; and (3) whether the Union was competent to modify its status, and if not, where such competence was lodged.

The court stated: (1) that South-West Africa continued to be a territory under mandate; that the Union's obligations under the covenant of the League and the mandate continued; and that the supervisory functions of the League could be exercised by the United Nations, to which annual reports and petitions by inhabitants should be submitted; (2) that the provisions of chapter xii of the charter were applicable in the sense that they provided a means by which the territory might be brought under the trusteeship system, but that they did not impose upon the Union a legal obligation to place it under the system; and (3) that competence to modify its international status rested with the Union, acting with the consent of the United Nations.

**Interpretation of Peace Treaties.**—Charges were made in the general assembly by certain allied and associated powers, parties to the peace treaties with Bulgaria, Hungary and Rumania, that the three governments had violated provisions of the treaties relating to human rights and fundamental freedoms and had refused to submit the disputes to arbitration. The treaties provided for such disputes, commissions composed of three members—one appointed by each party and the third chosen by mutual agreement or, failing this, by the secretary-general of the United



Nations.

The assembly requested the opinion of the court on four questions: (1) whether the diplomatic exchanges relating to the matter disclosed "disputes" within the meaning of the treaties; (2) whether the three governments were obligated to appoint representatives to the commissions; (3) whether, in the event of an affirmative reply to question 2 and of the failure of one party to appoint its commissioner, the secretary-general might designate the "third member . . . upon request of the other party to dispute"; and (4) whether a commission thus constituted would be competent to make definitive and binding decisions in settlement of disputes.

The court, on March 30, answered the first two questions in the affirmative. Questions 3 and 4 were not to be considered unless the three governments should fail to designate commissioners within 30 days from the date of the first opinion. Commissioners were not designated and on July 18 the court gave a second opinion. It stated that the secretary-general was not authorized to appoint the "third" member when one of the parties had failed to appoint its national member, and that it was therefore unnecessary to consider question 4.

**Diplomatic Asylum, Colombia-Peru.**—On Jan. 3, 1949, Víctor Raúl Haya de la Torre, leader of a political party in Peru, who had been accused of promoting a military rebellion about three months earlier, was given asylum in the Colombian embassy as a political refugee. A request by the embassy for a safe-conduct for his departure from the country was denied by Peru on the ground that he was guilty of common crimes. On Aug. 31, 1949, the two governments agreed to submit the dispute to the court. In the proceedings both governments invoked, *inter alia*, the 1928 Havana Convention on Asylum. Colombia asked the court to declare: (1) that, as the state granting asylum, its qualification of the nature of the offense was binding on Peru; and (2) that Peru was bound to give the necessary guarantees for the safe departure of the refugee.

Peru asked that these contentions be dismissed, and as a counterclaim contended that the grant of asylum was in violation of articles 1 and 2 of the Havana convention, and in any case its maintenance was contrary to the treaty. Article 1 of the convention prohibited the granting of asylum to persons accused of common crimes. Article 2 recognized political asylum but provided that it might not be granted "except in urgent cases and for the period of time strictly indispensable for the person . . . to ensure in some other way his safety."

The court, on Nov. 20, rejected Colombia's two submissions. It also rejected that part of Peru's counterclaim which was based on article 1 of the convention, since it had not been shown that the refugee had been accused of common crimes prior to the grant of asylum.

It found, however, that asylum was not justified under the urgency provisions of the convention.

Immediately following the reading of the judgment Colombia filed application for interpretation, setting forth certain questions concerning surrender of the accused to the Peruvian authorities. By a further judgment given Nov. 27 the court referred to provisions of the statute and rules of court requiring in such cases a showing of disagreement between the parties as to the meaning and scope of the judgment. It stated that there was no disagreement; that the application presented entirely new questions not covered by the judgment, and as such was inadmissible. (See also INTERNATIONAL LAW; UNITED NATIONS.) (G. H. H.)

**International Labour Organization.** The International Labour conference continued to be the central feature of I.L.O. activities in 1950. It met in Geneva, Switz., June 7–July 1, with 52 of

its 62 member states represented. Two new members—Indonesia and Viêt-Nam, were admitted during the conference. Advisers and representatives of the United Nations and other specialized international agencies also attended. The director's report stressed the topic of "Productivity of Labour." Delegates agreed that the I.L.O. could and must help increase production in highly industrialized countries, as well as in less developed areas, by worldwide sharing of techniques to increase output. In addition to productivity of labour and better distribution of its product, the subjects of migration and technical assistance were the major themes of conference discussions.

The conference adopted no new convention, and only one recommendation—no. 88, concerning the vocational training of adults, including disabled persons. Under its double discussion procedure, however, two topics were debated—minimum wage-fixing machinery in agriculture, and equality of remuneration for men and women workers for work of equal value. The work of the conference as a whole consisted chiefly in stocktaking, appropriate to its 30th anniversary year, and in intensification and integration of its new role as a specialized agency of the United Nations.

Preparation for action in the annual and regional conferences, and the operational activities of the I.L.O. required much time and attention at the conference.

The preliminary migration conference held in Geneva in April–May had shown how Europeans who found no employment at home could be transported to oversea countries through the help of I.L.O. agencies. Appreciation of the practical results of I.L.O. migration work was shown in the \$1,000,000 fund provided by European immigration and emigration countries for technical assistance.

This fund was in addition to the I.L.O. regular budget for 1950 and 1951.

The budget voted for 1951 by the International Labour conference was \$6,219,506, about \$300,000 more than that for 1950; the increase was due chiefly to higher costs of operational activities.

The committee of experts on the application of conventions and recommendations reported for the first time, under article 19 of the revised constitution, on the annual reports required on unratified conventions and on recommendations, as well as on particulars for the submission to competent national authorities of the conventions and recommendations adopted by the conference in 1948. The conference committee had the same material plus the report of the experts. All agreed that while the new requirement imposed greater burdens on both the experts and the conference committee, it yielded worth-while results, but the annual reports required by article 22 of the constitution on ratified conventions were still considered of major importance. Of the 98 conventions previously adopted and including those of the 32nd conference, many not yet in force, 89 were listed as the total adopted from 1919 through 1948, and still open for ratification. The total number of ratifications to Oct. 30, 1950, was 1,152, an increase of 105 for the conference year (June 1949–June 1950) and of 108 for Nov. 1949 to Oct. 1950. The new reports on six unratified conventions and six recommendations adopted by the conference in 1948 showed the need for more thorough examination by governments of the possibilities of ratification of conventions, and the extent to which effect had been given to the instruments in question.

Only a third of the members had submitted all these instruments to their legislatures.

The governing body held its usual four sessions (Jan. 3–7 in Mysore, India; March 8–11 and June 2–30 in Geneva, Switz.; Nov. 13–25 in Brussels, Belg.) and accomplished a difficult task in implementing the decisions of the Asian Regional conference



at Nuwara Eliya, Ceylon, in January, with its 16 resolutions applying I.L.O. principles and agreements to Asian conditions. It also reviewed and implemented the work of the industrial committees and approved 15 fellowships. (See also CHILD WELFARE.)

**BIBLIOGRAPHY.**—*International Labour Review* (monthly), *Industry and Labour* (bimonthly), the *Legislative Series*, the *Industrial Safety Survey*, the *Year Book of Labour Statistics*, the *Official Bulletin*, and other regular publications appeared as usual. Special interest centred in the report of the director-general and the fourth report of the I.L.O. to the U.N. (S. McC. L.)

**International Law.** During 1950 international law continued to develop in the direction of the law of a world federation, although it could hardly be said that international politics manifested a similar tendency. Among developments of importance were the clarification of the concept of aggression, the exercise of the authority of the United Nations to determine aggression and to take forcible measures to suppress it, the emancipation of the United Nations, at least in part, from the crippling influence of the veto, the drafting of a Covenant on Human Rights with procedures of implementation, the nullification by national courts of local legislation contrary to the U.N. charter provisions protecting human rights, the interpretation of international constitutional instruments effectively to fulfil their purposes and the increased activity of the International Court of Justice and the International Law commission in applying and codifying international law.

**Collective Security.**—The rapid decision of the Security council of the United Nations in June 1950, taking advantage of the voluntary absence of the soviet delegation, that the Communist government of North Korea was guilty of aggression against the Republic of Korea and the rapid organization with U.S. leadership of military forces under the United Nations flag to implement this resolution marked the most positive application of collective security to that date. The international law of collective security had been observed, but the intervention of Communist China in Korea raised doubts whether the political situation in the world was yet adapted to that law.

Neither the Soviet Union nor the Communist Chinese government had, in any way, participated in the Security council's decisions of June 1950. On the contrary they made it clear that they did not accept these decisions, and considered North Korea to have been the victim of aggression instituted by the United States and the Korean republic. The power of the Communist bloc was such that the United Nations could not confine the operation to one of policing to suppress aggression if the opposing bloc intervened, as eventually it did; nor could decisions determining aggression be made at all if the great Communist powers participated in the Security council and exercised their vetoes.

These two weaknesses in the law of collective security were recognized by the United Nations and efforts were made in the fifth assembly to remedy them. The assembly passed on Nov. 3, 1950, the "Uniting for Peace" resolution initiated by the United States. This resolution provided for emergency meetings of the general assembly on 24-hr. notice in order to make recommendations concerning aggression if the Security council was unable to function. Furthermore, members of the United Nations were called upon to earmark forces for policing purposes and the United Nations was to establish a Peace Observation commission to report actual or potential aggressions and a Collective Measures committee to report on methods to maintain international peace and security. To alleviate the belligerent potentialities of this more effective organization of collective security in a bipolar world, one pole of which rejected the procedures, the resolution also urged efforts at pacific settlement

and meetings among the great powers to achieve political adjustments, thus moderating legal sanctions by processes of political negotiation and conciliation.

The assembly also passed on Nov. 17, 1950, a resolution initiated by Yugoslavia recommending that states engaged in hostilities declare within 24 hr. a readiness, if reciprocated, to discontinue military operations and to withdraw their forces and authorizing the United Nations Peace Observation commission to supervise such action. This method of stopping hostilities, or if unsuccessful in that regard, of providing evidence for determining the aggressor, had been utilized by the League of Nations and resembled the procedure set forth in article 40 of the U.N. charter authorizing the Security council to call upon states engaged in hostilities to observe "provisional measures" to stop the fighting. This resolution also dealt with a soviet proposal to define aggression by referring it to the International Law commission for study.

These resolutions defining both the legal and political aspects of collective security and augmenting the role of the general assembly, in which no country had a veto in this regard, must be regarded as further steps in developing the new international law based upon the assumptions stated in the first Hague convention of 1899 that there is a "solidarity uniting the members of the society of civilized nations" and that the major interest of that society is to "obviate as far as possible recourse to force in the relations between the states."

**Sources of International Law.**—The direction of international law depends in no small measure upon the criteria applied in interpreting and applying written instruments and customary rules under changing conditions. If the sovereignty of nations is assumed and international rules and instruments are construed to invade that sovereignty as little as possible, progress toward a law-governed world reaching down to the individual would be slow. If on the other hand, such instruments and rules are construed, so far as possible, to realize the purposes and needs set forth in general statements of principle, progress would be more rapid. The issue has been defined as that of "restrictive" v. "effective" interpretation. Practice during 1950 illustrated a preference for "effective" interpretation in a number of instances.

The International Court of Justice, in an advisory opinion requested by the general assembly, held that South-West Africa remained in the status of a mandated territory. Since, however, that status implied an international agency of supervision and the League of Nations designed for that role no longer existed, the tribunal found that the principle of effectiveness justified substitution of the United Nations for the League of Nations. South Africa was, therefore, obliged to administer the territory in accord with the mandate and to report to the general assembly of the United Nations. South Africa was not, however, obliged to change the mandate to a trusteeship as had been done by most of the mandatories. The charter was so explicit in regard to the voluntary character of such a transfer that the principle of effectiveness could not be applied. The case illustrated both the possibilities and the limitations of judicial construction as a method of legislation.

A memorandum of the secretary-general published March 8, 1950, concerning the representation of China in the United Nations also urged that international law be interpreted by the principle of effectiveness. Though acknowledging that recognition of a new government was a political question, the secretary-general felt that the representation of a member in the United Nations should be governed by the legal principle which attached prime importance to effectiveness in carrying out the purposes of the charter. "In essence, this means an inquiry as to whether the new government exercises effective authority



within the territory of the state and is habitually obeyed by the bulk of the population."

This memorandum seemed to imply that the Communist government of China, which controlled the country except for Formosa, should represent China in the United Nations, but it was not given effect because of the outbreak of hostilities in Korea and the subsequent intervention of Communist China. The nationalist government of China was permitted to represent China in the Security Council and the general assembly, but the Communist government was invited to present its views concerning the Korean hostilities in November. The assembly, however, considered a resolution introduced by Cuba which, as amended by Uruguay, modified the criteria proposed by the secretary-general. This resolution specified among other factors to be taken into consideration in deciding upon the representation of a member: (1) the extent of effective control over territory and acceptance by population; (2) willingness to accept responsibility for the discharge of charter obligations; and (3) extent to which authority had been established by internal processes. After extensive debate the general assembly approved on Dec. 14 a resolution which merely said the general assembly was the organ of the United Nations best qualified to decide upon the representation of a member and that it should consider the question "in the light of the purposes and principles of the charter and the circumstances of each case." This treatment of the problem as political rather than legal was doubtlessly influenced by the military intervention of Communist China in Korea.

The principle of effectiveness was applied by the California court of appeal in the case of *Fujii v. California* (217 Pacific Reporter [2nd], 481; 218 Pac. [2nd] 595) in holding the California Alien Land Law inapplicable because contrary to the provisions of the United Nations charter, a treaty binding the United States. By the charter all members pledged themselves to take joint and separate action in co-operation with the organization for the achievement of universal respect for and observance of human rights and fundamental freedoms for all without distinction as to race, sex, language or religion (article 56). It had been urged that this charter provision was not self-executing. The court, however, said, "Such a discrimination against a people of one race is contrary both to the letter and to the spirit of the Charter which, as a treaty, is paramount to every law of every state in conflict with it. The Alien Land Law must, therefore, yield to the treaty as the supreme authority."

**Status of the Individual.**—No tendency of modern international law was more discussed during 1950 than that according a legal status to the individual. Effective international procedures for maintaining the status of individuals had not yet been established, although the United Nations Commission on Human Rights, the United Nations International Law commission and the general assembly had discussed the problem at length. The Covenant on Human Rights drafted by the Human Rights commission designed to give legal effect to some of these rights did not provide for direct access to international procedures by the individual, but was to be implemented only on the initiative of governments. Proposals which had been made permitting individuals to petition organs of the United Nations on the basis of the charter provisions or the provisions of the Covenant on Human Rights were not accepted by the commission, but the general assembly on Dec. 4, 1950, returned the draft to the commission with instructions to consider provisions for petition from individuals and organizations on alleged violations of human rights. It was urged that this right was implied by the charter and it would seem to follow from the self-executing character attributed to the charter protection of human rights

by the California court in the *Fujii* case and by a Canadian court in refusing to give effect to racially restrictive covenants in the *Wren* case (1945, 4 Ontario Reports 778). In the *Fujii* case it was even suggested that the Universal Declaration of Human Rights proclaimed by the general assembly in 1948, while not a treaty, was an important document for interpreting the meaning of the term "human rights" as used in the charter. The possibility of individual petition was again raised by the action of ten Hollywood writers and others alleging that human rights had been violated by their conviction for refusing to testify before the un-American activities committee of the United States house of representatives.

The general assembly, in addition to considering the draft Covenant on Human Rights, had before it the advisory opinions of the International Court of Justice (March 30 and July 18, 1950) finding that Bulgaria, Hungary and Rumania were obliged to give effect to the human rights provisions in the peace treaties to which they were parties and to observe the procedures of implementation prescribed in those treaties. The general assembly condemned the wilful refusal of the three governments to carry out these procedures and invited members of the United Nations to submit evidence on the matter to the secretary-general to be transmitted to other members.

One of the most important and most difficult human rights to deal with is that of freedom of transnational communication. Efforts had been made to ensure this freedom by conventions, but the soviet-bloc states had refused to accept conventional obligations and had attempted to prevent radio or other information coming into their territory and to prevent information going out of their territory except through governmental censorship. Juristic discussion of the subject during 1950 indicated the difficulty of solving this problem because of the traditional position of international law permitting states to control incoming and outgoing communications in order to defend themselves from subversive or revolutionary movements and to protect the integrity of their national cultures. In this field the conflict between national sovereignty as traditionally interpreted and the human rights protected by the new international law was emphasized and a juristic line between communications which are legitimate and those which have the character of psychological warfare had not yet been drawn.

In regard to the liabilities of individuals under international law, the Genocide convention came into force, but without ratification by the United States. Certain interpretations insisted upon by the senate committee on foreign relations were still under discussion in 1950. The International Law commission submitted to the fifth assembly a report codifying the principles of the Nuernberg judgment on war crimes and also dealing with the general topic of crimes against the peace and security of nations and the establishment of an international criminal court. The general assembly provided for a conference at Geneva in Aug. 1951 to draft a convention for an international criminal court.

**Rights and Duties of States.**—Among more conventional problems of international law discussed during the year the following may be mentioned:

The formalities of international legislation through conclusion of multilateral treaties were expedited through the practice of "acceptance"—a more flexible procedure than those of "adhesion," "accession" and "ratification." The problem of reservations to such treaties was faced in connection with the Genocide convention and the fifth assembly asked for an advisory opinion of the International Court of Justice on the subject.

The International Law commission presented to the fifth assembly recommendations for making the sources of international law more available, urging particularly that the assembly



provide for an index of the League of Nations and the United Nations treaty series, for a résumé of practices of the United Nations on questions of international law and for a series of reports on international arbitral awards. It also recommended that governments publish digests of their diplomatic correspondence and other materials bearing upon international law.

On matters of diplomatic and other immunities under international law, a British court held that the Tass agency was immune from local jurisdiction because it was a branch of the soviet government and not an independent corporation (*Krajina v. Tass Agency*, 1949, 2 All. E.R. 274). The immunity of the press counsellor of the Rumanian legation in Washington, D.C., was upheld by a U.S. court (*Mongillo v. Vogel*, 84 Fed. Supp. 1007, 1949) as was the immunity of the U.S. vice-consul in England on certification by the foreign office of a statement from the United States embassy that he was attached to that embassy (*Price v. Griffin*, Br. Year Book. Int. Law, 1949, p. 433). The third secretary of the Australian mission to the United Nations was held immune on a speeding charge (*New Rochelle v. Page-Sharp*, 91 N.Y.S. 2d 290, 1949), but V. A. Gubitchev, attached to the headquarters planning staff of the United Nations and a soviet national, was not allowed immunity on an espionage charge in the United States (*U.S. v. Coplon and Gubitchev*, 84 Fed. Supp. 472, 1949).

The International Court of Justice decided in a dispute between Colombia and Peru on Nov. 20, 1950, concerning the asylum of a Peruvian political leader, Víctor Raúl Haya de la Torre, in the Colombian embassy at Lima. It held that Peru was not bound to give De la Torre a safe conduct through its territory or to accept Colombian unilateral assertion that his offense was political. The court, however, would not accept Peru's contention that he was guilty of a common crime since the charge was that of military rebellion. The court also held that the conditions for giving diplomatic asylum under treaties, especially the Havana convention of 1928, had not been fulfilled in this case. The opinion left Colombia uncertain what to do with De la Torre, who remained in its embassy and it requested an interpretation by the court. The court, however, held on Nov. 27 that the questions which had been submitted did not permit it to solve this problem.

The International Court of Justice also awarded damages to Great Britain in the Corfu channel case, although Albania, which in an earlier decision had been found liable for the destruction of certain British warships in 1946, denied the jurisdiction of the court to fix the damages and was absent. In another case the court advised the general assembly that it could not admit new members to the United Nations without favourable recommendation by the Security council, thus sustaining the great power veto upon new members. As already noted, the court during the year advised concerning the status of South-West Africa and concerning the responsibilities of Bulgaria, Hungary and Rumania under the human rights provisions in the peace treaties ratified by those countries. During the year Indonesia was admitted to the United Nations and the general assembly decided that Eritrea should be federated with Ethiopia.

Certain matters concerning the international law of hostilities were considered. A United States court held that persons deprived of property under duress in Germany could not gain relief if their claims had been outlawed by statutes of limitations, even though the United States diplomatically had favoured the policy of restoring such property (*Bernstern v. Nederlandsche-Amerikaansche Stoomvaart Maatschappij*, 173 Fed. 2d 71, 1949). In another case the traditional rule suspending the operation of statutes of limitations during the period of war was applied (*Frabutt v. N.Y.C. and St.L. RR*

*Co.*, 84 Fed. Supp. 460, 1949). The rule that a government cannot close ports occupied by insurgents was announced by the department of state in connection with protest against the seizure of certain United States vessels by Chinese nationalists while attempting to enter or leave Communist-held ports.

The United Nations International Law commission made progress in codifying the law of treaties, of arbitral procedure and of the regime of the high seas. The International Law association met in London and considered problems of nationality, of the sea bed, of sovereign immunities, of the status of corporations, of air law and of the codification of international law. The Hague Academy of International Law met in the summer of 1950, and during the course of its discussions paid especial attention to problems concerning the relations of international politics and international organization to international law. (See also INTERNATIONAL COURT OF JUSTICE; LAW; TRUST TERRITORIES; UNITED NATIONS.)

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**International Monetary Fund.** Marked improvement occurred during 1950 in the earnings and reserve positions of most of the International Monetary fund's 49 member countries, especially those which had devalued their currencies in 1949. This improved trend, which was already conspicuous in the first six months of 1950, was extended during the rest of the year as international trade and payments also felt the effects of stimulated demand arising from increased defense expenditures, especially those in the United States. In view of the prospective large rearmament expenditures, the fund in its *Fifth Annual Report* and other published statements recommended strong anti-inflationary policies to stabilize the purchasing power of members' currencies and to preserve their economic health. In transmitting this report to the board of governors at the annual meeting in Sept. 1950, the managing director of the fund recommended increased taxation, restriction of investment and credit to essential purposes, and the reduction of less essential government and private expenditures in view of the increased military expenditures.

In view of the improved reserve and balance of payments positions of its members during 1950, the fund also felt a relaxation by some member countries of their exchange restrictions was justified. Moreover, as financial adviser to the contracting parties to the General Agreements on Tariffs and Trade (G.A.T.T.), the fund pointed to the increased earnings and improved reserve positions of certain countries as justifying a progressive relaxation in the level of discriminatory trade restrictions, which had been imposed by some members.

During 1950, the fund's membership was increased to 49 countries, following admission of Pakistan with a quota of \$100,000,000 and Ceylon with a quota of \$15,000,000 and the resignation of Poland. Total quotas in the fund, with these changes, amounted to the equivalent of \$8,036,500,000. Of this amount, approximately \$1,494,000,000 was held in gold and \$5,534,000,000 in members' currencies; approximately \$1,003,000,000 in gold and currencies was not yet due from members whose initial par values had still to be agreed upon.

Foreign exchange transactions of the fund, from the beginning of operations in March 1947 through the end of 1950, totalled the equivalent of \$777,283,000. Of this, approximately \$759,830,000 represented sales by the fund of U.S. dollars, the equivalent of \$11,408,000 represented sales of Belgian francs, and \$6,045,000 represented sales of British pounds sterling. However, there were no sales of currency except in connection



with repurchases by member countries of their own currencies.

Three countries repurchased amounts of their own currency from the fund during 1950 with gold and dollars. The payments were made by Belgium (\$12,100,000 in U.S. dollars and \$8,500,000 in gold), Egypt (\$7,678,163 in U.S. dollars and \$829,766 in gold) and Ethiopia (\$300,000 in U.S. dollars), bringing the total of all repurchases since the beginning of operations to \$33,017,000.

While the fund's discussions with its members are confidential, some of the subjects and decisions taken are revealed from time to time in public announcements. Among these, there was announced concurrence by the fund during the year in par value changes for the Ecuadorian sucre, Icelandic króna and the British Honduras dollar, and in various exchange rate modifications involving the currencies of Austria, Bolivia, Chile, Iran and Nicaragua. The fund agreed to an extension of Canada's gold mining subsidy program, at a reduced rate, through 1951.

The fund published in May 1950 the recommendation of its executive board advising against the adoption of a proposal for a change in the fund's gold policy on external transactions in gold at premium prices that had been made by the Union of South Africa at the board of governors' meeting in Sept. 1949, calling for sanction by the fund of the sale by member countries of one-half of all newly-mined gold production in foreign markets at premium prices. This proposal was referred to the executive board for study in the light of "all relevant considerations." In addition to concluding that no change in the fund's gold policy was desirable, the executive board stated that in its view there was no economic justification for recommending to the board of governors a uniform change in the par values of all currencies in relation to gold. The position of the executive board was upheld by the board of governors at its fifth annual meeting in Paris in Sept. 1950.

During the year the fund published the first of its annual series of reports on exchange restrictions, as required by its articles of agreement. Its work in this and other related fields of exchange and trade restrictions was made the responsibility of a new exchange restrictions department. Another publication begun during the year, entitled *Staff Papers*, makes available selected studies prepared by the staff for the information and use of the fund and its officials. The fund also publishes a *Balance of Payments Yearbook*, a monthly statistical bulletin (*International Financial Statistics*) and a weekly economic news digest (*International Financial News Survey*). *Direction of International Trade* is published jointly with the International Bank for Reconstruction and Development and the Statistical Office of the United Nations.

The fund maintained interest in the creation and early operations of the European Payments union, being concerned especially with its effects upon general multilateral exchange convertibility and nondiscriminatory exchange and trade practices, which are the fund's objectives. It had close contacts and working relations with the International Bank for Reconstruction and Development, and with the United Nations (*q.v.*) and those of its specialized agencies that have related interests.

At the 1950 annual meeting of the governors, regular biennial elections were held to name 9 executive directors for a two-year term to represent the 44 members who do not appoint directors; the other five posts on the executive board are filled, in accordance with the articles of agreement, by appointment by each of the five countries having the largest quotas in the fund. (See also BANKING; EXCHANGE CONTROL AND EXCHANGE RATES; INTERNATIONAL TRADE.) (A. N. O.)

**International Red Cross:** see RED CROSS.

**International Refugee Organization:** see REFUGEES.

**International Trade.** The value of world exports totalled approximately \$54,900,000,000 in 1949 and \$51,200,000,000 in the first half of 1950, at an annual rate. The volume<sup>1</sup> of exports in the first six months of 1950 was, however, actually 5% greater than in 1949 because of a lower price level in terms of dollars. After the termination of World War II, 1949 was the first year in which the volume of world trade exceeded prewar levels. The volume of world exports in that year was 8% higher than in 1937.

In the first half of 1950 progress was made in the direction of international equilibrium. The world trade deficit as indicated by the United States export surplus fell to \$2,200,000,000, at an annual rate. Decreasing exports from the United States and increasing exports of other countries reduced the United States share of world exports to 19% of the total.

The war that started in South Korea shortly after mid-year greatly affected world trading relationships. The defense programs of the western nations stimulated their purchases of raw materials. The price in world markets of these and other commodities, which had already started to rise, advanced sharply. United States imports rose rapidly and, in the third quarter of the year, United States merchandise transactions came into approximate balance for the first time since 1937. For the year as a whole the United States merchandise export surplus fell to \$1,400,000,000. Increased sales to and decreased buying from the United States, U.S. financial assistance totalling more than \$4,000,000,000 in 1950, and a capital outflow from the U.S. combined to enable other countries to add approximately \$3,600,000,000 to their gold and dollar reserves. Over the course of the year these countries regained approximately 50% of the \$7,200,000,000 in gold and dollar assets sold to the U.S. from the beginning of 1946 to the end of 1949. Headway was thus made toward currency convertibility. (See also GOLD.)

As a further step in international trade agreement negotiations, the third round of tariff negotiations within the framework of the General Agreement on Tariffs and Trade began at Torquay, Eng., on Sept. 28, 1950. (See also TARIFFS.)

**United States.**—Merchandise exports and imports of the United States were more closely in balance in 1950 than in any other year in the preceding decade. Exports of \$10,300,000,000 were 15% lower than in 1949, and imports totalling \$8,800,000,000 increased 34%. The resulting export surplus of \$1,400,000,000 was approximately one-fourth the size of the surplus in the previous year.

Export prices which had reached their post-World War II peak in 1948 declined throughout 1949 and in the early months of 1950. In June the unit value of exports began to advance and by November had increased approximately 9% over the low point reached in May. The volume of exports in the first 11 mo. of 1950 was 14% smaller than in the comparable 1949 period.

Imports into the United States rose in each quarter of the year, reflecting in the earlier months an increase in demand for consumers' goods and for raw materials both for current use and inventory restocking, accompanying improved business activity and, after the Communist aggression in Korea, the speed-up of the armament program. By the last quarter of the year imports were running at an annual rate of nearly \$10,500,000,000 in comparison with \$6,600,000,000 in 1949 and \$7,100,000,000 in 1948. The unit value index of imports began to advance in Dec. 1949, rose 5% by May 1950 and 26% by November, from November of the previous year. The volume of imports, Jan.-Nov. 1950, was 24% higher than in the same months of 1949.

In the months Jan.-Nov. 1949 the United States had an export surplus in its trade with each of the major trading areas. In the

<sup>1</sup> Volume as used in this section and the section on United States trade refers to value figures adjusted for changes in the price level.



same months in 1950 an import surplus of \$265,000,000 developed with the Latin American republics, \$101,000,000 with Asia, \$58,000,000 with Oceania and \$117,000,000 with Africa. Trade with Canada came more nearly into balance than it had in many years. Exports exceeded imports by only \$60,000,000. The export surplus in the trade with Europe totalled \$1,400,000,000 as compared with \$2,900,000,000 in the comparable period in 1949. This was the only major trading area with which a sizable surplus was sustained.

Table I.—Geographic Distribution of United States Foreign Trade

Country or area	Value (in millions of dollars)			Per cent of total		
	1936-38 11-months average	1949	1950	1936-38 11-months average	1949	1950
Exports, total*	2,719.3	11,097.7	9,216.0	100.0	100.0	100.0
Western hemisphere	922.5	4,482.3	4,353.9	33.9	40.4	47.2
Canada	423.4	1,813.9	1,829.7	15.6	16.3	19.9
Latin American republics†	444.2	2,502.2	2,394.3	16.3	22.5	26.0
Other western hemisphere	54.9	166.2	129.9	2.0	1.5	1.4
Europe	1,139.2	3,790.4	2,666.4	41.9	34.2	28.9
United Kingdom	457.6	645.6	475.7	16.8	5.8	5.2
Other Europe	681.6	3,144.8	2,190.7	25.1	28.3	23.8
Asia	457.0	2,074.3	1,417.8	16.8	18.7	15.4
Oceania	83.0	176.4	127.7	3.1	1.6	1.4
Africa	117.6	574.3	318.2	4.3	5.2	3.5
ERP countries‡	1,034.7	3,751.7	2,610.7	38.1	33.8	28.3
Sterling area	767.8	1,722.8	1,193.4	28.2	15.5	12.9
Imports, total§	2,281.5	6,017.5	7,973.2	100.0	100.0	100.0
Western hemisphere	848.0	3,612.2	4,601.0	37.2	60.0	57.7
Canada	322.1	1,405.8	1,770.3	14.1	23.4	22.2
Latin American republics†	497.2	2,080.0	2,659.7	21.8	34.6	33.4
Other western hemisphere	28.7	126.4	171.0	1.3	2.1	2.1
Europe	650.3	844.0	1,232.1	28.5	14.0	15.5
United Kingdom	159.3	206.4	304.6	7.0	3.4	3.8
Other Europe	491.0	637.6	927.5	21.5	10.6	11.6
Asia	685.8	1,146.0	1,519.1	30.1	19.0	19.1
Oceania	36.8	112.2	185.5	1.6	1.9	2.3
Africa	60.6	303.1	435.5	2.7	5.0	5.5
ERP countries‡	556.0	765.8	1,116.8	24.4	12.7	14.0
Sterling area	701.8	1,052.3	1,434.6	30.8	17.5	18.0

\*Includes re-exports. Beginning July 1950 data by countries and areas exclude "special category" exports amounting to \$332,000,000 or 3.6% of total exports.

†Includes Canal Zone.

‡Metropolitan territories.

§General imports.

Table II.—Value of Principal Commodities in United States Foreign Trade

Commodity	Value (in millions of dollars)		
	1936-38 11-months average	1949	1950
Exports*			
Agricultural exports, total	713.3	3,277.1	2,590.5
Meat products and edible fats	39.7	132.6	94.3
Dairy products and eggs	5.3	191.0	94.8
Wheat, including wheat flour	56.4	942.1	452.1
Fruits and vegetables	91.4	173.8	161.8
Tobacco, unmanufactured	130.6	225.7	225.3
Cotton, raw	286.6	762.3	919.1
Nonagricultural exports, total	1,967.9	7,714.5	6,507.2
Rubber manufactures, including synthetics	23.3	102.7	77.8
Textiles and textile manufactures	79.9	606.4	462.0
Coal	51.6	280.8	248.2
Petroleum and products	315.6	521.4	445.2
Iron and steel-mill products	182.2	683.0	432.8
Machinery	403.4	2,132.9	1,781.4
Automobiles, parts and accessories	262.0	688.2	630.4
Chemicals and related products	118.4	685.4	644.2
Imports†			
Agricultural imports, total	1,154.5	2,622.3	3,629.0
Hides and skins	47.6	66.1	110.0
Fruits, edible nuts and vegetables	73.9	184.5	196.9
Coffee	129.1	689.8	1,007.0
Cane sugar	138.9	365.3	365.9
Crude rubber	163.7	217.7	387.0
Vegetable oils (expressed) and oilseeds	1	142.8	171.6
Tobacco, unmanufactured	29.9	69.3	71.4
Wool, unmanufactured	52.6	196.2	389.3
Raw silk	91.0	7.0	18.6
Nonagricultural imports, total	1,101.5	3,377.5	4,245.8
Fish, including shellfish	28.3	102.9	140.4
Undressed furs	59.7	95.5	90.3
Burlaps	32.1	92.9	83.8
Paper and paper materials	202.7	604.6	673.9
Petroleum and products	38.1	429.3	532.1
Diamonds, gems, cut, not set	21.3	37.6	53.3
Nonferrous ores and metals	163.2	776.4	848.6
Chemicals and related products	79.6	97.5	146.5

\*United States merchandise.

†Imports for consumption.

‡Not available.

in the preceding year. There occurred during the year a substantial expansion in shipments to the United States which nearly wiped out Canada's traditionally heavy import surplus with that country.

The currency changes of Sept. 1949 were of considerable importance in imports, particularly in the case of imports from the United Kingdom. In 1950 the value of receipts from the United Kingdom increased 31% over 1949. Imports also increased from other European countries, notably Belgium, the Netherlands, Germany and Sweden.

Trade with the United States accounted roughly for about two-thirds of both imports and exports. Even in 1947 imports from the United States, which totalled slightly less than \$2,000,000,000, were almost twice as large as exports to that country. Drastic import restrictions were imposed in order to end the exchange drain. In 1950 imports from the United States were slightly higher than in 1947, but the trade deficit fell to \$120,000,000. In three years the value of Canadian shipments to the United States had increased by more than \$900,000,000. In 1950 alone the value of exports to the United States rose 34% over that of 1949.

Canadian gold and dollar reserves continued to gain markedly during the year, and the improvement attracted an increased inflow of speculative capital. When the volume of incoming United States funds assumed large proportions through September, the government abandoned the official pegging of the exchange at 90.9 U.S. cents and from Oct. 1 permitted the currency to be quoted in free markets until further notice. It also suspended the remaining restrictions on imports of consumer and capital goods from the United States effective as of Jan. 2, 1951. The trade was thus made free of direct restrictions for the first time since Nov. 18, 1947.

Table III.—Geographic Distribution of Canadian Foreign Trade\*

Country	Value (in millions of Canadian dollars)		Per cent of total	
	1949	1950†	1949	1950†
Exports to‡				
United Kingdom	704.9	469.7	23.6	15.1
Other commonwealth countries	310.1	185.2	10.4	5.9
United States	1,503.5	2,021.0	50.2	64.8
Other countries	474.4	442.2	15.8	14.2
Total	2,992.9	3,118.1	100.0	100.0
Imports from§				
United Kingdom	307.4	404.2	11.1	12.7
Other commonwealth countries	186.8	241.4	6.8	7.6
United States	1,951.9	2,130.8	70.7	67.2
Other countries	315.1	397.7	11.4	12.5
Total	2,761.2	3,174.1	100.0	100.5

\*Excluding gold.

†Preliminary figures.

‡Domestic merchandise.

§Imports for consumption.

**Latin America.**—The foreign trade of the Latin American republics again assumed an upward trend in 1950 after a decline in 1949 from the record levels attained in 1947 and 1948. The year began with the heavy import demand of many of the countries held in check by import controls imposed because of the shortage of gold and foreign exchange reserves. On the export side the increase in coffee prices which began in the fall of 1949 was in contrast to the declining price trend for many of the other principal export commodities of the area. However, the developments in Korea resulted in marked changes in the trade of the area in the second half of 1950, and available statistics indicated that the value of exports increased considerably in 1950 as compared with 1949, while imports showed a smaller increase.

During the latter half of 1950 world conditions brought about higher export prices and greater demand for Latin American products such as copper, tin, lead, wool and cotton. The easing of import controls, influenced by the increased supply of foreign exchange thus made available, was hastened in a number of the countries by the desire to make heavy purchases of goods in potentially critical supply before the anticipated supply short-

**Canada.**—In 1950, for the first year since 1931, Canada's imports exceeded exports. The import surplus of about \$56,000,000 (in terms of Canadian dollars, used throughout this section) was very small, however, relative to total trade. Imports totalled \$3,174,000,000, in comparison with \$2,761,000,000 in 1949; exports amounted to \$3,118,000,000 compared with \$2,993,000,000





Above, left: GERMANY: the first revival of the Passion Play at Oberammergau since 1934



Above, right: ENGLAND: the art colony at St. Ives, where many studios were converted to cafés, shops and fun-fairs for summer visitors

TOURIST ATTRACTIONS in four European nations which brought a small army of visitors to England and the continent in 1950, and with them U.S. dollars sorely needed for international trade. Most ship and plane space was booked months in advance and with the outbreak of war in Korea many tourists decided to go abroad while travel was still possible

Below: DENMARK: the annual performance of *Hamlet* at Elsinore, shown here being performed by the Old Vic company



Above: ITALY: where Holy Year brought visitors to Rome from all quarters of the globe; shown here is St. Peter's



ages and extension of United States export controls.

For the first time since 1947 the trade of the United States with the Latin American republics reverted in 1950 to its traditional status, an import balance. The excess in value of U.S. imports over exports to the area was \$240,000,000 for the first 9 mo. and \$267,000,000 for the first 11 mo. of 1950. Price rises, particularly of coffee, were principally responsible for the increase of 26% in the value of U.S. imports from the Latin American republics during Jan.-Sept. 1950, as compared with the same period of 1949. Here again the trend in the latter half of 1950 was marked, showing a rise over the comparable period of 1949 of 63% in the third quarter and 37% in October and November.

Available data indicated that the Latin American republics continued in the first half of 1950 to expand the proportion of their purchases made in countries other than the U.S. It was believed, however, that the share of the U.S. increased in the latter part of the year as supply difficulties interfered with imports from Europe and barriers against imports from the U.S. were lowered. Purchases by the U.S. accounted for about 43% of total exports from the area in 1949, and this proportion apparently increased in 1950 as stockpiling and inventory replenishment proceeded.

Table IV.—Trade of the Latin American Republics  
(In millions of U.S. dollars)

Country	Total Trade		United States Share	
	1948	1949	1948	1949
Total Latin American republics imports . . .	6,334.7	5,512.0*	3,653.2	2,815.2*
Argentina . . . . .	1,843.3	1,382.3	681.0	205.3
Brazil . . . . .	1,120.6	1,102.6	580.8	468.3
Chile . . . . .	269.2	304.6	114.3	165.3
Colombia . . . . .	334.7	309.0†	229.9	230.0‡
Cuba . . . . .	527.5	451.4	420.3	375.7
Mexico . . . . .	524.2	450.4	454.8	391.6
Peru . . . . .	167.7	168.0	90.8	105.9
Uruguay . . . . .	200.4	184.2	67.5	39.5
Venezuela . . . . .	838.7	668.9	653.7	492.4
All others . . . . .	508.4	490.6	360.1	341.2
Total Latin American republics exports . . .	6,480.4	5,619.3*	2,459.9*	2,412.5*
Argentina . . . . .	1,650.3	1,107.1	160.0	118.7
Brazil . . . . .	1,173.8	1,090.3	507.8	547.3
Chile . . . . .	329.9	308.3	174.5	149.6
Colombia . . . . .	286.9	255.0‡	238.4	200.0‡
Cuba . . . . .	709.9	578.3	366.4	369.8
Mexico . . . . .	472.6	462.7	356.1	364.0
Peru . . . . .	162.4	154.5	40.0	44.5
Uruguay . . . . .	178.9	191.7	50.9	50.3
Venezuela . . . . .	1,040.1	1,001.1	282.3*	286.0
All others . . . . .	475.6	470.3	283.5	282.3

\*Partially estimated. †January-July. ‡Estimated on basis of 5 months' data. §Not available. ||January-June. ¶January-May. ††January-March. ‡‡January-August.

**Europe.**—The total value of imports into countries participating in the Organization for European Economic Cooperation (O.E.E.C.) during Jan.-Oct. 1950 amounted to \$19,500,000,000; the value of exports during the same period was \$15,500,000,000. In 1949 imports for this area amounted to \$24,800,000,000 as compared with exports of \$18,800,000,000. The export-import ratio which was .75 in 1949 rose to almost .80 for the first ten months of 1950. It was significant that western Europe had surpassed the 1938 trade ratio when the export-import ratio was .75.

Of greater importance were the noticeable shifts in the export and import patterns of the O.E.E.C. countries. In 1949 and in 1948 more than 22% of western European imports originated in the United States and Canada; for the period Jan.-Oct. 1950, imports into the O.E.E.C. countries from this area declined to 16%. Exports from western Europe to the United States and Canada rose from 6.2% in 1949 to more than 8% in 1950; in 1938 this percentage was 7%.

Trade between the Marshall plan countries and the "iron curtain" countries declined from the level of 1949. In 1938, 9.6% of western Europe's total imports came from eastern Europe, while in 1950 only 4.6% of its imports came from this area; a

similar decline occurred with regard to exports of western Europe to "iron curtain" countries (see Table V). Trade between the O.E.E.C. countries and Latin America in 1950 remained at about the same level in 1949.

Of great importance to the economic progress of western Europe was the trade among the participating ERP countries. A major step in furthering this trade was the putting into operation of the European Payments union in the middle of 1950. In effect, this union facilitated credit and multilateral clearing arrangements among the participating countries, which in turn made possible a greater interchange of goods. Imports within the O.E.E.C. area rose from 35% in 1949 to 40% in the period Jan.-Oct. 1950, while exports correspondingly rose from 46% to 49% in these periods. For the first time since the end of World War II, trade among the ERP countries reached the pre-World War II activity.

At the end of 1950, the past year and a half had witnessed, in quick succession, a major devaluation of currencies, the outbreak of the Korean war, the formation of the European Payments union, the removal of quantitative restrictions on a sizable proportion of imports from member countries, a sharp rise in prices in the latter half of 1950, and the beginning of preparations for a vast rearmament program in western Europe. The levels of production and national income in western Europe had also risen in 1950 beyond the prewar level. (See EUROPEAN RECOVERY PROGRAM.)

Table V.—Percentage Distribution of Foreign Trade of Metropolitan O.E.E.C. Countries

Country or area	1938	1948	1949	1950* Jan.-Oct.
Imports				
Source:				
United States . . . . .	11.1	18.2	18.0	13.5
Canada . . . . .	4.2	4.7	4.3	2.8
Central America . . . . .	1.0	1.8	1.4	1.6
South America . . . . .	7.4	8.0	5.5	6.3
O.E.E.C. countries . . . . .	39.0	32.1	35.2	39.9
Overseas dependent territories	5.7	8.4	7.8	8.0
Overseas possessions of other O.E.E.C. countries . . . . .	2.7	3.4	3.7	4.6
Eastern Europe . . . . .	9.6	5.5	5.4	4.6
All other countries . . . . .	19.3	17.9	18.7	18.7
Total . . . . .	100.0	100.0	100.0	100.0
Value in millions of dollars . . . . .	12,242.4	24,561.6	24,794.1	19,522.1
Exports				
Destination:				
United States . . . . .	5.2	5.6	4.2	5.8
Canada . . . . .	1.7	2.1	2.0	2.3
Central America . . . . .	0.9	0.7	0.6	0.8
South America . . . . .	6.2	6.7	6.3	5.9
O.E.E.C. countries . . . . .	50.5	45.3	46.1	49.4
Overseas dependent territories	5.3	10.9	11.6	10.1
Overseas possessions of other O.E.E.C. countries . . . . .	1.3	1.9	1.9	1.9
Eastern Europe . . . . .	9.8	5.6	6.0	5.0
All other countries . . . . .	19.1	21.2	20.3	18.8
Total . . . . .	100.0	100.0	100.0	100.0
Value in millions of dollars . . . . .	9,115.2	16,770.0	18,762.0	15,519.7

\*Preliminary data.

**United Kingdom.**—The value of the merchandise trade of the United Kingdom reached record levels in the first nine months of 1950. Exports of United Kingdom merchandise totalled £1,566,000,000 compared with £1,315,000,000 for the same period in 1949. Imports increased by 13% from their 1949 value and reached a total of £1,908,000,000 for the first nine months of 1950. The volume index, with 1947 as the base year, showed exports for the January-September period of 1950 to be nearly 160 compared with 139 for the same period in 1949. During the first nine months of 1950 the volume of retained imports, although slightly higher than in the previous year, was still below the prewar level.

The trade deficit with the United States which had averaged £13,500,000 per month prior to devaluation in Sept. 1949 narrowed in the first nine months of 1950. This was a result both of increased British exports to the U.S. and a tight restriction on dollar imports. The devaluation of the pound sterling in Sept. 1949 gave some impetus to these developments. A major factor



in the increase in value of U.S. imports from the sterling area was the stepped-up U.S. stockpiling of critical sterling area raw materials which drew on stocks in the United Kingdom as well as on current production in the other sterling area sources. Exports from the U.S. to the United Kingdom and the rest of the sterling area fell, in large measure because of stringent reductions in dollar imports put into effect by most of the sterling area countries at the end of 1949 when their gold and dollar reserves were at a record low. These changes in value and volume of trade resulted in large net dollar earnings which contributed substantially to the improvement in the gold and dollar reserves of the sterling area.

Britain's trade deficit with its other major dollar creditor, Canada, which in 1949 had been nearly as great as that with the United States, was decreased even more appreciably during the first nine months of 1950.

Table VI.—Value of Trade of the United Kingdom with Principal Countries  
(In millions of pounds sterling)

Country	1948	January—September			Exports†	1950
		Imports*	1949	1950	1949	
Argentina . . . . .	88.1	51.1	76.8	33.5	35.7	27.5
Australia . . . . .	115.7	157.3	154.8	107.6	133.8	186.4
Belgium . . . . .	28.3	30.2	27.5	28.5	25.4	37.4
British West Africa . . . . .	59.7	73.2	79.7	32.9	46.2	46.3
Canada . . . . .	166.4	156.6	132.1	50.3	57.9	89.0
Ceylon . . . . .	21.2	20.1	18.9	9.4	10.8	12.2
Denmark . . . . .	33.2	57.5	76.4	19.3	34.4	48.3
Egypt . . . . .	33.4	26.4	24.8	26.2	27.2	32.1
France . . . . .	31.9	54.5	78.6	27.1	24.5	32.8
India, Pakistan, etc. . . . .	78.3	80.1	87.7	77.6	123.6	98.7
Ireland . . . . .	28.5	39.3	43.1	56.9	55.8	64.5
Netherlands . . . . .	31.3	48.5	62.7	31.9	38.7	52.7
Netherlands West Indies . . . . .	48.2	30.3	33.1	1.9	1.8	2.9
New Zealand . . . . .	87.7	96.1	113.9	37.4	44.8	62.6
Norway . . . . .	12.9	16.7	20.6	21.4	30.7	40.7
Sweden . . . . .	37.0	45.8	46.4	41.0	33.4	56.3
Union of South Africa . . . . .	24.1	24.6	36.5	87.7	106.4	83.8
United States . . . . .	142.9	163.0	147.8	49.4	37.0	74.6
Other countries . . . . .	481.2	514.9	647.1	411.7	447.3	518.1
Total . . . . .	1,550.0	1,686.2	1,908.5	1,151.7	1,315.4	1,566.9

\*General imports.

†United Kingdom produce.

**Near East.**—The foreign trade of many of the near east countries during 1950 remained at a comparatively high level, according to partial data for the year. Turkey reduced its trade deficit, chiefly because of increased exports, as imports remained large. Greece's exports continued to lag, although an improvement occurred in the later months of the year. Iran encouraged imports in the latter part of the year, partly as an anti-inflationary measure, but exports did not keep pace, causing a shortage of foreign exchange. Israel's imports were affected by a shortage of foreign exchange, while exports remained at a fair level. Egypt's imports expanded in anticipation of possible shortages, and exports were aided considerably by the price rise and strong demand for raw cotton. The trade of Syria and Lebanon was disturbed by the termination of the customs union in March, which caused a shift in the geographic pattern of these countries and sharply reduced the normally large turnover between these countries.

**Far East.**—The serious imbalance between imports and exports which had characterized the postwar trade of the far east was greatly reduced during 1950. Reduction of the heavy import balance was largely the result of the following factors: continued dollar aid from the U.S., further effects of the sterling devaluation of Sept. 1949, drastic import and exchange controls in certain countries, and, after the outbreak of the Korean conflict, the strong world demand for far eastern raw materials at greatly increased prices.

Japan's merchandise trade in 1950 was characterized by an increase over 1949 in both volume and value and a marked narrowing of the gap between imports and exports compared with previous postwar years. During the year important modifications were made in control over Japan's import trade, resulting in a shift of a greater portion of trade conducted on a private basis;

Japanese nationals participated more directly in various activities related to foreign trade.

Mainland China's trade, estimated from statistics of trading partners, indicated a comparative balance with both imports and exports at about \$250,000,000 for the first three quarters of 1950, exclusive of a sizable trade with eastern Europe, on which statistical information was unavailable.

Because of drastic import and exchange controls, Philippine import trade declined about 35% in 1950. Coincident with an appreciable increase in export values following the outbreak of war in Korea, the decline in imports caused a material reduction in the heavy postwar import balance and, together with continued though lessened disbursements by the U.S., was also responsible for the largest surplus since 1945 in the international balance of payments position at the close of 1950.

Indochina continued to have a large deficit in the balance of trade. Thailand again recorded a substantial balance of trade surplus. Malaya, principal dollar earner of the sterling area, experienced a trade boom in 1950 following developments in Korea.

Throughout 1950 the foreign trade of India continued the trends which began with devaluation in Sept. 1949: decreased imports, increased value of exports, and an improved balance of trade position. The trade impasse with Pakistan, after a temporary agreement which expired Sept. 30 was not renewed, reduced the trade of India with that country drastically, confining it practically to imports of raw jute and greatly reduced exports of cotton textiles.

The trade of Pakistan on private account in the year ended June 30, 1950, showed an increase in exports and a decrease in imports from the previous year with a small export surplus. However, the significant trade on government account, which consisted almost wholly of imports, appeared likely to change the balance to an import balance. A large number of trade agreements were executed in a reorientation of Pakistan's trade as a consequence of the trade impasse with India.

**Australia, New Zealand.**—During the first ten months of 1950 there was a considerable increase in the value of Australia's exports and imports as compared with 1949; the trade balance remained relatively unchanged. Exports were £A581,000,000, a 35% rise over the £A430,000,000 ten months' total of the previous year. Imports of £A524,000,000, in contrast to £A371,000,000 in 1949, had risen 41%. New Zealand experienced much the same type of development as Australia.

**Union of South Africa.**—The year 1950 saw a marked improvement in the Union of South Africa's balance of payments position, and this was reflected by a gradual relaxation of import controls which applied mainly to goods of soft currency origin. In September, however, the government announced a further liberalization of controls as from Jan. 1, 1951, which appeared to open the way for an increased volume of hard currency imports. (See also BUSINESS REVIEW; INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT; INTERNATIONAL MONETARY FUND.)

FILMS OF 1950.—*Stuff for Stuff* (Film Program Services). (L. K. M.)

**Interstate Commerce Commission.** The duties and powers of the Interstate Commerce commission are set forth in the Interstate Commerce act, originally passed in 1887 and later amended in many important particulars. The act is divided into four parts, and deals with the regulation of rail, motor and water carriers, and freight forwarders. The regulatory powers of the commission extend, among other things, to the charges made by these carriers for transportation services; to questions involving the valuation and financial reorganization of railroads; to the



issuance of securities; to the acquisition or control of these various carriers by other carriers or persons; to their accounting practices; to the abandonment of lines of railway; and to matters involving the determination of whether public convenience and necessity require the institution of new services by motor and water carriers or by freight forwarders, or the construction and operation of lines of railway.

Commissioner Carroll Miller died on Dec. 24, 1949, and James K. Knudson was appointed to fill the remainder of his term (until Dec. 31, 1953). Commissioner Walter Splawn was reappointed for an additional term of seven years.

By executive order of Sept. 9, 1950, the functions conferred upon the president by title I of the Defense Production act of 1950 were delegated to various agencies. Under paragraph (c) of part I of the order, functions were delegated "to that commissioner of the Interstate Commerce Commission who is responsible for the supervision of the Bureau of Service of the commission, with respect to domestic transportation, storage, and port facilities, or the use thereof, but excluding air transport, coastwise, intercoastal, and overseas shipping."

Commissioner Knudson was, by order of the commission dated Sept. 11, 1950, placed in charge of supervision of the bureau of service. On Oct. 4, 1950, Commissioner Knudson issued organization order D.T.A., establishing, under the jurisdiction of the commissioner of the Interstate Commerce commission who is responsible for the supervision of the bureau of service of the commission, a Defense Transport administration at the head of which the commissioner shall be ex officio the administrator.

The carriers subject to the jurisdiction of the commission were confronted with numerous and difficult problems during the year, including the rising costs of labour and materials, postwar shifts in the movement of commodities because of change in the location of plants and substitution of commodities, and changes in competitive advantages brought about by differences in technological improvements between the different agencies of transport.

The effect of an increase in private transportation was particularly felt in the passenger field.

(J. M. J.)

**Intestinal Disorders:** see ALIMENTARY SYSTEM, DISORDERS OF.

**Intoxication, Alcoholic.** In 1950 the greatest advance in the study and treatment of alcoholic intoxication (sometimes called "alcoholism" or "problem drinking") was made in the field of public enlightenment. With the increasing acceptance of the concept of alcoholic intoxication as a personality and social disorder which should be treated scientifically as an illness rather than punitively as a crime, programs of community action in cities, counties and states sprang up all over the country.

On Aug. 17, 1950, a bill was passed by the Massachusetts legislature authorizing the department of public health to establish clinics for alcoholics and to engage in a program aimed at the prevention of alcoholic addiction. By the end of the year, 28 states had established some sort of program dealing with the problem of alcoholism. Representatives of some of these states met during the year and established the National Conference of State Programs so that they might share their experience and make their common knowledge available to other states working toward the establishment of educational and treatment programs.

Tetraethylthiuram disulphide (Antabuse) first attained prominence in Danish medical literature in late 1948. Antabuse was widely discussed in English and U.S. literature in 1949. This led to extensive experimentation and carefully considered clinical

studies on the use of this drug, particularly in metropolitan centres of the United States during 1950. Antabuse appears to act mainly through its pharmacological effect on the blood acetaldehyde levels. For optimum safety, its use should be carefully supervised. Its major benefits are considered as an adjunct to adequate psychotherapy.

In 1949 the use of myanesin was reported in the treatment of gross tremulous states. It was stated that these symptoms were controlled within 30 minutes to 1 hour after the drug was administered. This report led to extensive further work, much of which was carried out in 1950.

Adrenal cortical extract in the treatment of acute alcoholic states was being used experimentally, but by the end of 1950 no authorities had ventured a final opinion concerning the value of this drug. The interesting idea that the craving for alcohol may be physiologically related to a series of events similar to those found in hyperinsulinism but which lead eventually to those of hypoglycaemia was being entertained, but conclusive evidence was lacking in 1950. James J. Smith reported in the *Quarterly Journal of Studies on Alcoholism* (June 1950) that ACTH in doses of 25 mg. intramuscularly given every sixth hour to ten patients with relatively severe acute alcoholic intoxication led to a striking reduction in the expected duration of signs and symptoms, including insomnia, nervousness and apprehension, demands for sedation, anoxia, sweating and even visual hallucinations. Aqueous adrenal cortical extract in doses of 10 c.c. intravenously every sixth hour seemed equally effective. Two patients with Korsakoff's psychosis were unimproved by ACTH. It would thus appear, on the basis of these preliminary data, that ACTH might be of real value in reducing the period of disability in acute alcohol intoxication and bringing about a return of appetite.

The use of Cortone (registered trade-mark of Merck and Co. Inc., for its brand of cortisone) was considered by some to yield encouraging results in the treatment of alcoholic intoxication. Cortone acts directly and not by stimulation of the adrenal cortex. Therefore, the clinical response to its administration is not dependent on the functional capacity of the adrenal cortex. Injections of this drug are made intramuscularly.

Other unusual methods of treating acute alcoholic intoxication, including the administration of oxygen into the lungs in high concentration, the use of insulin in subcoma dosages and the introduction into the body by various means of several benzedrine compounds, were all used in various experiments. Up to the end of 1950 none of these methods had yielded results sufficiently positive to warrant general adoption.

The treatment of cases of delirium tremens in several large general hospitals by intravenous administration of large quantities of physiological saline and glucose solution plus massive dosages of vitamins to correct obvious deficiencies was most promising.

Most United States courts did not yet avail themselves of the chemical tests for alcoholic intoxication, but there was a trend in some courts to allow chemical tests for blood alcohol concentration as evidence of alcoholic intoxication among persons involved in motor vehicle traffic accidents. (See also LIQUORS, ALCOHOLIC; NUTRITION, EXPERIMENTAL.)

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(M. Mo.)

**Inventions:** see ELECTRONICS; MUNITIONS OF WAR; PATENTS; STANDARDS, NATIONAL BUREAU OF.

**Investment Banking:** see BANKING.



**Investments, Foreign, in the U.S.:** see FOREIGN INVESTMENTS.

**Iowa.** Iowa, popularly known as the "Hawkeye state," was admitted to the union in 1846. Located in the north central region, it comprises 56,280 sq.mi., of which 294 sq.mi. are inland water surface. The 1950 census showed a population of 2,621,073, an increase of 3.3% over the 1940 figures. The capital, and largest city, is Des Moines, with a 1950 population of 176,954. Other chief cities are Sioux City, 84,035; Davenport, 73,640; Cedar Rapids, 72,149; Waterloo, 64,354; Dubuque, 49,528; and Council Bluffs, 45,184. The preliminary 1950 census figures showed 53.1% rural, a decrease of 4.2% from the 1940 figures.

**History.**—The following officers, all Republican, were elected or re-elected at the Nov. 7, 1950 election: governor, William S. Beardsley; lieutenant-governor, W. H. Nicholas; secretary of state, Melvin D. Synhorst; auditor, Chet B. Akers; treasurer, M. L. Abrahamson; secretary of agriculture, Clyde Spry; attorney general, Robert L. Larson; superintendent of public instruction, Jessie M. Parker. Iowa's United States senators were Bourke B. Hickenlooper (Republican; re-elected 1950), and Guy M. Gillette (Democrat, elected 1948). Iowa's eight Republican representatives in Washington were all re-elected in the 1950 election.

The voters were asked to vote on the calling of a state constitutional convention, according to the requirements of the constitution, which provides for such a vote every ten years. The vote was 3 to 1 against such a convention. The constitution of Iowa was adopted in 1857.

The Iowa general assembly meets biennially in the odd-numbered years. It convened in Jan. 1951, with a senate of 50 members, of which 41 were Republican and 9 Democratic, as a result of the 1950 elections, and with a house of 108 members, of which 93 were Republican and 15 Democratic.

**Education.**—Iowa had, during the 1949-50 school year, 4,652 public elementary school districts; 840 public high school districts; and 19 junior colleges. Students in the elementary schools numbered 364,942; in the high schools, 112,778; in the junior colleges, 1,892. The number of teachers and superintendents in the public schools in 1949-50 was 23,145.

There were 26 colleges and universities in the state, with a total enrolment for 1950 of 35,300, a decrease of about 4,000 from the 1949 figure. The majority of the colleges were privately endowed or supported by various church organizations. The state supports three institutions: the state university of Iowa at Iowa City; the Iowa State College of Agriculture and Mechanic Arts at Ames; and Iowa State Teachers college at Cedar Falls.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The 1950-51 state appropriation for old age assistance was \$13,000,000; for aid to dependent children, \$1,575,000; for child welfare, \$220,000; for emergency relief, \$30,000; and for aid to the blind, \$350,000. Contributions to the state unemployment insurance fund, as of June 30, 1950, totalled \$10,848,202; during the fiscal year 1949-50, \$6,599,392 was paid out of this fund in benefit payments, an increase of \$2,639,810 over the fiscal year 1948-49. The reserve fund, as of June 30, 1950, was \$94,719,865.

Iowa has five penal and correctional institutions, with 2,391 prisoners as of Nov. 1, 1950. The hospitals for the insane number four, with 5,853 patients; there are also two homes for the feeble-minded, with 3,532 patients. The state orphanage at Davenport, the Iowa Annie Wittenmyer home, cared for 373 children as of Nov. 1, 1950, while the State Juvenile home at Toledo cared for 193 dependent, neglected, or destitute children.

**Communications.**—Iowa had in 1950 a total of 102,343 mi. of roads; 9,745 mi. were primary roads; 13,830 mi. were county trunk roads; and 78,768 mi. were county local roads. There were 6,570 mi. of paved highway including extensions within the state; 973 mi. of bituminous surfaced roads; and 2,164 mi. of gravel roads.

The state is served by 12 major railroads with a total of 8,725 mi. of track. In 1949 these roads carried 5,180,013 passengers and 90,930,150 tons of freight. There are 355 mi. of electric interurban roads in the state; during 1949 they carried 660,695 passengers and 3,931,011 tons of freight. There were, in 1949, 109 mi. of oil pipe lines, 1,907 mi. of gasoline pipe lines, and 1,260 mi. of natural gas pipe lines in Iowa. There were 807,536 automobiles in the state in 1949. In 1950 there were ten major airports.

There were 796,823 telephones in Iowa in 1950, and 50 radio stations. There were about 70,000 mi. of electric transmission lines in Iowa, and 86.2% of all farms were electrified.

**Banking and Finance.**—There were, as of June 30, 1950, 556 state banks and 97 national banks in Iowa. Besides the 556 state banks, there were

165 bank offices, 204 small loan licensees, and 212 credit unions under the supervision of the state banking department. Total assets of the 556 state banks on June 30, 1950 were \$1,588,467,014; total deposits were \$1,478,956,843. The 97 national banks had total deposits of \$753,999,000 and total resources of \$802,586,000 as of June 30, 1950.

The revenue received from all special taxes in Iowa for the fiscal year ending June 30, 1950, was \$151,153,737. Of this total, 31% came from the state's 2% sales tax; 18.6% from the gasoline tax; 14% from motor vehicle licence fees; 12.2% from individual and corporation income taxes; 8% from state liquor store profits and the beer tax; 5.6% from use taxes assessed on articles purchased outside the state; and the balance from miscellaneous taxes. Iowa has no state debt.

**Agriculture.**—The total cash income of Iowa farmers in 1949 was \$2,045,831,000, of which \$1,600,057,000 was from livestock, \$440,473,000 from crops, and \$5,301,000 from government payments. The total income was \$319,650,000 less than in 1948. On Jan. 1, 1950, there were 35,740 auto trucks on Iowa farms; 221,659 tractors; and 81,017 mechanical corn pickers. These figures all showed an increase over the 1949 totals.

Table I.—Leading Agricultural Products of Iowa

Crop	1950	1949	Average 1939-48
Corn, bu. . . . .	463,655,000	550,608,000	527,548,000
Oats, bu. . . . .	264,737,000	244,491,000	189,957,000
Wheat, bu. . . . .	5,740,000	7,213,000	4,358,000
Rye, bu. . . . .	224,000	238,000	335,000
Potatoes, bu. . . . .	1,300,000	1,100,000	3,637,000
Hay, tons . . . . .	6,347,000	4,884,000	5,511,000
Popcorn, lb. . . . .	50,400,000	28,800,000	57,183,000
Soybeans, bu. . . . .	42,262,000	30,820,000	28,766,000

The greatest proportion of Iowa's corn crop is fed to livestock. On Jan. 1, 1950, there were on Iowa farms 11,920,000 hogs, 5,007,000 cattle, 949,000 sheep, 242,000 horses and 6,000 mules.

**Manufacturing and Industry.**—There were 3,858 manufacturing plants in Iowa in 1950, employing approximately 148,000 persons. The average weekly wage in Oct. 1950, was \$59.26. The total value of manufactured products for 1949 was \$2,150,000,000, an increase of \$150,000,000 over the figure for 1948.

**Mineral Production.**—Iowa produces only nonmetallic minerals. The latest official production figures available in 1950 were for 1948.

Table II.—Principal Mineral Products of Iowa

Mineral	Quantity	Value
Cement . . . . .	6,807,214 bbl.	\$14,424,526
Clay . . . . .	869,850 tons	9,600,000
Coal . . . . .	1,666,774 tons	7,000,450
Gypsum . . . . .	729,880 tons	1,753,545
Stone . . . . .	6,387,620 tons	8,332,682
Sand and gravel . . . . .	8,039,601 tons	3,729,488

(M. T.E.)

**Iran.** (PERSIA). An independent kingdom of western Asia, Iran is bounded east by Pakistan and Afghanistan, north by the U.S.S.R., west by Turkey and Iraq and south by the Persian gulf and Arabian sea. Area: c. 634,413 sq.mi. Pop. (no census ever taken; 1949 est.): 18,387,000. Language: mainly Persian, but some Turki and Armenian in the north, Kurd in the west, Arabic in the south and Pashtu in the east. Religion: Moslem, mainly Shia, but the Kurds (750,000) are Sunni; Christian (there are c. 50,000 Gregorian Armenians, a few thousand Catholic Armenians and 40,000 Nestorians); Jewish 80,000; and c. 10,000 Zoroastrian Parsees. Chief towns (1948 est.): Tehran (cap., 850,000); Meshed (250,000); Tabriz (214,000); Isfahan (205,000); Abadan (150,000); Shiraz (129,000); Resht (122,000); Hamadan (104,000). Ruler, Shahanshah Mohammed Riza Pahlavi; prime ministers in 1950, Mohammed Said Maraghei, Ali Mansur (from March 23) and Gen. Ali Razmara (from June 26).

**History.**—On Jan. 11, 1950, the government of Mohammed Said Maraghei resigned. The outgoing premier was asked to form a new government. Notable changes in the new cabinet were Ali Akbar Siassi, appointed foreign minister, Abbas Gholi Golshayan, appointed finance minister, and Taghi Nassr, minister of national economy. On Feb. 9 the shah officially opened the 16th session of the *majlis* and the 1st session of the senate. The *majlis* lacked the deputies of Tehran. Elder statesmen and former generals formed the 30 nominees of the shah in the senate; the other 30 were elected.

On Feb. 19, Iran and Pakistan signed a treaty of friendship providing for neighbourly relations and for most-favoured-nation treatment. On March 16 Iran also signed a treaty of friendship with India.



Results of the Tehran elections, on March 16, showed that Mohammed Mossadegh, leader of the National Front party, and his followers had won 6 of the 12 seats. Directly after this, and as a result of persistent attacks in the *majlis* and the senate, Mohammed Said Maraghei again resigned. Ali Mansur formed a new cabinet (completed April 3) in which Hussein Ala was foreign minister, Ebrahim Zand minister of the interior and Gen. Morteza Yazdanpanah minister of war.

Between May and July the soviet government sent two notes of protest to the Iranian government and received two replies. On May 15 the U.S.S.R. protested to Iran alleging unfriendly activities on the soviet border. The note referred to the formation of an Iranian oil joint-stock company for prospecting oil and complained of the presence of foreign and in particular U.S. experts for topographical, geological survey and aerial photography. The soviet note stated that these activities could create a danger to the frontiers of the U.S.S.R. and called this incompatible with the provisions of the Soviet-Iranian treaty of Feb. 26, 1921. The Iranian government replied that no abnormal situation existed between the two countries and no action was taken contrary to good neighbourly relations. It added that survey planes would not be permitted to approach the soviet border. On June 22 another soviet note repeated former charges and called the aerial survey "a measure of military significance." On July 15 the Iranian government rejected the soviet complaints but said that in order to remove friction and misunderstanding air surveys would be stopped and only Iranian surveyors employed in ground survey.

Two loans totalling £14,000,000, free of interest, were made by the Anglo-Iranian Oil company to the Iranian government, on account of current royalties (£6,000,000 in June and £8,000,000 in September).

On June 26, Ali Mansur's government resigned and Gen. Ali Razmara, army chief of staff, was appointed prime minister. The new premier was considered to be a strong man bent on social and economic reforms. General Razmara presented his cabinet to the *majlis* and on July 4 got a vote of confidence by 94 votes to 7 with 3 abstentions. On the same day Iran approved the United Nations Security council's action in Korea.

The premier's firm handling of the complicated social and economic problems of the country and his decentralization plans met with severe criticism in the *majlis* from the National Front party, which organized a vociferous opposition. But despite fierce denunciations and wild accusations of dictatorship, General Razmara stood his ground and tried to balance the policy of close relations with United States by lending a favourable ear to the soviet suggestion of renewed trade relations. Thus the commerce and navigation agreement between Iran and the Soviet Union of March 25, 1940, which had lapsed, was renewed for another year in November. The Soviet Union and Iran agreed to exchange iron and steel parts, timber, cement, textiles and newsprint for rice, tobacco, skins, dried fruit and gum tragacanth. This barter arrangement was to be conducted through the government agencies. The Soviet Union agreed also to discuss the outstanding question of the return of 11 tons of gold owing to Iran since the end of World War II.

The Export-Import Bank of Washington granted on Oct. 10 a loan of \$25,000,000 for the improvement of roads, other communications and agriculture in Iran. On Oct. 19 an agreement was signed in Tehran between the Iranian prime minister and the U.S. ambassador, whereby the United States offered Iran technical co-operation in improving living conditions in rural areas. The U.S. government allocated \$500,000 from Point Four program appropriations for the current fiscal year. This was the first appropriation of this kind and emphasis was to be on health, agriculture and education for villages near main centres of population.

The special parliamentary commission set up to consider the supplementary oil agreement signed by the government of Said Maraghei and the Anglo-Iranian Oil company but still subject to ratification by the *majlis* rejected it on Nov. 26. Under this agreement the Iranian government was to receive increased royalties of more than £22,000,000 for 1949.

**Education.**—Schools (1942-43): elementary 2,401, pupils 244,315, teachers 9,748. There were two universities (Tehran and Tabriz) and three university colleges (1949), students 5,919.

**Finance and Banking.**—Budget: (1949-50 est.) revenue 7,705,000,000 rials, expenditure 11,119,000,000 rials; (1950-51 est.) revenue 8,948,000,000 rials, expenditure 11,474,000,000 rials. Internal national debt (Dec. 1948) 5,400,000,000 rials. Currency circulation (March 1950) 6,030,000,000 rials. Gold reserve and foreign exchange (June 1950) U.S. \$240,000,000. Bank deposits (March 1950) 6,200,000,000 rials. Monetary unit: rial, with an exchange rate of 32.50 rials to the U.S. dollar (Nov. 1950).

**Foreign Trade.**—Imports (1949) 9,276,000,000 rials; exports, including oil exports of the Anglo-Iranian Oil company (1949), 17,240,000,000 rials. Main sources of imports (1949): U.K. 40%, U.S. 28%, India 5%. Main destinations of exports (1949): U.K. 24%, India 15%, Italy 5%. Main imports (1949): cotton piece goods 18.6%, cereals 9.7%, sugar 9.3%, tea 7.4%. Main exports (1949): petroleum and products 90%, carpets 3%, fruits and berries 2%.

**Transport and Communications.**—Roads (1949) 17,000 mi., of which 8,000 mi. were suitable for vehicles. Licensed motor vehicles (Dec. 1949): cars 10,680, commercial vehicles 9,140. Railways (1948) 1,750 mi. Radio receiving set licences (1949) 60,000.

**Agriculture.**—Main crops (metric tons, 1949): wheat 1,630,000; barley 650,000; cotton, ginned, 18,000; sesame seed (1948) 4,000; rice (1948) 424,000; sugar, raw value (1948) 46,500; total grapes (1948) 260,000; oranges and tangerines (1948) 60,000; tobacco (1949) 11,300; tea (1949-50) 4,500. Livestock (1948-49): cattle 2,100,000; sheep 11,000,000; horses 310,000; mules 42,000; buffaloes 10,000; camels 600,000. Wool production, greasy basis (1949) 13,000 metric tons.

**Industry.**—Fuel and power: coal (1948) 150,000 metric tons; crude oil (1949) 27,240,000 metric tons. Raw materials (metric tons, estimated annual production): copper ore 1,000; sulphur 600; red oxide 10,000; arsenic ore 500. Cement production 39,000 metric tons (1948).

**Iraq.** An independent Arab kingdom of Mesopotamia, Iraq is bounded by Syria, Turkey, Iran, the Persian gulf, Saudi Arabia and Jordan. Area: 116,600 sq.mi. Pop.: (1947 census) 4,799,500; (1949 est.) 4,990,000. Languages: Arabic 67%, Kurdish 25%, Persian 3%, Turki 2%, others 3%. Religions (approximate percentages): Moslem 91%, Christian 5%, Jewish 2.5%, others 1.5%. The Sunni Arabs are the ruling class. Chief towns (pop., est. 1947): Baghdad (cap., 552,000), Mosul (279,400), Basra (206,000), Kirkuk (148,300). Ruler, King Feisal II (born May 2, 1935); regent, Crown Prince Abdul-Ilah; prime ministers in 1950: Ali Jawdat al-Ayyubi (until Feb. 1), Tawfik al-Suwaidi and (from Sept. 16) Nuri Pasha es-Said.

**History.**—During the year 1950 there were three cabinets. The first, under Ali Jawdat al-Ayyubi (Dec. 10, 1949-Feb. 1), and the second, under Tawfik al-Suwaidi (Feb. 5-Sept. 4), were coalitions. The third, formed on Sept. 16, was presided over by the veteran statesman Nuri Pasha es-Said, the leader of the Constitutional Union party, who had held office during most of 1949. In November Nuri delivered a speech in Baghdad in which he dealt with the defense of Iraq. He gave it as his opinion that in the event of another world war Iraq would find it impossible to remain neutral. He then went on to announce that his government proposed without delay to set up a defense council for the country.

In February the chief of police was arrested for "insubordination." In April he was sentenced to life imprisonment for attempting to overthrow the government by force.

Relations with Israel remained unchanged during the year. The supply of oil through the Kirkuk-Haifa pipe line was still cut by the Iraq government; but in March a law was passed permitting Iraqi Jews to renounce their nationality and to leave the country, and in May a regular air lift of Jews emigrating to Israel began.

Following the crisis in the Arab league over Jordan's annexation of Arab Palestine in April, the Iraqi government refused to associate itself with the first Egyptian proposal to expel Jordan



from the league. It also abstained in June for "technical reasons" from participation in the Arab states collective security pact.

The negotiations initiated by the government for the revision of the terms of the Iraq Petroleum company's oil concessions in Iraq led in June to agreement on the following main points: (1) The scale of royalties was to be increased from 4s. to 6s. per ton of oil produced; and (2) payment would be in gold. There were other oil developments of importance. Following the duplication of the old Kirkuk-Tripoli pipe line with 16-in. pipes, a refinery was opened at Tripoli on Jan. 1, 1950. In May plans were adopted for a pipe line from Kirkuk to the Mediterranean port of Banyas in the Lebanon between Beirut and Tripoli.

In January a loan (secured on oil royalties) was obtained from the International Bank for Reconstruction and Development to enable the completion of the Wadi Tharthar scheme for the control of Tigris flooding, and in May the government formed the Iraqi Development board to supervise the work. The total amount involved in the project was \$12,800,000. In May Baghdad was seriously threatened by widespread flooding from the Tigris.

A second loan (£3,000,000) was negotiated in May with the British government for the completion of railway projects—in particular the rebuilding of Baghdad station and the construction of a link railway bridge across the Tigris. In September a financial agreement was negotiated with the British government which undertook to release to Iraq in convertible sterling a sum not exceeding the equivalent of \$20,000,000 for hard currency expenditure for the period from Oct. 1949 to Sept. 1950. It was agreed that the description "hard currency countries" should include Belgium, Japan and western Germany; and that the uncommitted balance in this period could be carried forward.

In January the government announced that it preferred to remain outside the sphere of the activities of the United Nations Economic Survey Mission for the Middle East, as appointed through the U.N. Conciliation Commission for Palestine, with which Iraq was not negotiating directly. But in June the government introduced a 5% tax on exports to encourage production for local needs, and in July an import ban was declared on a large selection of goods which could be produced by local industry.

(O. M. T.)

**Education.**—Schools (1948-49): elementary 1,050, pupils 150,588; intermediate and secondary 175, pupils 26,748, teachers 1,352; vocational 9, pupils 1,000, teachers 73. Institutions of higher education 10, students 4,500, lecturers 106.

**Finance and Banking.**—Budget (1949-50 est.): revenue 25,000,000 Iraqi dinars, expenditure 27,100,000 Iraqi dinars; (1950-51 est.): revenue 24,000,000 Iraqi dinars, expenditure 24,100,000 Iraqi dinars. Currency circulation (June 1950): 39,300,000 Iraqi dinars. Bank deposits (Aug. 1950) 12,500,000 Iraqi dinars. Monetary unit: Iraqi dinar at par with the pound and with an exchange rate of 0.357 dinars to the U.S. dollar.

**Foreign Trade.**—(1949) imports 40,600,000 Iraqi dinars; exports, excluding oil, 12,700,000 Iraqi dinars; including oil 26,200,000 Iraqi dinars. Main sources of imports (1948): United Kingdom 43.5%; United States 7.8%; Italy 6.4%. Main destinations of domestic exports (1948): India 19.2%; United Kingdom 17.1%; United States 13.4%. Main imports (1949): textiles 18.0%; tea and sugar 12.6%; iron and steel 12.1%; boilers 11.1%. Main exports, excluding oil (1949): cereals 45.5%; dates 22.4%; wool 3.7%.

**Transport and Communications.**—Roads (1949): 4,550 mi. Licensed motor vehicles (Dec. 1949): cars 7,000; commercial 8,500. Railways (July 1949): 1,027 mi.; passenger miles (1947-48) 329,000,000; freight ton-miles (1947-48) 367,000,000. Air transport (1949): passenger miles 5,533,000; cargo net ton-miles 116,000. Telephones (March 1949): 14,595. Radio receiving sets (1949): 6,600.

**Agriculture.**—Main crops (metric tons, 1949): barley 760,000; wheat 490,000; rice 230,000; dates 170,000; tobacco 6,000; cotton 1,000. Livestock (1948-49): sheep 7,055,000; goats 1,849,000; cattle 822,000; buffaloes 130,000; camels 291,000; horses 188,000; mules 52,000; donkeys 413,000.

**Industry.**—Industrial establishments (1948): 1,762; persons employed: 27,246. Crude oil production (1949): 4,200,000 metric tons.

## Ireland, Northern.

Northern Ireland comprises the six counties of Antrim, Armagh, Down, Fermanagh, Londonderry and Tyrone; it forms part of the United

Kingdom of Great Britain and Northern Ireland, but (from 1920) has had its own parliament and executive (with limited powers for local purposes) although it is represented in the imperial parliament by 12 members. Area: 5,238 sq.mi. Pop. (1949 est.) 1,371,000. Language: English. Religions (1937 census): Roman Catholic 33.5%, Presbyterian 30.5%, Episcopalian 27%, Methodist 4.3%. Chief towns (pop., est. 1948): Belfast (cap. 450,000); Londonderry (49,000); Bangor (19,000). Governor, 1950, Earl Granville; prime minister, Sir Basil Brooke.

**History.**—Politically, the year 1950 was dominated by the general election for the imperial parliament and Sir Basil Brooke's official visit to the United States and Canada. The election disclosed no change in traditional allegiances, the Unionist party winning ten seats and Anti-Partitionists two.

On his mission to the United States, Sir Basil Brooke pledged Northern Ireland's support for the North Atlantic treaty. Underlying his visit, however, was an effort to enlist backing for the partition settlement in Ireland. In this, opposition was met from the Irish-American bloc but otherwise he was cordially received both in the United States and Canada.

Legislation was passed to ratify agreement with the Republic of Ireland on the drainage of Lough Erne for a hydroelectric scheme at Ballyshannon. Much progress was made with the development of social services; the total of permanent houses built since the war passed 20,000.

**Education.**—Schools (1949-50): primary 1,632, pupils 185,712; intermediate 12, pupils 6,692; grammar 79, pupils 26,735; technical 115, students 31,209; institutions of higher education 2, students 350; Queen's University of Belfast, students 2,686.

**Finance and Banking.**—Budget: (1949-50 actual) revenue £43,191,307, expenditure £42,908,914; (1950-51 est.) revenue £63,577,000, expenditure £47,504,000, excluding contribution of £16,000,000 to the U.K. exchequer. National debt (March 1950) £29,361,166. Currency circulation (Sept. 1950) £9,693,979. Savings and deposits (Sept. 1950) £105,000,000.

**Foreign Trade.**—(Estimates compiled from the returns of the harbour authorities and the board of customs and excise, 1949) imports £188,700,000, exports £163,900,000.

**Transport and Communications.**—Roads (1950): 13,254 mi. Licensed motor vehicles (Dec. 1949): cars 47,618; commercial 22,663. Railways: (1949) 754 mi.; passengers carried (1948) 15,244,735; goods carried (1948) 1,946,847 tons. Telephones (Oct. 1950): subscribers 42,838.

**Agriculture.**—Main crops (metric tons, 1950): oats 286,000; potatoes 1,364,000; hay 595,000. Livestock (1950): cattle 974,000; sheep 571,000; pigs 512,000; goats and kids 92,000; horses 51,000; asses 5,300; poultry 20,704,000. Food sales (1949-50): milk 88,000,000 gal.; eggs 53,000,000 doz.; beef 419,841 cwt.; veal 2,071 cwt.; pork 383,948 cwt.; mutton and lamb 92,973 cwt. Shipments of food to Great Britain (1949-50): milk 25,000,000 gal.; eggs 39,700,000 doz.; bacon and ham 276,947 cwt.; poultry 6,800 tons.

**Industry.**—Electricity sales (1949) 533,000,000 kw.hr. Merchant vessels launched (1949) 12, gross tonnage 97,353. Exports of yarns (1949): linen 67,000 cwt.; woollen 32,000 cwt.; cotton 11,000 cwt.; hemp 9,000 cwt.

(J. E. Ss.)

**Ireland, Republic of.** An Independent republic on an island west of Great Britain. Ireland has an area of 26,602 sq.mi. Pop.: (1946 census) 2,953,452; (mid-1949 est.) 2,991,090. Language: English c. 76%, Erse (Gaelic) c. 24%. Religion (1936 census): Roman Catholic 93.4%. Chief towns (1946 census): Dublin (cap., 506,635); Cork (75,361); Dun Laoghaire (44,689); Limerick (42,987); Waterford (28,332). President, Sean Thomas O'Kelly; prime minister, John A. Costello.

**History.**—The year 1950 found the republic in a mood of increasing political realism. It was a good sign of the times that the 26 counties (Republic of Ireland) and the 6 counties (Northern Ireland) co-operated in the matter of the Erne Drainage bill, a measure that in practice leads simultaneously to the drainage of land in County Fermanagh (Northern Ireland) and the distribution of light and power in hitherto electricity-starved districts of County Donegal (Republic of Ireland). Another encouraging fact was that a single general manager was appointed for that portion of the Great Northern railway that lies in the 6 counties and for the entire railway network of the 26 counties.



The first fruits of this co-ordination were luxurious express trains between Cork and Belfast, with only one main halt, at Dublin. These improved travel facilities were, however, achieved against a background of persistent financial loss by Coras Iompair Eireann, the new transport board which had been responsible to the government alone from June 1, 1950. A contributing factor was a reduction in the number of tourists.

In trade as a whole the republic showed an adverse visible balance for the first nine months of 1950 of £65,000,000 against £52,000,000 in the same period in 1949. There was a tremendous increase in exports of bacon and ham and a notable increase in cattle and textiles. Other interesting items in the export list were the first large consignment of frozen beef to the U.S.; medical supplies to Egypt, Pakistan, Iran and South Africa; leather to the U.S.; live lobsters by air to Brussels; razor blades to Australia and many other countries; and textiles to Canada.

In the face of devaluation, and allowing for invisible exports (including the valuable income from tourists), the trade figures were encouraging. The credit of the state was high, the national debt comparatively low; and Irish government securities (including a new issue of £15,000,000 worth of 3½% exchequer bonds) were increasingly supported by Irish investors.

An economic difficulty was here as elsewhere the rising cost of living; and industrial peace, which largely thanks to the Labour court had remained almost unbroken since 1948, was again endangered. The government proposed a new cost-of-living index based on a census of family budgets but this would take time to prepare, and it was not clear whether the trade unions would hold their hand. Otherwise, the government seemed in no immediate danger for at least the remaining two years of its term of office. There was much public apathy about party politics in 1950.

Tremendous public interest was aroused by a legal issue in which a Protestant father and a Roman Catholic mother disputed the custody of their children. The ruling, in which the supreme court upheld the finding of the high court, was contrary to common law as hitherto administered and was based on certain clauses in the constitution of 1937. The decision created uneasiness in Protestant circles, which feared the substitution of canon for civil law.

Other highlights were the raising of the status of the Irish high commissioner in London to that of ambassador (the new ambassador was F. H. Boland, formerly an official of the department of external affairs) and the meeting in Dublin of the Inter-Parliamentary union with delegates from 33 nations. The minister for external affairs, Sean MacBride, continued to play an active part in the affairs of the Organization for European Economic Cooperation and the Council of Europe. The Irish News agency, set up by act of parliament as a statutory company, started in July to collect and distribute news in Ireland and abroad. Offices were opened in London and others were being opened in New York.

In spite of one of the worst summers in living memory, a surprising amount of the harvest was saved. But the saving of it showed that the agricultural industry was dangerously undermanned and the drift to the towns, particularly to Dublin, still remained one of two basic Irish problems; the other was emigration to Britain. Nevertheless, the income of the farming community had trebled since 1938, and industrial production had risen by 40% in the same period. (D. L. I.)

**Education.**—Schools (1948-49): elementary 4,922, pupils 446,082, teachers 12,612; secondary 408, pupils 45,406. Universities 2 (the National university has 3 constituent colleges), students 7,221; professors and lecturers 495.

**Finance and Banking.**—Budget: (1949-50) revenue £74,000,000, expenditure £76,700,000; (1950-51 est.) balanced at £75,700,000. Na-

tional debt (March 1949): £113,000,000. Currency circulation (Sept. 1950): £54,500,000. Gold and foreign exchange (Sept. 1950): U.S. \$213,000,000. Bank deposits (quarterly average, April-June 1950): £247,000,000. Monetary unit: Irish pound at par with the pound sterling and with an exchange rate of £1=2.80 U.S. dollars.

**Foreign Trade.**—(1949) Import £129,800,000; export £60,500,000. Main sources of imports (1949): Great Britain 55.3%; U.S. 14.3%; the Netherlands 2.4%. Main destinations of domestic exports: Great Britain 77.1%; Northern Ireland 13.9%; the Netherlands 2.3%. Main imports: textiles (excluding apparel) 13.5%; machinery, electrical goods and apparatus 9.0%; nonmetalliferous mine and quarry products 8.7%; cereals and feeding stuffs 7.9%. Main domestic exports: live animals 46.0%; foodstuffs of animal origin 22.7%; drink 8.5%.

**Transport and Communications.**—Roads (1949) 49,071 mi. Licensed motor vehicles (Dec. 1949): cars 71,911; commercial 37,085. Railways (1949): 2,463 mi.; freight net ton miles 313,000,000; freight carried 4,536,000 tons. Air transport (Aer Lingus, 1948-49): miles flown 2,564,792; passengers carried 170,501; cargo (metric tons) 1,299; mail (metric tons) 91. Telephone subscribers (Sept. 1949): 42,337. Radio receiving set licences (1949): 279,275.

**Agriculture.**—Main crops (metric tons, 1949): wheat 367,000; oats 568,000; barley 162,000; rye 4,000; potatoes 2,735,000; sugar, raw value 90,000. Livestock (June 1949): cattle 4,127,000; sheep 2,182,000; pigs 675,000; horses 402,000; mules 5,000; chickens 18,524,000; turkeys 1,159,000; geese 750,000; ducks 1,062,000. Wool production, greasy basis (1949): 7,000 metric tons. Food production (metric tons, 1949): meat 125,000; milk 2,158,000; butter (co-operative creameries only) 35,000; cheese 3,400. Fisheries: total catch 25,900 metric tons in 1948, and 18,200 metric tons in 1949.

**Industry.**—Persons employed in industrial establishments (1948) 197,550. Fuel and power (1949): coal consumption 115,000 metric tons; manufactured gas 146,000,000 cu.m.; electricity 757,000 kw.hr., peat (1948) 3,631,000 metric tons. Total new houses built under state-aid (1949) 6,456. Index of industrial production (1949): 139 (1937=100).

**Irish Free State:** *see* IRELAND, REPUBLIC OF.

**Iron and Steel.** For convenience in coverage, this subject is subdivided under its three major headings—iron ore, pig iron and steel.

In general, it may be said that by 1948 the world iron and steel industry had surpassed the 1939 level, and in 1950 would apparently exceed the peak of the war period.

**Iron Ore.**—The gain in world output in 1949 was small because of a heavy decrease in the United States, which, however, was partly offset by gains in France and Great Britain. Table I shows the outputs of countries producing 1,000,000 tons or more a year. The countries listed usually account for 80%-85% of the world total.

Table I.—World Production of Iron Ore

	(In thousands of short tons)					
	1945	1946	1947	1948	1949	1950*
United States . . . . .	98,982	79,344	104,263	113,124	95,130	119,200
Canada . . . . .	1,135	1,581	1,919	1,337	3,830	3,480
Newfoundland . . . . .	1,103	1,393	1,617	1,644	?	?
Brazil . . . . .	789	1,102	1,022	1,589	?	?
Chile . . . . .	1,042	1,491	1,772	2,806	2,863	3,050
Austria . . . . .	357	520	976	1,320	1,640	1,920
Czechoslovakia . . . . .	304	1,230	1,502	1,575	1,550?	?
France . . . . .	8,502	17,893	20,634	25,363	34,639	31,900
Germany . . . . .	?	4,564	4,920	8,021	10,044	11,600
Great Britain . . . . .	15,902	13,634	12,422	14,660	15,014	14,300
Luxembourg . . . . .	1,550	2,477	2,196	3,749	4,561	4,130
Spain* . . . . .	1,291	1,760	1,669	1,798	1,996	2,300
Sweden . . . . .	4,332	7,570	9,805	14,647	15,500	14,400
U.S.S.R. . . . .	20,000?	23,000?	26,000?	?	?	?
India . . . . .	2,536	2,697	2,798	2,559	?	?
Japan . . . . .	1,495	624	550	612	859	890
Korea . . . . .	933	83	103	?	9	?
Algeria . . . . .	1,326	1,842	1,715	2,065	2,798	2,270
Morocco, Spanish . . . . .	832	868	958	997	1,040	?
Sierra Leone . . . . .	926	817	941	1,067	?	?
South Africa . . . . .	885	1,044	1,281	1,283	1,375	1,130
Australia . . . . .	1,750	2,046	2,414	?	2,400?	?
Total . . . . .	179,000	169,000	205,000	238,000	240,000	?

\*Incomplete data; annual rate maintained during the months for which data were available.

The available data for 1950 do not indicate much change from 1949, except in the United States.

**United States.**—The more important statistics of iron ore in the United States are shown in Table II, as reported by the U.S. bureau of mines.

The sharp drop in production in 1949 was largely the result of strikes in the steel and coal industries. Production was more



normal in 1950, the total for the first ten months being 99,344,553 short tons.

Table II.—Production of Iron Ore in the United States

	(In thousands of short tons)					
	1944	1945	1946	1947	1948	1949
<b>Crude ore</b>						
Production . . . . .	124,343	119,070	94,298	127,649	141,372	117,433
Open-pit . . . . .	92,281	88,407	71,522	95,900	110,876	87,542
Underground . . . . .	32,061	30,663	22,776	32,870	30,496	29,891
Shipments . . . . .	125,522	119,324	94,064	127,589	141,259	117,015
To consumers . . . . .	83,150	76,153	60,377	79,813	85,846	71,138
To concentrators . . . . .	42,372	43,170	33,686	47,775	55,415	45,877
<b>Usable ore</b>						
Production . . . . .	105,412	98,982	79,344	104,263	113,124	95,130
Shipped direct . . . . .	82,051	75,901	60,496	79,557	86,108	71,646
Concentrated . . . . .	18,646	18,831	15,455	19,105	21,342	18,382
Sintered . . . . .	4,050	3,670	2,825	4,893	5,136	4,501
Haematite . . . . .	97,134	91,050	73,616	94,680	101,569	85,414
Brown ore . . . . .	1,365	1,056	769	1,346	2,437	1,731
Magnetite . . . . .	6,248	6,295	4,391	7,629	8,581	7,384
Shipments . . . . .	106,512	98,713	78,501	104,513	112,921	94,849
Imports . . . . .	519	1,337	3,159	5,491	6,842	7,663
Exports . . . . .	2,417	2,311	1,687	3,144	3,451	2,716
Consumption . . . . .	111,936	96,498	80,836	107,650	112,539	99,924

**Canada.**—The Canadian output, which includes that of Newfoundland, was 3,675,096 short tons in 1949, of which 2,550,299 tons were exported. To supply the domestic demand, however, 2,517,235 tons were imported. Through July 1950 output was 1,479,481 tons, as compared with 1,631,817 tons in the same period of 1949.

**Pig Iron.**—The outputs of pig iron and ferroalloys in countries producing 1,000,000 tons or more are shown in Table III. These countries usually account for about 95% of the world total.

Table III.—World Production of Pig Iron

	(In thousands of short tons)					
	1945	1946	1947	1948	1949	1950*
Australia . . . . .	1,257	979	1,268	1,384	1,166	1,420
Austria . . . . .	107	64	307	676	1,923	940
Belgium . . . . .	810	2,382	3,105	4,340	4,126	3,770
Canada . . . . .	1,956	1,521	2,120	2,372	2,366	2,430
Czechoslovakia . . . . .	635	1,058	1,569	1,822	2,067	?
France . . . . .	1,320	3,852	5,393	7,230	9,210	7,320
Saar . . . . .	?	272	720	1,250	1,743	1,720
Germany . . . . .	1,238	2,568	2,769	6,206	8,443	10,100
Great Britain . . . . .	7,960	8,692	8,457	10,389	10,640	9,650
India . . . . .	1,570	1,632	1,728	1,647	1,760	1,525
Japan . . . . .	1,085	233	405	922	1,766	2,200
Luxembourg . . . . .	349	1,504	2,004	2,896	2,614	2,970
Poland . . . . .	252	800	956	1,249	?	?
U.S.S.R. . . . .	9,600	11,000?	12,500?	14,000?	16,500?	?
United States . . . . .	54,956	46,323	60,141	61,966	48,673	65,300
Total . . . . .	87,000	87,000	111,000	124,500	127,000	?

\*Incomplete data; annual average maintained during the months for which data are available.

In spite of the heavy drop in the United States, the 1949 total increased, mainly because of advances in France and Germany. In 1950, as judged by the first three quarters, declines in Belgium, France and Great Britain were largely offset by small gains elsewhere, leaving most of the United States increase to boost the total.

**United States.**—The salient data on pig iron and ferroalloys in the United States are shown in Table IV, as reported by the U.S. bureau of mines.

Table IV.—Data on Pig Iron and Ferroalloys in the U.S.

	(In thousands of short tons)					
	1944	1945	1946	1947	1948	1949
<b>Pig Iron</b>						
Production . . . . .	61,004	53,224	44,842	58,327	60,073	53,323
Shipments . . . . .	60,996	53,265	45,076	58,368	60,051	52,219
Imports . . . . .	6	21	14	33	222	100
Exports . . . . .	162	91	96	40	7	81
Consumption . . . . .	60,952	53,187	45,072	58,291	60,026	53,447
Castings . . . . .	6,818	6,567	6,611	8,096	7,849	6,944
Open-hearth . . . . .	48,281	41,683	34,608	45,338	47,267	41,783
Bessemer . . . . .	5,583	4,751	3,723	4,712	4,778	4,612
Electric . . . . .	240	163	113	127	132	108
<b>Ferroalloys</b>						
Production . . . . .	1,894	1,732	1,481	1,814	1,893	1,544
Shipments . . . . .	1,861	1,662	1,551	1,842	1,952	1,425
Ferromanganese . . . . .	715	610	492	615	659	560
Spiegeleisen . . . . .	155	158	112	124	109	54
Ferrosilicon . . . . .	687	616	614	766	819	590
Others . . . . .	304	278	333	336	365	221

After having been heavily reduced by strikes in 1949, blast furnace production came back to more normal levels in 1950, the

total through October being 54,404,297 tons, of which 53,850,996 tons were pig iron and 553,301 tons ferroalloys.

**Canada.**—Blast furnace production was 2,371,568 tons in 1948 and 2,365,955 tons in 1949, of which 2,154,352 tons were pig iron and 211,603 tons ferroalloys. Operations continued at about the same level in 1950 with 149,314 tons of ferroalloys and 1,903,262 tons of pig iron in the first ten months.

**Steel.**—The steel production of countries having outputs of 1,000,000 tons or more is shown in Table V. The countries listed usually account for 95%–98% of the world total.

Table V.—World Production of Steel

	(In thousands of short tons)					
	1945	1946	1947	1948	1949	1950*
Australia . . . . .	1,565	1,228	1,511	1,296	1,310	1,550
Belgium . . . . .	826	2,532	3,177	4,292	4,209	3,840
Canada . . . . .	2,878	2,327	2,946	3,200	3,187	3,390
Czechoslovakia . . . . .	1,045	1,839	2,520	2,921	3,200	?
France . . . . .	1,831	4,859	6,319	7,984	9,930	9,100
Saar . . . . .	?	321	780	1,354	1,937	1,730
Germany . . . . .	322	3,128	4,151	6,129	10,093	12,000
India . . . . .	1,515	1,457	1,412	1,350	1,393	1,580
Italy . . . . .	435	1,271	1,864	2,342	2,266	2,480
Japan . . . . .	2,295	621	1,037	1,889	3,430	5,000
Luxembourg . . . . .	285	1,428	1,890	2,704	2,504	2,380
Poland . . . . .	546	1,344	1,741	2,154	2,532	2,700
Sweden . . . . .	1,326	1,325	1,313	1,386	1,506	1,550
U.S.S.R. . . . .	13,200?	14,300?	15,400?	20,200?	23,800?	?
United Kingdom . . . . .	13,243	14,218	14,251	16,662	15,418	18,400
United States . . . . .	79,702	66,603	84,894	88,640	77,978	96,380
Total . . . . .	124,000	122,100	149,600	169,400	173,000	?

\*Incomplete data; annual rate maintained during the months for which data were available.

Outside of the United States there were few declines of importance in 1949, and these were more than offset by gains that

Table VI.—Steel Industry in the U.S.

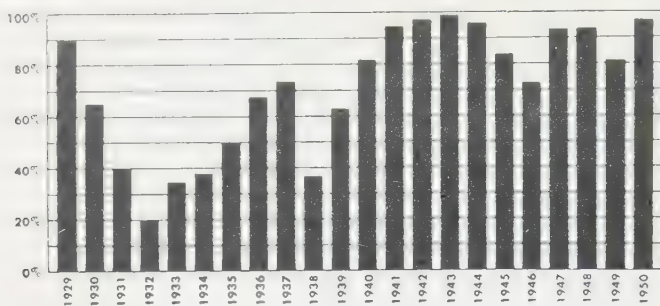
	(In thousands of short tons)					
	1944	1945	1946	1947	1948	1949
Capacity . . . . .	93,565	95,505	91,891	91,241	94,233	96,121
Production . . . . .	89,642	79,702	66,603	84,894	88,640	77,978
Basic open-hearth . . . . .	79,168	71,070	60,112	76,209	78,715	70,249
Acid open-hearth . . . . .	1,196	870	600	665	625	?
Bessemer . . . . .	5,040	4,305	3,328	4,233	4,248	3,947
Electric . . . . .	4,238	3,557	2,563	3,788	5,057	3,783
Shipments . . . . .	64,193	57,242	48,776	63,057	65,973	58,104
Domestic . . . . .	59,268	53,449	45,749	58,850	62,728	54,586
Exports . . . . .	4,925	3,793	3,027	4,207	3,245	3,518

brought the world total to a new record high. The available data for 1950 indicate a sharp advance in the world total, mostly in

FIRST INTEGRATED STEEL MILL of Chile, completed at Huachipato in 1950







STEEL PRODUCTION in the United States, 1929-50; monthly average percentage of capacity (figures compiled by American Iron and Steel Institute)

the United States.

*United States.*—The salient statistics of the industry are shown in Table VI, as reported by the American Iron and Steel institute.

The low returns of 1949, caused by the coal and steel strikes, were substantially cleared up by the end of the year, but production did not reach its full stride until the beginning of the second quarter of 1950. After that, production averaged close to 100% of capacity, and totalled 88,348,655 tons through November.

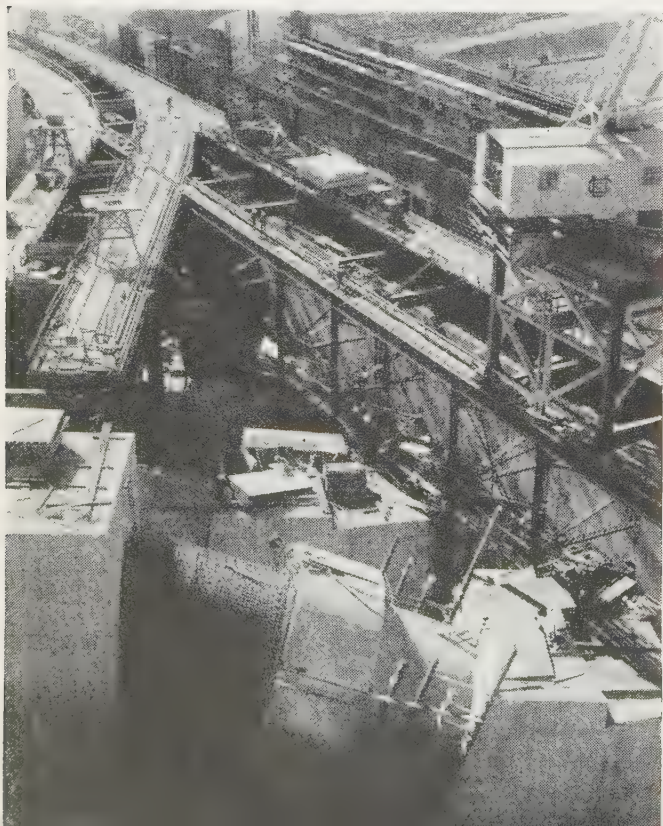
*Canada.*—Total steel output was 3,201,656 tons in 1948 and 3,186,930 tons in 1949, but advanced slightly to 2,509,473 in the first three quarters of 1950. (See also BUSINESS REVIEW; METALLURGY.)

FILMS OF 1950.—*Iron Ore Mining* (Academy Films); *Steel* (Almanac Films, Inc.). (G. A. Ro.)

**Iron and Steel Institute, American:** see SOCIETIES AND ASSOCIATIONS.

**Irrigation.** The 1950 spring water supply forecast issued by the United States department of agriculture and co-operative agencies as a result of snow surveys in the high

UPSTREAM ENCASEMENT of the Davis dam and power plant on the Colorado river, Ariz., under construction in 1950. The first unit in the power plant was scheduled for completion in 1951



mountain areas indicated that there would be plenty of water in the northwest; sufficient supply in the intermountain area and the Pacific slope; scant supply for the Rio Grande valley and Arizona. Actually in the Columbia basin, Washington, Idaho, parts of Montana, Wyoming and Oregon stream flow did not equal the amounts forecast. In Utah, at the time of the spring forecasts, water supply prospects varied from excellent in the northern and northeastern parts of the state through good in the central part to poor in the south. This forecast proved fairly accurate. In Nevada and eastern California the April 1, 1950 snow surveys found snow stored water in the Sierra was quite heavy at the higher elevations but much of the snow had melted. Low snow pack in the Humboldt had melted and high snow pack ranged from slightly below normal to slightly above. However, the irrigation season precipitation was near normal in Nevada and measured runoff was sufficient for irrigation demands.

In Arizona the 1949-50 snowfall was far below normal, and stream flow during the irrigation season was poor.

The heavy precipitation in California late in 1950 presented good prospects for much better water supplies during the 1951 irrigation season. As of mid-November there were 3,195,400 ac.-ft. of water stored in Shasta lake or in excess of 800,000 ac.-ft. more than the same time the year before. Millerton lake, created by Friant dam, had in storage 90,500 ac.-ft., or more than double the quantity held the same time in 1949.

The U.S. bureau of reclamation made record-breaking progress in multipurpose water conservation during the 1950 fiscal year to help meet demands for irrigation, industrial and domestic water supplies and hydroelectric power.

Construction work accomplished during the fiscal year amounted to more than \$277,000,000, the largest annual dollar volume in the bureau's history. The major project features finished in the year included four dams—Heart Butte dam in North Dakota, Angostura in South Dakota and Medicine Creek and Enders dams in Nebraska—on the Missouri river basin project; two dams—O'Sullivan and South Coulee—on the Columbia basin project in Washington state; the Tracy pumping plant and large segments of the Delta-Mendota and Friant-Kern canals in the Central valley project in California; and Granby dam, which forms the main reservoir on the Colorado-Big Thompson project in Colorado.

When the fiscal year ended, construction was in progress on 14 storage dams, 11 power plants, 6 pumping plants, 20 mi. of tunnels, 500 mi. of main canals and about 2,200 mi. of hydroelectric power transmission lines. Concrete lining operations on 97 mi. of the Delta-Mendota canal of the Central valley project in the San Joaquin valley (California) was completed.

At the close of the fiscal year (1950), the bureau had in operation, under construction, or authorized, 81 irrigation and multipurpose water conservation projects. Among these was the Missouri river basin project with 70 units, authorized by the Flood Control acts of 1944 and 1946. Sixty of these projects or divisions of projects were producing food supplies and electric energy, or furnishing municipal-industrial water.

Crop production on farms receiving federal reclamation water was valued at \$516,329,000, exceeding \$100 per acre. The 1949 total evaluation of the 13,225,000 tons of crops and crop returns averaged \$105 per acre for the year. Including 1949 production, the cumulative value of crops grown since irrigation water was first supplied from reclamation projects in 1906 totalled \$6,583,570,000.

The total acreage irrigated as of 1950 was 4,820,600—an increase of 261,800 ac. over the previous year.

The bill authorizing construction of irrigation canals on both the east and west sides of the Sacramento valley was



signed by the president. Before construction could begin, however, the bureau would have to complete plans and final estimates of cost and secure necessary appropriations from congress. Preliminary estimates placed the cost of the main canal system at approximately \$42,000,000 with ultimate cost of the completed distribution system to approximate \$84,000,000. About 250,000 ac. of rich Sacramento valley irrigated lands would be added to the Central valley project.

The Oakdale and South San Joaquin irrigation districts (California) were jointly proposing construction of three dams and powerhouses on the Stanislaus river to provide for increased storage of irrigation water for use in that area. The dams, by name Donnell, Beardsley and Tullock, combined would be capable of storing in excess of 230,000 ac.-ft. of water and would be equipped to generate 80,000 kw. of electrical energy. With the storage provided by the Melones dam, the total water supply of the two districts would be 351,000 ac.-ft.

The Fresno irrigation district of California, considered one of the most important districts of the state with a total area of 234,724 ac., had under gravity water service during 1950, 164,548 ac. and 4,617 ac. served by water pumped from ditches. There were 1,968 ac. with no water service (residential, pumped from wells and dry farmed). There were 55,000 ac. cropped in cotton, 81,000 ac. in grapes, 26,000 ac. in deciduous figs and 45,224 ac. in melons, field crops, pasture and alfalfa all irrigated. The average size of farms within the district was approximately 28 ac. The district owned 650 mi. of irrigation canals and leased 200 mi. of canals from farmers operating within the district. Of the total mileage, 800 mi. were in earth and 50 mi. were concrete lined. The district had no irrigation water storage reservoirs but diverted directly from the Kings river under legal water rights. The district, acting as trustee for the Kings river water users, had an application on file with the Federal Power commission to develop hydroelectric power on Kings river. The district was also working on a storage contract for space in the reservoir to be created by the Pine Flat dam, which was under construction by the U.S. army corps of engineers under authorization of the 1944 Flood Control act.

**Egypt.**—In Egypt plans were being worked out for the creation of reservoirs and the reclamation of land for agricultural use under irrigation practices. The construction of dams was under consideration by the minister of public works at Wadi el Rayan on the Nile, in the Nile delta, at Lake Tana in Ethiopia and at Merwa in Anglo-Egyptian Sudan.

The crest of Lake Victoria dam at the source of the Nile was to be raised about one metre and work on that project was to start in the immediate future. The increased height would result in an increased water supply which would be used for irrigation of large areas of desert land in Egypt and the Sudan.

On the Rosetta branch of the Nile about 30 mi. from the Mediterranean sea work on the Edfina dam was well under way. This was the first dam to be designed, planned and constructed entirely by Egyptian engineers. (See also AQUEDUCTS; DAMS; FLOODS AND FLOOD CONTROL; SOIL EROSION AND SOIL CONSERVATION.) (A. T. M.)

**Islam.** During 1950 the most important event in the life of the Islamic world was the recognition of the independence of Indonesia and its admission to the United Nations, bracketing it in importance with Pakistan (*q.v.*) from the point of view of the figure of its population of about 70,000,000. Not only did this event reinforce the Islamic world politically but also Indonesia promised to become an important centre of Moslem culture.

In Aug. 1950 a cultural conference took place at Hyderabad,

Sind, Pakistan, which stated that the cultural unity of Moslem countries could be best cemented through the instituting of Arabic as the lingua franca of Pakistan and other Moslem countries.

Turkey was the first Moslem country to have achieved the democratization of its political institutions, and this was accompanied by the further revival of religious teachings. The Turkish parliament abrogated the law about the sounding of the *azan*—the call to prayers—in Arabic. An increase in the number of Turkish pilgrims to Mecca and of Turkish students at the University of Al-Azhar in Cairo was noticeable.

The celebration of the 50th anniversary of the reign of King Ibn-Sa'ud was an appropriate occasion for summarizing the results achieved by his leadership. The organization of the pilgrimage to the holy places of Islam, the extension of the ways and means of communication and the building of many hospitals and establishments of learning were among the notable features of his reign. Many students were sent to the U.S. and Europe for higher studies.

Political and economic developments accelerated considerably cultural progress in Egypt. Free education in secondary and technical schools was introduced and the struggle against illiteracy intensified. The Egyptian feminist movement "Bint al-Nil" (the Daughter of the Nile) showed further progress under the leadership of Mme. Durriya Shafiq, the aim of which consisted in allowing the women of Egypt to play their part in accordance with the principles of Moslem religion. During Aug. 22-31 the second Arab Cultural congress was held in Alexandria, Egy., at which a series of resolutions were adopted to make the curriculum of education uniform in Arab countries.

Iran did not stay behind the other Moslem countries. To two existing universities at Tehran and Tabriz were added one at Shiraz and another at Meshed. On Oct. 2 the second Islamic International Economic congress, in which all the Moslem countries took part, was held at Tehran.

In September there was held in Tunis a convention of Moslem students from North Africa at which it was decided to ask the French authorities that the diplomas of the Moslem universities of Kairouan and al-Zeitouna should have the same status as those of the French high schools.

Islam also made efforts to look beyond its frontiers, especially in the Americas. In Washington, D.C., Los Angeles, Calif., São Paulo, Braz., and Buenos Aires, Arg., sites were bought for building mosques. In Malaya, at the invitation of Ibrahim bin 'Umar al-Sakkaf (Singapore) a conference of 77 Malayan Moslems from various parts of Malaya was held on Sept. 1 at Kuala Lumpur to found an Islamic college there. In Yugoslavia a law of Sept. 27 abolished the veiling of women. (A. Md.)

**Isle of Man:** see COMMONWEALTH OF NATIONS; GREAT BRITAIN & NORTHERN IRELAND, UNITED KINGDOM OF.

**Isotopes:** see ATOMIC ENERGY.

**Israel.** A Jewish republic in Palestine, with undefined frontiers, proclaimed on May 14, 1948, at Tel Aviv. According to a partition plan adopted on Nov. 29, 1947, by the general assembly of the United Nations, the state of Israel was to cover 5,579 sq.mi. (with Negeb); after armistices concluded with all the neighbours during 1949 the *de facto* area of Israel was estimated at about 7,800 sq.mi. According to a census of Nov. 8, 1948, this area had a population of 782,000, including 713,000 Jews; one year later the 1,000,000 mark was reached; by June 1950 the population was estimated at 1,247,000 including 1,094,000 Jews. Chief towns (pop., Dec. 1949 est.): Jaffa-Tel Aviv (more than 300,000); Haifa (150,000). Presi-





TEMPORARY SHELTER in Israel for some of the thousands of immigrants waiting for permanent housing in 1950. The arrival by air of nearly all of Yemen's 50,000 Jews was completed in September

dent of the republic: Chaim Weizmann; prime minister: David Ben-Gurion.

**History.**—The last days of 1949 and the beginning of 1950 were dominated by the excitement caused by the decision of the United Nations general assembly on Dec. 9 to establish an international regime for the city of Jerusalem (*q.v.*) and its environs. The immediate reaction of the government of Israel was to transfer the parliament (*knesset*) to Jerusalem together with the majority of the government offices, and on Jan. 23, 1950, a resolution was adopted proclaiming Jerusalem as the capital of Israel. In the succeeding months it became clear that the U.N. decision would not be implemented and it remained a dead letter.

During 1950 the growing economic problems besetting the country became more apparent and imposed increasing hardships on the population. The economic difficulties were principally the result of the growth of the adverse balance of international trade. During Jan.–Aug. 1950, for example, imports were valued at around IL.68,000,000, while exports accounted for only about IL.19,000,000, the difference having somehow to be found from gifts, loans and remittances from abroad. Recognizing that the ordinary means of raising funds, through the United Jewish appeal, the various affiliates of the World Zionist organization and other semicharitable institutions were insufficient for the enormous task which lay before it, the government adopted the bold step of summoning an economic conference in Jerusalem from Sept. 3 to Sept. 6, attended by leading Jews from the U.S., Great Britain and South Africa. The most far-reaching proposal accepted by the conference and which was put forward by Ben-Gurion, the prime minister, was that a sum of \$1,500,000,000 should be raised during the next three years in order to finance immigration and development. One-third of this sum would be raised in Israel and the remainder abroad, principally in the United States. It was envisaged that the money should come mainly from loans and investments.

The economic difficulties were also largely responsible for the country's first serious cabinet crisis, which resulted in the fall of Ben-Gurion's government on Oct. 15. The immediate cause was the prime minister's desire to make a change in the post of minister of supply, a cabinet seat which was claimed by the Religious bloc. The underlying differences, however, were

the unpopularity of the government's austerity program and the desire of the Orthodox leaders (expressed by the Religious bloc) to exercise a greater influence in the everyday life of the country. The end of the crisis, which lasted 17 days, owed much to pressure from U.S. Jewry which was at that moment making a strenuous effort to put the country economically on its feet. The consequence was the formation of Ben-Gurion's second administration, which, very little different from his first, took office on Nov. 1. On Dec. 26 the Export-Import Bank of Washington announced a new loan of \$35,000,000 to Israel for agricultural development.

In the field of foreign affairs the overriding fact was the continuing unsatisfactory state of Israel's relations with its Arab neighbours. The hopes that prevailed in January at the conference that took place at Geneva under the auspices of the U.N. Palestine Conciliation commission that a treaty would be signed with Jordan (*q.v.*) were not fulfilled and on July 10 the commission announced the failure of its mediation efforts. Further attempts were made to bring the parties together but without success. With a view to lessening the danger of an armament race developing in the middle east, Great Britain, France and the U.S. announced on May 25 certain steps which they were taking to check the flow of arms to Israel and the Arab states.

As tension between east and west increased Israel showed more clearly, in spite of every attempt to remain aloof from the conflict, that its attachments were with the west. On Sept. 10, the U.N. accepted the government's offer to dispatch medical supplies to the U.N. forces in Korea. By the end of November, 61 countries had accorded recognition to the state of Israel, including India, which took this step on Sept. 17. (See also IMMIGRATION AND EMIGRATION.) (D. F. K.)

**Education.**—(1949) Jewish schools: kindergarten 644, teachers 927, pupils 22,894; elementary 447, teachers 3,916, pupils 85,585; secondary 38, teachers 704, pupils 10,498; technical 24, teachers 230, pupils 2,096; special 2, teachers 7, pupils 172; teachers' training colleges 9, teachers 176, pupils 1,166; institutions of higher education 4; Hebrew university (Jerusalem), professors and lecturers 208, students 1,500. Non-Jewish schools: elementary 45, teachers 165, pupils 7,091; secondary 1, teachers 11, pupils 404.

**Finance and Banking.**—Budget (1949–50 est.) revenue IL.46,400,000, expenditure IL.48,000,000. Currency circulation (Sept. 1950) IL.69,700,000. Monetary unit: Israeli pound at par with pound sterling and with an exchange rate IL.1 (Israeli pound) = \$2.80.

**Foreign Trade.**—(1949) Imports IL.87,700,000; exports IL.10,200,000. Main sources of imports (1949): U.S. 31.3%; U.K. 9.3%; Canada 3.8%. Main destinations of exports: U.K. 53.8%; U.S. 15.6%; the Netherlands 6.7%. Main imports: machinery 11%; grain and flour 8.5%; aircraft, ships and vehicles 7.6%; iron and steel manufactures 5.8%. Main exports: food, drink and tobacco 73.3%; manufactured goods



25.6%.

**Transport and Communications.**—Roads (1949) 1,194 mi. Licensed motor vehicles (Dec. 1949): cars 8,000; commercial 13,000. Railways (1949): 438 mi.; freight net ton-miles 15,000,000; freight carried 390,000 metric tons. Shipping (Dec. 1949): merchant vessels 27; total tonnage 78,649. Air transport (1949): passenger arrivals 70,706; passenger departures 23,215; freight incoming 293,416 kg.; freight outgoing 159,717 kg.; air mail dispatched abroad 55,680 kg. Radio receiving set licences (1949) 143,907.

**Agriculture.**—Main crops (metric tons, 1948): wheat 16,000; barley 9,000; maize and durra 10,400; oats 1,000; potatoes 26,000; tobacco 600; vegetables 2,500; grapes 17,800; olives (1949) 1,200; bananas (1948-49) 3,500; other fruits (1948-49) 7,400. Livestock: cattle 33,000; sheep and goats 23,000; horses and mules 5,000; asses 2,000; turkeys 17,000; ducks and geese 22,000; chickens 2,369,000. Fisheries, total catch (1948-49): weight 3,500 metric tons; value L.L.1,583,900.

**Industry.**—Electricity (1949) 329,000,000 kw.hr. Manufactured goods (metric tons, 1949): cement 241,000; refined oils 10,600; margarine 7,300; soap 5,400; flour 96,800; beer 8,936,500 l.; wine 6,500,800 l.

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**Italian Colonial Empire:** see ERITREA; LIBYA; SOMALILAND.

**Italian Literature.** The widespread tendency in Italian fiction to depict nature and life as they exist in a given city district or in remote villages and farms, particularly of southern Italy, stems back directly to Verga and Pirandello. Kept alive during the fascist period by I. Silone, Elio Vittorini and Carlo Levi, strengthened by the popularity of U.S. novelists, especially those concerned with the south, this trend was given fresh impetus by the new social consciousness of the present generation of Italian writers who feel that the artist has a moral and social mission, that he must partake actively in the life of his own society in order to portray it. People being largely the result of nature and environment, these vital elements must occupy a prominent place in the novel. Documentary by nature, this type of fiction is broadly classified as neorealistic.

The new writers to win distinction in this field in 1950 included Romualdo Romano, winner of the newly established Hemingway prize, who, in *Sciocco*, painted a graphic picture of the corrosively boring life of a remote Sicilian mountain village during three windswept days; Luigi Incoronato, whose choral novel *Scala a San Petito* was set in one of those steep, narrow, winding alleys of the Naples slums; and Elio Bartolini who, in *Icaro e Petronio*, described against a backdrop of life along Italy's eastern frontier the bitter feud between two wheat smugglers. In the same vein was Carlo Bernari's *Speranzella*, a colourful picaresque novel of primitivism, innocence, politics and graft in an off-limit section of postwar Naples. Unrelated to the neorealistic movement yet focused on the ageless feudal problems that plague Calabria was Gian Paolo Callegari's historical novel *I baroni*.

Eluding classification was Carlo Levi's *L'Orologio*, an array of portraits, descriptions and disquisitions combining the skills of the painter, the poet, the essayist and the journalist. Equally difficult to catalogue was *Furor mathematicus*, a collection of writings on the most heterogeneous subjects by Leonardo Sinigalli, poet, mathematician and engineer.

The artistic charms of town and region furnished striking settings for Marino Moretti's *Il pudore*, the pathetic story of an uprooted boy and girl, reared in Ravenna, Forlì and Urbino; for Francesco Brundu's *Il salto delle pecore matte*, the tale of a provincial Sardinian caught in the maze of Roman bureaucracy; and for Carlo Coccioli's *Il giuoco*, whose characters struggle against fate in ancient and lovely Urbino.

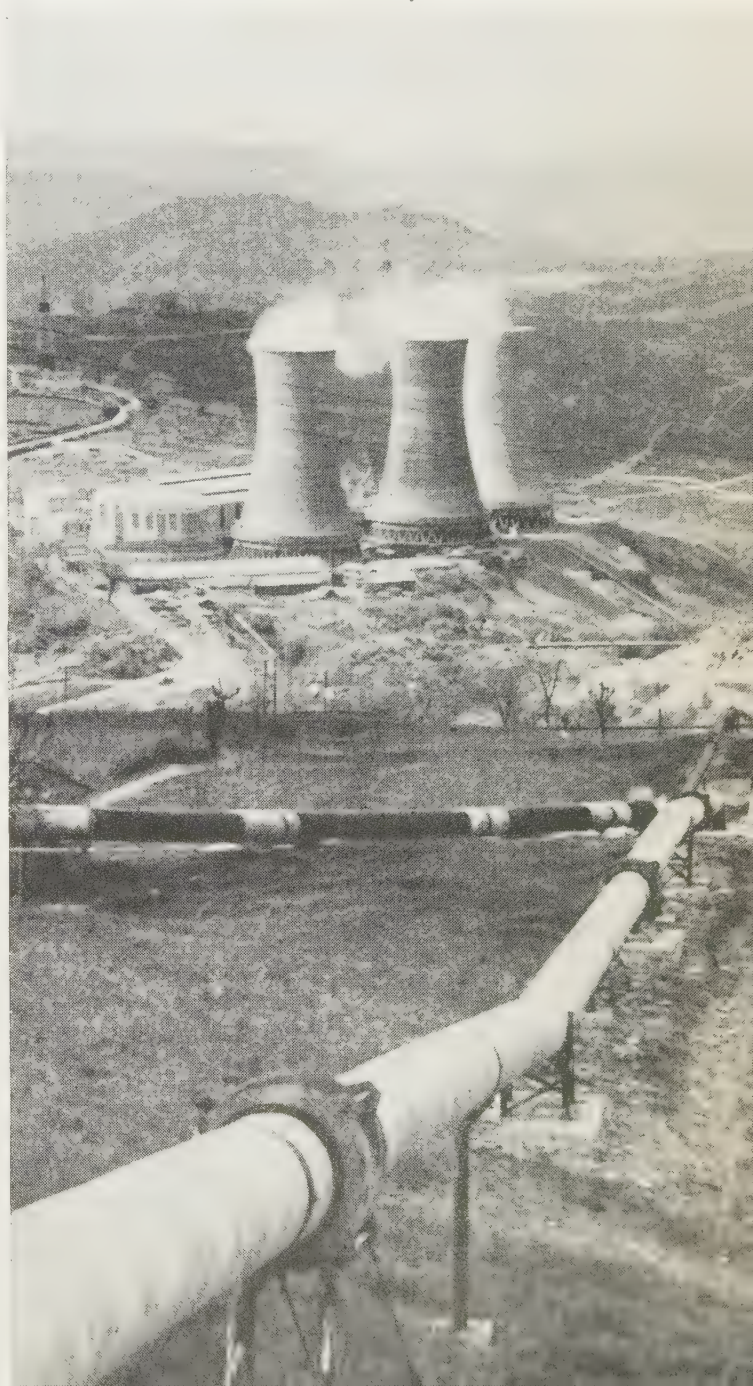
Close scrutiny into man's soul, his psychology and moral problems characterized Bonaventura Tecchi's *Valentina Velier*, Guglielmo Petroni's *La casa si muove*, Carlo Coccioli's *Il cielo e la terra* and Michele Prisco's *Gli eredi del vento*.

Poets of repute continued to exploit the forms already evolved while new poets reflected their influence. Noteworthy publications included Giuseppe Ungaretti's *La terra promessa*, Salvatore Quasimodo's *La vita non è sogno*, Giorgio Vigolo's *Linea della vita*, Alfonso Gatto's *Nuove Poesie 1941-49*, Sergio Solmi's *Poesie*, Diego Valeri's *Lungo Tempo* and Alessandro Parronchi's *Un'attesa*.

The end of the literary year was marked by the publication of *Cinquanta anni di vita intellettuale italiana (1896-1946)*, two volumes of essays by 32 Italian intellectuals on various aspects of Italian cultural life, presented to Benedetto Croce on his 80th birthday. (M. F. C.)

**Italy.** A republic of southern Europe, bounded on land north-west by France, north by Switzerland and Austria and northeast by Yugoslavia, Italy includes not only the whole of the Apennine peninsula, but also the large Mediterranean islands

**VOLCANIC POWER PLANT** at Larderello, It., which was being rebuilt and enlarged in 1950 to utilize its new source of energy. Power was generated by harnessing steam created by rain water as it came in contact with the hot lava of an unborn volcano beneath the Larderello valley





of Sicily and Sardinia and a number of smaller islands. Area: 116,224 sq.mi., excluding Venezia Giulia, Zara and the islands (2,843 sq.mi.) ceded to Yugoslavia, the five small areas in the Alps ceded to France (273 sq.mi.) and the free territory of Trieste (*q.v.*). Pop.: (mid-1949 est.) 46,001,000. Language: mainly Italian. Religion: mainly Roman Catholic. Chief towns (pop., 1948 est.): Rome (cap., 1,613,660), Milan (1,277,013); Naples (995,257); Turin (719,528); Genoa (657,634); Palermo (470,780); Florence (377,203); Bologna (329,964); Venice (308,677). President: Luigi Einaudi; prime minister: Alcide de Gasperi (*q.v.*).

**History.**—On Jan. 12, 1950, the sixth De Gasperi cabinet, which had dragged out a rather uncertain existence after the Socialists had left it on Oct. 31, 1949, resigned. The president of the republic immediately asked De Gasperi to form a new government which he succeeded in doing by the end of the month. His seventh cabinet differed from its predecessor in certain minor ways. It had, for instance, no Liberal members, since the Italian Liberal party was too conservative to approve of the prime minister's plans for agrarian reform. On the other hand, two of the most progressive Christian Democratic ministers, Amintore Fanfani and Giorgio la Pira, left office, and the small Republican contingent of ministers was reinforced by the appointment of Ugo la Malfa, a financial expert, as minister without portfolio to co-ordinate the activities of state-controlled economic concerns.

**Communists and Fascists.**—The country was in a state of considerable turmoil which was fundamentally due, as ever, to overpopulation and the sharply uneven distribution of wealth. On Jan. 9, immediately before the government's resignation, there had been a typical crisis at Modena, one of the "red" towns of Emilia. Working people had demonstrated against the management of a metallurgical factory which, after closing for 34 days, had reopened with 250 employees instead of 565. The police intervened, and there were six killed and a good many injured among the demonstrators. The incident aroused indignation far beyond Modena; there were strikes and further clashes, and finally the factory agreed to reinstate the men who had been dismissed.

The Communist party and the still powerful General Confederation of Labour (C.G.I.L.) directed by the Communist leader Giuseppe di Vittorio made fresh efforts to exploit the position, more particularly in order that the Holy Year pilgrims should see the country disturbed. Toward the end of February an economic conference took place under Communist auspices at which a plan was put forward for the immediate engagement of 700,000 men on development work to be financed by credit and currency expansion; great play was made with this proposition by contrast with government credit policy. On March 21 two workers were shot and killed by the police at an unauthorized demonstration at the village of Lentella in the Abruzzi. The Communists immediately called a 12-hour strike from 6 A.M. on March 22 throughout Italy, which led to disturbances all over the country.

A large part of the population was naturally exasperated by the Communists' tactics. This accelerated the revival of fascism which had been marked in Jan. 1950 by the appointment of Count Alberto de Mersanich, a former Mussolinian official, as leader of the now frankly fascist M.S.I. (Movimento Sociale Italiano). Although fascism was still legally forbidden, fascist ideas became more and more popular among students and schoolboys, and groups of M.S.I. *squadristi* became openly active and were sometimes paid by employers to support their resistance to labour demands. On Nov. 21 the cabinet approved a draft bill modifying the methods used to repress neofascist activities.

**Industrial Unrest.**—A large sector of Italian heavy industry and especially the Milan and Genoa former armament and ancil-

lary concerns had ever since the end of World War II been economically impossible to rationalize and socially impossible to close down. On May 13 the government announced its decision to wind up the Mechanical Industries fund (F.I.M.) through which these concerns had been kept going. Although some European Recovery program money was to be substituted, this led to the long-threatened closing down of a series of factories. The Ansaldo shipyards at Genoa dismissed more than 4,000 people in September; altogether at least a tenth of the Genoese population was directly affected by dismissals at this time. Other factories in Milan and at Savona also dismissed large numbers.

After what had seemed like endless quarrels and negotiations between employers and all three groups of trade unions, an agreement was reached in the middle of October by which disputed cases of dismissals were to be submitted to a new board of conciliation representing both capital and labour and established experimentally until Dec. 1951. When the discussions on wages broke down on Nov. 11, this was followed by a strike on Nov. 14 which was backed by the C.I.S.L. (Confederazione Italiana dei Sindacati dei Lavoratori) as warmly as by the C.G.I.L. An agreement on wages was however reached in December.

Despite all difficulties production tended to rise even during the first half of the year, before, that is, the large-scale rearmament of western Europe following the outbreak of war in Korea. Unemployment figures somewhat diminished, although in view of the intricacies of computing underemployment in Italy it was always hard to be sure of the basis upon which such calculations were made.

In the textile industries, however, there was something like depression. This was known to be largely attributable to the lightheartedness with which Italian textile manufacturers, who had made big profits immediately after the war, had nevertheless failed to reinvest in the improvement of their plant. Both Communists and Economic Cooperation administration representatives and indeed critics on all sides blamed both government and individual manufacturers for their failure to invest more in capital equipment. Although on April 5 Giuseppe Pella, the minister of the treasury, had announced the further reduction of the bank rate from 4½% to 4%, ECA officials complained that the policy of the Italian government was still so deflationary as to wither the country's economic potentialities; at one time or another they objected to the failure to utilize available funds or to the high proportion devoted to importing foodstuffs rather than to bold investment. This criticism reached a climax in October when Leon Dayton, the recently appointed chief of the ECA mission in Italy, gave voice to it in a number of public pronouncements.

**The Land Reform.**—The Italian government's most notable achievement in 1950 was made in the direction of land reform. In the middle of March De Gasperi announced a ten-year plan with provision for the necessary funds for the relief of unemployment in, and the development of, the most backward areas of the country; the project was in due course to incorporate a measure of land redistribution such as to reduce the area of large neglected estates for the benefit of peasants hitherto without land of their own. This agrarian reform was to be carried out in three stages. The first of these involved the establishment of 1,000 or more peasant families from the wretched Ionian coast of Calabria on the near-by and fertile but uninhabited Sila plateau. This project was drawn up in Jan. 1950 and was approved by the senate in March and by the chamber of deputies in May; on Sept. 24 the first 30 peasant families received small farms in time for the autumn sowings, on a 30-yr. instalment system. Altogether the Sila plateau was expected to provide about 3,750 ac. for about 400 families.

The second stage of land reform concerned the depressed areas



of Italy as a whole, mainly, but not only, in the south and in Sicily and Sardinia. By Oct. 12 both chambers had approved the transfer of about 1,750,000 ac. of land in these regions. This land was to be taken from the largest and least productive estates by June 30, 1951; the former owners were to receive compensation according to the taxable value of the land; its development was to be financed out of the funds put aside for the implementation of the ten-year plan. The third stage of land reform was expected to lead to the transfer of nearly 2,000,000 ac. more in all parts of the country at a future date.

**Foreign Policy.**—De Gasperi and Count Carlo Sforza, the foreign minister, continued to conduct Italian foreign policy along the path of close co-operation with western Europe and above all with the United States, the fount of Italy's economic life.

In Africa Italy assumed the United Nations trusteeship over its former colony of Somaliland on April 1, 1950, for a period of ten years. This return did something to allay Italian soreness over the fate of the prefascist Italian empire. (See also ERITREA; LIBYA; SOMALILAND, ITALIAN.) (E. Wl.)

**Education.**—Schools (1947-48): elementary 38,123, pupils 4,835,566, teachers 215,501; secondary 1,188, pupils 373,608, teachers 30,568; technical secondary 2,143, pupils 310,320, teachers 27,483. Universities and institutions of higher education 27, students 180,134, professors and lecturers 3,674.

**Finance and Banking.**—Budget: (1949-50 actual) revenue 1,280,483,000,000 lire, expenditure 1,578,849,000,000 lire; (1950-51 est.) revenue 1,285,808,000,000 lire, expenditure 1,462,034,000,000 lire. National public debt (May 1950): 2,323,205,000,000 lire. Currency circulation (Aug. 1950): 984,300,000,000 lire. Gold and foreign exchange (June 1950): U.S. \$898,000,000. Bank deposits (June 1950): 1,303,900,000,-

000 lire. Monetary unit: lira (pl. lire) with exchange rate of 625 lire to the dollar.

**Foreign Trade.**—(1949) Imports 855,062,000,000 lire; exports 632,567,000,000 lire. Main sources of imports (1949): U.S. 35.2%; Australia 5.6%; Argentina 5.3%; Germany 4.4%. Main destinations of exports (1949): Argentina 12.3%; U.K. 10.6%; Germany 8.4%; France 5.7%. Main imports (1949): cereals and flour 19.6%; coal and coke 11.5%; raw cotton 10.8%; wool 8%; petroleum and products 6.2%. Main exports (1949): cotton yarn and manufactures 14.3%; fruit and vegetables, fresh and canned, 13.4%; machinery 11.8%; rayon and staple manufactures 10.2%; vehicles 7.6%.

**Transport and Communications.**—Roads (1949): 105,987 mi. Licensed motor vehicles (Dec. 1949): cars 266,928; commercial 213,849. Railways (1949): 13,377 mi.; passenger-miles 12,787,000,000; freight carried 39,000,000 metric tons. Shipping (July 1949): number of merchant vessels over 100 gross tons 1,025; total tonnage 2,444,965. Civil aviation traffic (1949): passengers departing and arriving 632,700; cargo loaded and unloaded 23,400 tons. Telephones (1948): subscribers 658,813. Radio receiving set licences (1949): 2,543,000.

**Agriculture.**—Main crops (metric tons, 1949): wheat 6,940,000; maize 2,202,000; barley 227,000; oats 415,000; rice, paddy 591,000; rye 125,000; potatoes 2,640,000; sugar, raw value 483,000; hemp 72,200; linseed 11,000; tobacco 60,000; grapes (1950) 5,906,000; olives 1,090,000; fresh figs 402,000; tomatoes 1,075,000. Citrus fruits (metric tons, 1948): oranges and tangerines 410,000; lemons, limes, grapefruit and other 284,000. Olive oil (1949): 179,000 metric tons. Wine production (1949): 35,825,400 hl. Livestock: cattle (July 1949) 8,300,000; sheep (July 1949) 10,100,000; pigs (Jan. 1948) 3,757,000; horses (1948) 720,000; donkeys (1949) 547,000; mules (Jan. 1948) 301,000. Wool production greasy basis (1949): 16,000 metric tons. Meat production (1949): total 230,000 metric tons. Fisheries, total catch (1949): 15,200 metric tons.

**Industry.**—Fuel and power (1949): coal 1,104,000 metric tons; lignite 833,000 metric tons; manufactured gas 1,584,000,000 cu.m.; electricity 20,784,000,000 kw.hr. Raw materials (metric tons, 1949): iron ore, metal content, 521,000; lead ore 58,000; zinc, smelter production, 26,400; pig iron 445,000; steel ingots and castings 2,052,000; manganese ore 24,000; bauxite 105,000. Manufactured goods (metric tons, 1949): cement, 90% of total production, 4,032,000; cotton yarn 209,000; rayon filament yarn 49,900; rayon staple fibre 36,200; jute yarns (1948) 50,000; wool yarns (1948) 41,000; all types of paper and cardboard (1949) 408,000. Production of automobiles (1949): 86,954. Index of industrial

ITALIAN PEASANTS hacking away at neglected soil in the Calabria district of Italy in 1950 during a series of protest actions by landless and unemployed peasants demanding redistribution and reclamation of potentially arable land





production in 1949 (1938=100); general index 104; mining 107; manufacturing 98, of which textiles 99; timber 57; paper 86; rubber 115; chemicals 101; petroleum and coal products 165; metallurgy 92; electricity and gas 135.

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**FILMS OF 1950.**—*Art and Life in Italy, The Italian Peninsula* (Coronet Instructional Films); *Florence* (Cornell Associates); *Italian Children, Pompeii and Vesuvius* (Encyclopædia Britannica Films, Inc.).

**Ivory Coast:** see FRENCH UNION; FRENCH WEST AFRICA.

**Jamaica.** A British colony and dependencies, the colony being the largest of the British West Indian islands. Dependencies: Cayman Islands (100 sq.mi.; pop. 1949 est., 7,000) and Turks and Caicos Islands (166 sq.mi.; pop. 7,000), with local legislatures and a large degree of internal autonomy. Area (colony): 4,411 sq.mi. Pop. (1943 census) 1,237,063; (1949 est.) 1,373,000, mainly of African descent. Chief towns (pop. 1943 census): Kingston (cap., 109,056); Spanish Town (12,007), Montego Bay (11,547). Governor at the end of 1950 Hugh Mackintosh Foot.

**History.**—The Labour party, led by W. A. Bustamante, in 1950 retained its working majority in the house of representatives and debate by the house on proposals for a revision of the constitution granted in 1944 was deferred.

During the year, a bill providing for land taxation on unimproved value was introduced in the legislature. An important agricultural development was the acceptance by the Jamaica Agricultural society, a quasi-government organization, of the government's proposals that the society's extension services should be integrated with those of the agricultural department. The approval of the legislature to this arrangement was to be sought.

Industrial development continued. A law was enacted to provide special concessions, relating chiefly to income tax and customs duties, to companies engaged in the production of bauxite. Reynolds Metals, Ltd., representing United States interests, began extensive preliminary work on the erection of a pier for shipment of ore and on the provision of mining installations; while Jamaica Bauxite, Ltd., a subsidiary of the Aluminum Company of Canada, also proceeded with preparatory work. Work began on a cement factory. The tourist trade continued to be a large dollar-earner, and all hotels enjoyed good seasons.

During 1950 a first issue of £500,000 premium bonds to finance agricultural and industrial development met with a very good response. In October arrangements began for the establishment of observation posts in the Turks and Caicos Islands for use in connection with the Anglo-United States project at Cocoa, Fla., for the development of guided missiles.

**Finance and Trade.**—Currency: pound sterling with local notes. Budget (1950 est.): revenue £10,356,594; expenditure £10,491,757. Foreign trade (1949): imports £19,225,539; exports £12,137,496. Principal exports: sugar, rum, bananas, citrus, tobacco. (P. H.-Mv.)

**Japan.** An island nation located in the western Pacific, Japan has been under Allied occupation since its defeat and surrender in 1945. In accordance with the Cairo and Potsdam declarations, Japan was stripped of its former overseas possessions and reduced to the four main islands of Honshu, Kyushu, Shikoku and Hokkaido (total area: 146,690 sq.mi.) and minor adjacent islands. Total population: (est. Jan. 1, 1950) 83,073,518. Chief cities (1947 pop.): Tokyo (cap. 4,174,505); Osaka (1,559,310); Kyoto (999,396); Nagoya (853,085); Yokohama (814,268); Kobe (607,202). Principal religions: Buddhism, Shintoism. Emperor: Hirohito; prime minister: Shigeru Yoshida.

**History.**—*Inter-Allied Policies.*—During 1950 Japan continued under Allied (chiefly U.S.) military occupation, with Gen. Douglas MacArthur as supreme commander. The 13-nation Far

Eastern commission (F.E.C.) in Washington, D.C., the nominal policy-making body, played on the whole a passive role, as did the four-member advisory Allied council in Tokyo. The Soviet Union walked out of the F.E.C. in January, demanding the expulsion of the Chinese nationalist member, but returned in October. Soviet participation in the Allied council was intermittent, because of the continuing dispute over repatriation of Japanese war prisoners from the U.S.S.R. In April the Soviet Union announced that repatriation had been completed, but the United States, maintaining that more than 300,000 prisoners were still unaccounted for, in August joined with Great Britain and Australia to ask a United Nations investigation of the matter, which was voted by the U.N. general assembly in December. The Soviet Union for its part charged that the United States was secretly rearming Japan and that it was using Japanese troops in the war in Korea. Both charges were denied by the United States.

Pressure for the conclusion of a peace treaty increased in 1950 in Japan and elsewhere. On Sept. 14 Pres. Harry S. Truman announced that the United States was beginning informal conversations with interested powers on the subject. An outline of proposed peace terms released by the United States on Nov. 24 called for a U.S. trusteeship under the United Nations for the Ryukyu and Bonin Islands; the status of Formosa, the Pescadores, southern Sakhalin and the Kuril Islands would be jointly determined by the United States, the United Kingdom, U.S.S.R. and China, or failing agreement, by the United Nations general assembly; Japan would be admitted to the United Nations. The terms outlined would permit the maintenance of U.S. and other troops in Japan, by agreement with the Japanese, to safeguard Japan's security. No restrictions on Japanese rearmament were proposed. Some of Japan's former enemies found these terms too lenient, and demanded firmer guarantees against Japanese remilitarization, and further reparations. Reparations deliveries under the advance transfer program were completed in May, with \$20,000,000 worth of equipment going to China, \$8,000,000 to the Philippines, \$7,000,000 to the United Kingdom and \$5,000,000 to the Netherlands. The United States did not contemplate further reparations payments.

The primary question, however, was whether the United States and other countries should conclude a separate treaty or treaties with Japan if agreement with the U.S.S.R. (and Communist China, which demanded a voice in the treaty) proved impossible. Late in December the United States intimated in a note to the Soviet Union that it was prepared to proceed without soviet concurrence. Discussion in Japan itself during the year was focused chiefly on the issue of a separate treaty. The Japanese preferred an



"PLEASE TO SIGN THIS—WITH ANYBODY!" a 1950 cartoon by Loring of the *Providence Evening Bulletin* (R.I.)



over-all treaty, which would give Japan full international status and diplomatic freedom of action. However, Prime Minister Yoshida and his Liberal party maintained that a separate treaty was better than none, deplored further delay and favoured alignment with the western powers. The opposition parties, which hoped that Japan could maintain a neutral position in world affairs, argued for an over-all treaty, and opposed the maintenance of U.S. bases in Japan after the treaty was signed. Sentiment for an over-all treaty was strong in the first half of 1950, but the war in Korea caused a swing in the other direction, convincing many that Japan, for the sake of its own security, had no choice but to throw in its lot with the western powers. Early in July the Japanese government announced that it would collaborate with the United Nations operations in Korea by all means which lay in its power, and in a White Paper issued on Aug. 19 it stated that for Japan there was "no room for 'non-involvement' or 'neutrality.'" This was endorsed by all major parties except the Social Democrats, who, however, supported co-operation with the United Nations in Korea. On July 8, General MacArthur authorized the expansion of the Japanese police force from 125,000 to 200,000, in the interests of internal security.

As in 1949, the emphasis in occupation policy was on economic recovery rather than, as earlier, on political reform. Except in the economic stabilization program, the trend was toward greater autonomy for Japanese governmental agencies. By the end of the year more than 100 convicted war criminals had been paroled, and more than 10,000 persons had been removed from the political purge list. An F.E.C. decision of Oct. 3 gave the Japanese courts criminal jurisdiction over United Nations nationals, with some exceptions. In February Japan received permission to set up trade promotion offices in the United States and other countries willing to receive them, and also in February the supreme commander was authorized to permit Japan to take part in international conferences and agreements of a technical character. Strenuous efforts were made to promote exports, through bilateral trade agreements and other means, but Japan was still far from self-sustaining. Through June 1950 the United States had spent \$1,727,000,000 to support the Japanese economy. Planned expenditures for the fiscal year 1950-51 were \$288,000,000, as compared with \$438,000,000 in 1949-50, and it was hoped that such aid could be discontinued by 1953.

*Domestic Affairs.*—The government headed by Prime Minister Yoshida of the Liberal (formerly Democratic Liberal) party continued in office throughout the year, though slightly reorganized after the outbreak of war in Korea. In February part of the Democratic party merged with the Liberals, and in April the remainder joined with the People's Cooperative party and another group to form a new centrist People's Democratic party. The Social Democrats split apart in January but later reunited and in April adopted a left-of-centre platform. The June elections, to fill approximately half of the seats in the diet's upper house, resulted in gains for the Liberals and also for the Social Democrats, with losses for the People's Democrats and other centre groups.

Communist influence declined sharply in 1950, partly as a result of government repression. Japanese opinion was unfavourably affected by widely publicized allegations that Japanese Communists had asked the Russians to return to Japan only those war prisoners who had been indoctrinated with Communism, and Japan was alarmed by the Communist attack in Korea. Still another factor was internal dissension within the Communist party, intensified by the Cominform's January attack on Japanese Communist leaders for pursuing too moderate policies. In May General MacArthur again raised the question of whether the Communist party should be outlawed. In June he ordered that 24 leaders of the party should be barred from all political activity



JAPANESE VOTERS, the mothers with their children strapped to their backs for convenience, shown at the polls during the parliamentary elections of June 4, 1950

under the "purge" directives, originally aimed at militarists. Japanese government measures against Communists or suspected Communist sympathizers were stepped up after the outbreak of war in Korea. Though the Communist party was not outlawed, it was forced to operate largely underground. The left-wing Japan Liaison Council of Labour Unions was dissolved by the government on Aug. 30, and its principal component, the National Congress of Industrial Unions, which had lost much of its membership, voluntarily disbanded on Sept. 20. By the end of the year the great bulk of organized labour was affiliated or co-operating with the General Council of Japanese Labour Unions, under anti-Communist leadership.

In the first half of 1950, under the "austerity" economic program inaugurated in 1949 and closely supervised by the occupation authorities, the budget was balanced, prices declined slightly and production and trade registered moderate gains. But many small and medium-sized enterprises, and some larger ones, were hard hit by the prevailing deflationary policies and were forced to suspend wage payments, dismiss employees and in some cases to go out of business. The refusal of government and private employers to grant wage increases demanded by organized labour led, in the spring, to a wave of strikes and strike threats in major industries, although large strikes were virtually banned. Moderate labour leaders had some difficulty in retaining their control, and union membership fell to 5,839,000 in June 1950, compared with 6,655,000 a year earlier. In response to public demands, shortly before the June election the government promised some relaxation of its stringent financial policies.

The war in Korea altered the picture, creating a minor war boom in Japan and changing a buyers' to a sellers' market. U.S. war orders for goods and services, which reached \$143,000,000 by mid-November, stimulated industrial production, and prices





JAPANESE RESORT CITY of Atami aflame in April 1950 during a blaze ignited by a lighted cigarette. One-quarter of the city was razed and about 800 persons injured

turned upward. Japanese exports also increased as western rearmament programs created world-wide commodity shortages, although this also affected raw materials imported by Japan.

Most of the Carl S. Shoup mission's recommendations for reform of the tax system were enacted by the diet in May, except those on local taxation, which were rejected by the upper house but passed in July with some revision. Several measures were taken to encourage foreign investment, including certain tax privileges for foreign nationals.

**Finance.**—National government expenditures (general account only) were budgeted for 1950–51 at 661,406,000,000 yen, a decrease of 76,243,000,000 from the previous year—the first decline since 1934. The principal items were 90,000,000,000 yen for price subsidies (a decrease of 89,200,000,000), 109,061,000,000 yen for war termination expenses, chiefly occupation costs (a decrease of 15,618,000,000), and 105,138,000,000 yen for local government, an increase of 34,565,000,000 resulting from the reorganization of national and local finances. Revenues were expected to balance expenditures, with 444,600,000,000 yen coming from taxes and stamp revenue and 132,147,000,000 from receipts from government enterprises. In drafting this budget the government's aim was, as in 1949, to hold the line against inflation.

The Bank of Japan's outstanding note issue at the end of Sept. 1950 stood at 328,781,000,000 yen, as compared with 298,202,000,000 a year earlier. In the same period the bank's holdings of government debt declined from 237,378,000,000 yen to 205,809,000,000. Total deposits of other banks rose from 634,299,000,000 yen in Aug. 1949 to 899,171,000,000 in Aug. 1950. The official value of the yen remained throughout the year at 360 to the U.S. dollar. The gradual tapering off of price inflation in 1949–50 is shown in the following indexes:

	Wholesale prices (1934–36=100)	Consumer prices (1948=100)	Wages in manufacturing (1934–36=100)
1947 . . . . .	4,820	57.0	3,450
1948 . . . . .	12,780	104.5	9,200
1949 . . . . .	20,880	137.9	14,770
1950, Jan.-Sept. . . . .	23,540	128.3	16,950

**Trade and Transport.**—Japanese foreign trade continued to increase in 1950, aided by the war boom in the latter part of the year, but was still only about half of the prewar volume. In the first nine months of the year the excess of imports, financed by U.S. grants, was reduced by 57% from the same period of 1949. In order to dispense with foreign aid it was estimated that Japan would need at least to double its exports. In 1949 the United States provided 64% of Japan's imports, other leading suppliers being China (including Formosa), Australia, Malaya, Egypt, Indonesia, India and the Philippines. Exports were more widely dis-

tributed, with the United States taking 15%, India 13%, Great Britain 8%, Indonesia 5%, the Philippines 4% and Australia and Korea each 3%. Foodstuffs predominated among imports, followed by cotton, wool and other raw materials. Exports consisted largely of manufactured goods, with cotton textiles the leading item. The following figures are in thousands of U.S. dollars:

	Imports	Exports	Balance
1947 . . . . .	523,562	173,568	—349,994
1948 . . . . .	683,083	258,271	—424,811
1949 . . . . .	904,617	509,700	—394,917
1950, Jan.-Sept. . . . .	683,392	533,199	—150,193

Traffic on Japanese government railways was as follows in 1949 (monthly averages): passenger-kilometres, 5,815,678,000; revenue freight-ton-kilometres, 2,347,383,000. Corresponding monthly averages for Jan.-Sept. 1950 were 5,456,422,000 and 2,362,459,000 respectively. In addition, private railways carried a monthly average of 37,246,000 ton-kilometres of freight in 1949 and 35,390,000 in Jan.-Sept. 1950. Japan's merchant fleet remained less than half its prewar size, though it had increased by 50% since 1945. In Sept. 1950 the country had 2,038,210 gross tons of steel vessels of 100 tons or more. In 1949 only 13% of Japan's imports and 32% of its exports were carried in Japanese ships.

**Food and Agriculture.**—Production of staple foods in Japan in 1950 nearly equalled the record established in 1948, and exceeded by 11% the 1931–40 average. Population, however, had increased by 14% since 1940, and even before the war Japan produced only about 80% of its own food requirements. Food imports since the war accounted for a large part of its trade deficit (44% of total imports in the period July 1949–June 1950). The following figures on staple food output are given in metric tons:

	1950 Production (prelim.)	Area (prelim.) (hectares)	Production 1949
Rice . . . . .	9,430,970	2,993,800	9,380,930
Wheat . . . . .	1,338,260	761,550	1,297,270
Barley . . . . .	896,480	427,690	950,530
Naked barley . . . . .	1,062,090	589,460	1,046,820
Sweet potatoes . . . . .	5,851,950	397,450	5,912,910
Spring white potatoes . . . . .	2,362,820	187,990	2,315,790
Total . . . . .	20,942,570	5,357,940	20,904,250

**Manufacturing and Mining.**—In the fall of 1949 industrial activity in Japan resumed its upward climb. In the first nine months of 1950 utilities and mining exceeded prewar levels, while manufacturing output neared its prewar volume. By September the index of general industrial activity, based on 1932–36 as 100, stood at 110.5, against 93.7 in Sept. 1949. Other Sept. 1950 indexes on the same base, were as follows (Sept. 1949 figures are given in parentheses): utilities 171.5 (164.1), mining 111.5 (106.5), all manufacturing 96.3 (75.9), metals 130.8 (88.6), machinery 113.9 (111.7), textiles 43.7 (25.5), chemicals 128.0 (79.7), food, beverages and tobacco 77.8 (90.1). Nonagricultural employment in July was 17,740,000. In September the number of persons seeking employment was reported as 854,000, against 477,000 in Sept. 1949; these figures exclude concealed unemployment. Wages (through August) were fairly stable at a level slightly above that of 1949; real wages increased slightly, but were still far below prewar levels.

Industrial Production			
Monthly Average	1950 (Jan.-Sept.)	1949	1948
Coal (1,000 metric tons) . . . . .	3,119	3,172	2,822
Crude petroleum (metric tons) . . . . .	26,601	18,129	14,867
Gas (1,000 cubic metres) . . . . .	90,300	80,900	66,300
Electricity (million kw.hr.) . . . . .	3,610	3,415	2,959
Pig iron (metric tons) . . . . .	177,647	129,057	67,335
Steel ingots & castings (metric tons) . . . . .	380,542	259,284	142,819
Refined copper (metric tons) . . . . .	6,744	6,170	4,528
Cement (1,000 metric tons) . . . . .	328	273	155
Motor vehicles (units) . . . . .	5,714	5,538	3,197
Cotton yarn (1,000 lb.) . . . . .	40,182	28,931	22,898
Rayon staple fibre (1,000 lb.) . . . . .	11,441	4,965	2,939
Cotton fabrics (1,000 sq. yd.) . . . . .	122,302	82,072	76,990
Raw silk (bales of 132 lb.) . . . . .	11,497	13,684	11,248
Wheat flour (1,000 metric tons) . . . . .	130	146	84

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**FILMS OF 1950.**—*An Island Nation* (United World Films, Inc.); *Japan and Democracy* (March of Time Forum Films). (M. S. F.)

**Java:** see INDONESIA.

**Javelin Throw:** see TRACK AND FIELD SPORTS.

**Jebb, Sir (Miles Hubert) Gladwyn** (1900– ), British diplomat, was born at Haslemere, Surrey, Eng., April 25. He was



educated at Eton and Magdalen college, Oxford. He entered the diplomatic service in 1924 and served in Tehran and Rome. He served in the foreign office 1929–40, in 1941 became acting counsellor in the foreign office and in 1942 head of the reconstruction department set up to formulate British postwar foreign policy. He was a British delegate to the Dumbarton Oaks conference, 1944, and accompanied Anthony Eden to Yalta in 1945. He was executive secretary of the preparatory commission of the United Nations, 1945, and in 1946 acted as secretary-general. In 1948 he was United Kingdom representative on the Brussels Treaty commission with the personal rank of ambassador. In March 1950 it was announced that he had been appointed permanent U.K. representative to the U.N. in succession to Sir Alexander Cadogan. In April he attended a meeting in Brussels of the consultative council of the Brussels treaty powers and later had talks with Trygve Lie, the U.N. secretary-general, in London. In May he attended discussions between Dean Acheson, Robert Schuman and Ernest Bevin, also in London, where he was later present at a meeting of the North Atlantic treaty council. He took up his post at Lake Success in June, and in September took his turn as chairman of the Security council, following Jacob Malik, U.S.S.R.

**Jerusalem.** The capital of former Palestine, revered as a holy city by Christians, Moslems and Jews alike, Jerusalem was divided by a demarcation line established in the Israel-Jordan armistice agreement of April 3, 1949. Population (1950 est.): Israel-held new city 120,000; Arab-held old city 30,000. Israeli mayor: Daniel Auster; Arab mayor: Arif al Arif Pasha, until Oct. 1950.

On Dec. 9, 1949, the general assembly of the United Nations adopted a resolution, by more than a two-thirds majority, that Jerusalem be placed under an international regime; it called on the Trusteeship council to prepare a statute for international administration of the city. In April the council adopted a draft but did not make any recommendation as to the appointment of the governor or take steps to obtain from members of the United Nations the contribution which had been assessed for the international administration. The draft statute was referred to the general assembly of 1950. The British member of the council made it clear that the British government did not regard an international regime as feasible, and on April 27, 1950, Great Britain, in granting *de jure* recognition to Israel, made a declaration recognizing the sovereignty of Israel and Jordan over parts of Jerusalem pending final determination of the status of the area.

The 1949 action of the United Nations evoked immediate opposition from Israel. A resolution was passed by the *knesset* (assembly) on Jan. 23, 1950, declaring that Jerusalem had again become the capital of Israel, and urging the government to expedite the transfer of the government offices which had hitherto been placed in Tel Aviv. Speedy action was taken. The *knesset*, which after its first sitting in Jerusalem (Feb. 1949) had held its sessions in Tel Aviv, moved. All the government offices except the ministries of foreign affairs and defense were transferred during the next months. Another step marking the resolution to integrate Jerusalem in the state of Israel was the building of a large hall for the Zionist congress and a convention centre at which exhibitions would be held. A Jerusalem economic corporation, with a capital of IL.750,000, was founded with the participation of government and public bodies for the encouragement of craft and industry; and an exhibition was opened in August to mark the intention to make Jerusalem an important centre of export industry.

In the Arab city the principal change was the reinstatement of electricity, which had been cut off during the war. Arrange-

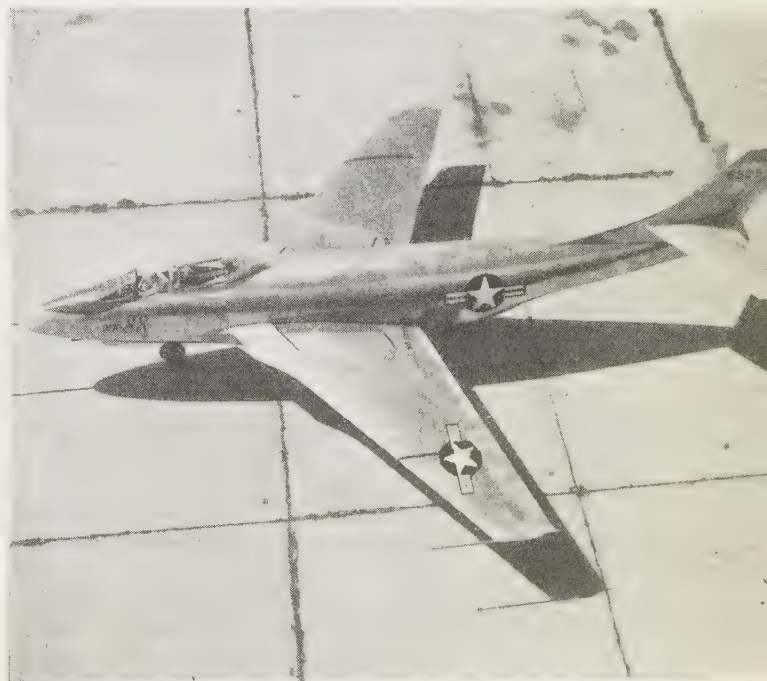
ments were made between Israel and Jordan for the passage of Christian pilgrims in Holy Year from one area of the city to the other. The Israel delegation to the United Nations submitted to the Trusteeship council in May a proposal for a United Nations representation to be responsible for the supervision of the holy places. A similar proposal submitted to the U.N. general assembly by a group of Protestant states in December and the Belgian proposal to appoint a committee of four to study the protection of the holy places and religious interests in the Holy Land both failed to win the necessary majority.

The first Hebrew World congress was held in July, and a Hebrew world league was established with its centre in Jerusalem, in order to place the Hebrew language and culture in the centre of the life of the Jewish people.

FILMS OF 1950.—*Jerusalem, the Holy City* (Encyclopædia Britannica Films Inc.). (No. B.)

**Jet Propulsion.** The late autumn of 1950 saw the world's first all-jet fighter engagements when U.S. air force F-80 Shooting Stars and shortly after, in more spectacular fashion, F-86 Sabres tangled with Russian-built MIG-15s. Although the "15s" or "MIGs" were as fast as the Sabres and more manoeuvrable, they fell far short in these initial air battles. More importantly, however, 1950 would be remembered as the year in which the propeller-turbine engine (turboprop) came into its own in the U.S., with the Allison T-38 and (doubled) T-40 and the Pratt and Whitney T-34 successfully test-flown. The year was also notable for the effective re-entry in the turbine-engine field of Wright Aeronautical corporation, with its far-reaching co-operative arrangements with the British firms of Armstrong Siddeley Motors, Ltd., and the Bristol Aeroplane Co., Ltd., for the production and development of propeller-turbine and jet-turbine engines.

**Turbojets.**—Several radically improved versions of U.S. jet engines went into flight test or production. These included the Allison J35-AL-23 (company model 450-E1) of more than 9,000-lb. thrust. It had more compressor stages than the original J35, larger combustion chambers and an additional turbine stage; in effect it was a new engine, and would eventually receive a new military designation. It was expected to power an advanced



THE McDONNELL XF-88, twin-jet penetration fighter plane which was being considered for fast, close-support service by the U.S. air force in 1950



model of the Boeing B-47. General Electric had two new versions of its J47 engine, both referred to as all-weather jets. The J47-GE-17 had an afterburner, a high-altitude starting system and anti-icing and electronic controls; thrust was in the 7,500-8,000-lb. class. It was the announced power plant of the North American F-86D all-weather Sabre. The J47-GE-23 had most of the features of the "17," but without afterburner and with less emphasis on substitution of critical materials, to achieve quick quantity production.

Pratt and Whitney's centrifugal-flow J48 with afterburner was stepped up into the 8,000-lb. thrust class. It was flight-tested in the North American XF-93 long-range all-weather fighter, in the new F-94C version of the Lockheed two-place all-weather fighter, and the latest Grumman Panther (F9F-5). Westinghouse had a souped-up version of its J34 (company 24C) turbojet, designated J40, which more than doubled the 3,000-lb. thrust of the original engine. It was under service test in various navy jet aircraft, although no specific announcements were made. It would power production models of the F-88 Voodoo, which won the air force evaluation test for long-range penetrator-escort fighters. Wright Aeronautical corporation began development of the TJ-31 Typhoon. This was originally the Metropolitan Vickers F8 Sapphire, turned over to Armstrong Siddeley for development and production. The Typhoon was a U.S. version, with an initial rating of 7,000-lb. thrust and a potential of 9,000 lb.

Work on turbojets in the 9,000 to 12,000 lb. of thrust bracket continued throughout the year. All were axial-flow types and included the General Electric XJ-53, Pratt and Whitney XJ-57 (first turbojet of the company's own design), the Westinghouse XJ-46 and an Allison project.

At the 1950 Farnborough show the British Electric twin-jet Canberra Mk.2 tactical bomber was introduced, powered by two Rolls-Royce Avon AJ-65s. This was the first British combat jet aircraft to use an axial-flow jet engine, and it had such a high priority rating that the air ministry ordered production of the 7,000-lb. thrust Avon in two Rolls-Royce plants, and also at the Bristol and Napier companies. Tests were continued on the fast climbing Avon-Meteor. Rolls-Royce continued development on two higher-powered axial jets, the AJ-85 and AJ-105. The Avro Ashton, powered by four Rolls-Royce Nene 5s (centrifugal-flow), was also flown at Farnborough. The Ashton was a high-altitude research aircraft, developed from the Tudor 8 four-jet experimental transport.

The de Havilland Comet, powered by the D. H. Ghost, continued its highly successful operational test program, and was joined by the no. 2 production model during the year. The Ghost also powered the D. H. 112 Venom high-altitude night fighter, which went into production for the royal air force during 1950.

Avro Canada's Orenda turbojet was test-flown in July 1950. This unit, in the 7,000-lb. thrust class, would be the power plant of the Canadian production models of the North American F-86 Sabre, the Avro CF-100 twin-jet fighter and the C-102 Jetliner. The royal Canadian air force demonstrated the CF-100 at the United States air force Fighter Test branch at Wright-Patterson air force base, and checked out some U.S. pilots on the plane.

Several soviet jet engines were identified. These included the Shvetsov version of the German Jumo 004H, with an estimated thrust of between 3,000 and 3,500 lb.; and the Shvetsov version of the RB-45 Rolls-Royce Nene, a few of which were exported to the U.S.S.R. in 1946. This had a rating of around 4,500 lb. of thrust, and was said to be the power plant of the MIG-15 fighters which were encountered over North Korea, and in late 1950 appeared in squadron service in east Germany. Two other

Shvetsov series jets were reported—one was in the 7,000-lb. thrust class, and the other produced more than 10,000 lb. of thrust with afterburning; both of these had had considerable bench running, but no flight tests had been confirmed.

**Turboprops.**—The Allison T-38 (doubled as the T-40) and the Pratt and Whitney T-34 were both U.S. navy developments. Models using the Allison units in 1950 included the Convair R3Y seaplane and Douglas A2D Skyshark for navy (both test-flown), and a turboprop version of the Convair T-29 navigation trainer for the air force. Test results of Allison's Convair-Turboliner would provide data for turboprop versions of such commercial transports as the Douglas DC-6, Boeing Strato-cruiser, Lockheed 1049 Super-Constellation and the Martin 4-0-4.

The Pratt and Whitney T-34 applications by navy included a new version of the Neptune (Lockheed P2V series) and Martin P4M patrol bomber. Air force projects with this engine included the Boeing C-97 and Douglas C-124 strategic transports, and the Fairchild C-119 troop and cargo carrier. The T-34 would also fit into the program of modifying some of the commercial transports mentioned above, as its power was approximately the same as the double Allison.

In England the Bristol coupled Proteus, which develops about 7,000 equivalent s.h.p., was test-flown during 1950 as the two outboard engines in a modified Avro Lincoln heavy bomber. The first production Vickers Viscount 700 was test-flown just in time to appear at the Farnborough show. It was the world's first certificated turboprop air liner, and was powered by four Rolls-Royce radial-flow Dart RDa-3 engines of 1,400 h.p. A second prototype of the long-range Bristol Theseus-powered Hermes 5 was completed, and flight tests continued on the Armstrong-Whitworth Apollo with four Armstrong Siddeley axial-flow Mamba turboprops. The double Mamba, rated at 2,875 equivalent s.h.p., was test-flown in two royal navy antisubmarine planes—the Fairey 17 and Blackburn Y.B. 1. This was one of the Armstrong Siddeley units which Wright Aeronautical corporation added to its line of Typhoon turbine-type engines.

**Compound Engines.**—During 1950 two improved versions of piston engines plus turbines were announced—the Wright Turbo-Cyclone, based on the R-3350 engine (navy), and the Pratt and Whitney Wasp Major with General Electric CH-9 supercharger (air force). This type of power plant was especially suitable for aircraft requiring extreme range.

**Nonturbine-Type Jet Engines.**—Ramjet test work had been hampered by the lack of facilities for testing large engines. However, during the year the U.S. navy's bureau of ordnance started tests of large-scale ramjets at simulated altitudes of 100,000 ft. and at speeds up to Mach 4 (2,600 m.p.h. at altitude) in a newly completed test chamber at the Ordnance Aerophysics laboratory at Daingerfield, Tex. The new chamber permitted testing ramjets up to 48 in. in diameter. Under air force contract Wright Aeronautical corporation unveiled its new supersonic ramjet test chamber, with a capacity generally similar to that of the navy. It was believed that ramjets would be used in guided missiles and pilotless aircraft for some time to come, and would require rockets or turbojets for take-off and through the transonic zone; at speeds of around 750 m.p.h. the ramjet takes over. Defense officials revealed that an important advantage of the ramjet is its lack of critical materials.

During the year the world's first piloted supersonic aircraft (the rocket-powered Bell X-1) was presented by the U.S. air force to the Smithsonian institution. An advanced model of the rocket engine, with turbo fuel pump, was developed for the Bell X-1A by Reaction Motors, Inc. This firm also completed a rocket engine for the Republic XF-91 high-altitude jet-and-rocket interceptor-fighter. Reaction Motors, Inc., also built the



20,000-lb. thrust rocket engine for navy's Martin Viking rocket which set a new altitude of 106.4 statute miles when flown from the navy's guided missile ship U.S.S. "Norton Sound." Aerojet Engineering Corp., the other big U.S. rocket manufacturer, outgrew its \$10,000,000 plant at Azusa, Calif., and acquired land near Sacramento for a new \$6,000,000 plant. Dry-fuel rockets would be developed and produced in one, liquid-fuel rockets in the other.

The U.S.S.R. started flight-testing a new supersonic rocket-propelled fighter designed by Alexander Yakovlev and designated YAK-21. It was a modification of the German ME-163B rocket-propelled tailless interceptor built by Junkers at Dessau, in Russian-controlled east Germany. (See also AVIATION, MILITARY; MUNITIONS OF WAR.)

FILMS OF 1950.—*Wonder Jet* (British Information Services).

(N. F. S.)

**Jewish Religious Life:** see JUDAISM.

**Jewish Welfare Board, National:** see SOCIETIES AND ASSOCIATIONS.

**John Simon Guggenheim Memorial Foundation:** see SOCIETIES AND ASSOCIATIONS.

**Jordan.** Independent Arab kingdom of the middle east, Jordan is bounded on the west by Israel, north by Syria, east by Iraq and southeast and south by Saudi Arabia. Area (excluding Arab Palestine): 37,110 sq.mi. Pop. (1949 est.): 400,000. Capital: Amman (pop., 60,000). Arab Palestine, area c. 2,350 sq.mi., pop. about 1,000,000, was officially incorporated into Jordan on April 24, 1950. Languages (former Trans-Jordan): Arabic 97%, Circassian 2.5%. Religions (former Trans-Jordan): Moslem 91% (chiefly Sunni); Christian 8.5% (chiefly Arab-speaking Greek Orthodox). King: Abdullah ibn Hussein; prime ministers in 1950: Tawfiq Pasha Abu-Huda (until April 13), Said Pasha el Mufti and (from Dec. 4) Samir Pasha el Rifai.

**History.**—During 1950 the policy of the Jordan government regarding Palestine was seriously at variance with that of the Arab league. On April 6 Jordan opposed the United Nations' plan for the internationalization of Jerusalem which the other member states approved subject to reservations. Again on April 13 the government declared that their policy was to annex Arab Palestine subject to the approval of the Jordan parliament, whereas the other member states confirmed that the entry of Arab armies into Palestine in 1948 was a temporary measure implying no suggestion of occupation or partition.

Elections for a Jordan parliament to represent not only the former Trans-Jordan but also Arab Palestine were held on both sides of the Jordan on April 11 and on April 13 Said Pasha el Mufti formed a new cabinet. When the new Parliament met on April 24 King Abdullah, in his speech from the throne announcing the annexation of Arab Palestine, said that the situation then existing between Jordan and Arab Palestine made unification imperative; but that the annexation would not prejudice the final settlement of Palestine's "just case within the spheres of its national aspirations, of international justice and inter-Arab co-operation." This declaration was approved by the government; but on May 10 at an extraordinary session of the league, Jordan's action was opposed by Egypt, Saudi Arabia, Syria and the Lebanon who proposed Jordan's expulsion. This motion was not carried; and on May 31 the Jordan cabinet announced that it considered the unification on both sides of the Jordan as not liable to further discussion, though it did not prejudice a final settlement of the Palestine problem which remained one of the aims of Jordan's policy. At a subsequent league meeting on June 12, the six member states (Jordan being unrepresented) passed a revised resolution that Jordan must treat the area of Arab Palestine as "trust property" until Pales-

tine was "finally liberated."

On July 1 the British treasury and the Jordan currency board announced the replacement of the old Palestinian currency by a new Jordan currency and that Jordan was re-entering the sterling area.

On Oct. 12 Said Pasha el Mufti reformed his cabinet and announced that his government's foreign policy was to co-operate with and remain in the Arab league. He resigned on Dec. 3 and a new cabinet was formed by Samir Pasha el Rifai, a former prime minister.

During the year the relations between the Jordan and Israeli governments remained unchanged, as did the armistice frontiers, including the bisection of Jerusalem (*q.v.*). During the second half of the year isolated Jordan-Israeli frontier clashes produced official complaints to the United Nations from both sides.

In the economic field the government issued in June details of a five-year land development plan for Bedouin settlement and two schemes for the exploitation of the phosphate and cement industries. Negotiations also took place with the Arab American Oil company arising from the laying of the Sidon pipe line across Jordan territory, the Jordan government asking that 200,000 tons of oil should be off-loaded yearly in Jordan where the government proposed to erect a refinery for local needs. (See also ISRAEL; UNITED NATIONS.)

(O. M. T.)

**Education.**—Schools (1948): government 89, others 86, total pupils 15,201, total teachers 361.

**Finance and Banking.**—Budget: (1949–50 est.) revenue 2,251,000 dinars, expenditure 2,316,000 dinars; (1950–51 est.) balanced at 2,344,000 dinars. Monetary unit: Jordan dinar at par with the pound sterling and with an exchange rate of \$2.80 U.S.

**Foreign Trade.**—(1949) Imports 13,116,000 dinars; exports 1,053,000 dinars; re-exports 2,353,000 dinars. Principal imports (1949): cotton piece goods 9.9%; sugar 8.1%; cement 3.4%; rice 3.3%. Principal exports (1949): wheat 30%; barley 18%; fresh vegetables 9%; lentils 5%.

**Transport and Communications.**—Roads (1948) 1,470 mi. Licensed motor vehicles (Dec. 1949): cars 2,021; commercial 1,646. Railways (1948) 281 mi.

**Agriculture.**—Main crops (metric tons 1948): wheat 139,000; barley 41,000; lentils 8,000; kersennah 9,000; horse beans 9,000; millet 9,000. Livestock (1948): goats 280,000; sheep 180,000; cattle 59,000; donkeys 25,000; horses 5,500; camels 7,000; mules 2,500.

**Judaism.** In western European countries, where Judaism and Jewish life were supposed to have been obliterated during World War II, the Jewish survivors continued in 1950 to re-establish, on a much smaller scale, Jewish institutions and communal life. In the United States, appraisals of the progress of religious life in 1950 depended on the emphasis given to the manifold aspects of Judaism. If philanthropy is considered the criterion, the continued munificent support given by American Jews to local federations and to the settlement in Israel of displaced persons and persecuted coreligionists of Arab lands was impressive. At a conference in Washington, D.C., a plan to raise \$1,500,000,000 for Israel was proposed.

If the founding of new synagogues and the numbers affiliated with them are deemed criteria for the progress of Judaism, gratification was justified in 1950. Reform, Conservative and Orthodox groups all reported expanded activities, growth in memberships, extension and renovations of buildings and greater budgetary needs. At the biennial convention of the liberal wing of Judaism in Cleveland, O., it was reported that a survey revealed an increased interest in ceremonial observance by its adherents.

Many questioned, however, whether the above were true indications of a wider acceptance of the philosophical tenets of Judaism or a deepening of religious feeling. At the biennial gathering of the Conservative group in Washington, D.C., it was disclosed that a national survey on synagogue attendance showed that organized worship in Conservative synagogues was waning. The paucity of current expositions and reinterpretations of



Jewish theology and religious concepts was also cited as proof of the U.S. Jews' lukewarm and nominal devotion to Judaism. In the Orthodox camp, the situation appeared to be more sanguine.

In Israel the relation between the newly established state and Judaism was in the process of clarification and formulation. Many leaders there strove to pattern the relationship between the two along the line prevailing in the United States between church and state. The issue with which the religiously minded citizens were grappling was the role of the Torah, or Jewish law, in the Israeli commonwealth. They were seeking answers to the following queries: What importance should be assigned to the Torah? Who is to be given the authority to annul or modify Biblical or rabbinical injunctions which new conditions demand? What methods or procedures shall be followed in such changes? What are the specific laws which need to be annulled or modified? The accepted answers to these questions would constitute a guide to Jewish life the world over, as well as in Israel. The secularists, of course, maintained an attitude of total unconcern in regard to the questions.

Because of the "iron curtain," it was difficult to ascertain the status of Judaism in the U.S.S.R. during 1950. Reports indicated, however, that the attitude of the soviet government to Judaism was no different from what it was to Christianity. (See also RELIGIOUS EDUCATION.) (B. H.)

**Jugoslavia:** see YUGOSLAVIA.

**Jumping:** see TRACK AND FIELD SPORTS.

**Junior Colleges:** see UNIVERSITIES AND COLLEGES.

**Justice, U.S. Department of:** see GOVERNMENT DEPARTMENTS AND BUREAUS.

**Juvenile Delinquency.** During 1950 there were slight decreases in the number of juvenile cases appearing before the courts of Oregon, Wisconsin, Virginia and Pennsylvania. Since these areas are representative, it is possible to say there was a downward trend throughout the nation of approximately 3%, slightly greater in boys' cases than girls'. Commitments to reform schools and correctional in-

stitutions fell off about 5% for the country as a whole. The Federal Bureau of Investigation reported an increase in the number of arrests for youths between 17 and 19 amounting to about 9% in 1949.

In North Carolina Prof. Wiley B. Saunders of the University of North Carolina, Chapel Hill, Mrs. W. T. Bost, retired commissioner of public welfare of the state, and Ellen C. Winston, commissioner of public welfare, led a movement to cut down jail detention of children. In one year the number of children held in jail was reduced from nearly 1,600 to 334.

The *American Journal of Orthopsychiatry* (April 1950) reported a round table on the psychopathic delinquent child. Experts, including Frederick H. Allen, Ben Karpman, Ralph D. Rabinowitz, and Hyman Lippman, brought together the result of research. Severe emotional deprivation in infancy and childhood rather than constitutional factors account for later delinquency. Further study was planned looking eventually toward an effective treatment.

Three outstanding works on delinquency appeared during the year. Paul W. Tappan presented *Juvenile Delinquency*, a comprehensive textbook, particularly useful in statistics on volume. It gives a thorough discussion of legal aspects and a summary of the Youth Correction authority and its various modifications throughout the nation. Sheldon and Eleanor Glueck presented *Unraveling Juvenile Delinquency*, the result of ten years of research sponsored by the Commonwealth fund and other foundations. Albert Deutsch's *Our Rejected Children* evaluates the work of reformatory institutions for children and offers a challenging analysis of methods used for juvenile correction. (See also CHILD WELFARE.)

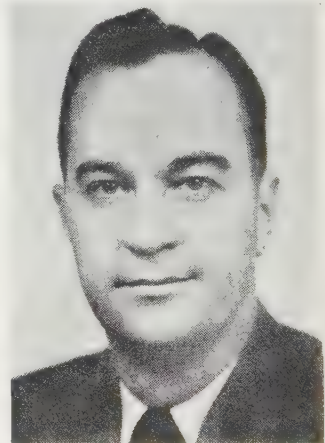
FILMS OF 1950.—*Probation Officer* (British Information Services). (M. V. W.)

**Kansas.** Kansas was admitted to the union as the 34th state on Jan. 29, 1861. It is frequently called the "Sunflower state." The total area is 82,276 sq.mi. of which 82,113 sq.mi. are land. Kansas is located in the geographical centre of the continental United States and is the geodetic centre of the North American continent, from which all geodetic surveys are made. The population of the state according to the 1950 census was 1,905,299, a 5.8% increase over the 1940 census figure of 1,801,028. The population was about equally divided between urban and rural.

Capital: Topeka, pop. (preliminary 1950): 87,626. The two largest cities in 1950 were Wichita (192,155) and Kansas City (128,821).

**History.**—Legislation passed for the year 1949 included the inauguration of a long-range highway program, reorganization of the elementary school program, a liquor control law, a new driver's licence law and the creation of a rural health program.

In the general election held in Nov. 1950 an all-Republican state and congressional ticket swept through to victory. A total of 619,310 votes was cast. Gov. Frank Carlson was elected for the regular six-year United States senate term with a plurality of 64,515. Edward F. Arn was elected governor with a plurality of 57,507 and Paul R. Shanahan was elected secretary of state over Larry Ryan, incumbent, receiving a majority of



EDWARD F. ARN, Republican, elected governor of Kansas, Nov. 7, 1950

FILM ON SAFETY METHODS being shown to New York city school children as part of a 1950 lecture campaign sponsored by the Long Island Rail Road to keep children from stoning trains, placing obstacles on the tracks or exposing themselves to harm on the right of way





27,898. Other principal state officials for 1951 were: Fred Hall, lieutenant governor; George Robb, auditor; Adel Throckmorton, superintendent of public instruction; Frank Sullivan, insurance commissioner; Harold R. Fatzer, attorney general; Richard Fadely, treasurer.

**Education.**—As of Sept. 30, 1949, there were 2,893 one-teacher schools in operation with an enrolment of 35,785. The enrolment (1949) in elementary and secondary schools was 337,914 (86,945 in secondary schools). There were 17,250 teachers employed in the state. The combined enrolment of the four state colleges and one university was 17,656. The populations of other state institutions were as follows: school for the blind 74; school for the deaf 228; Kansas vocational school (Negro) 278.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The populations of the state's welfare institutions in 1950 were as follows: hospital for epileptics 722; state training school 1,424; hospitals for tuberculars 397; orphans and receiving home 174; hospitals for insane 4,921; industrial school for girls 124; industrial school for boys 151; state penitentiary 1,431; industrial farm for women 56; reformatory for boys 473. The 1949 legislature appropriated approximately \$20,861,000 for buildings and the welfare program of 1950-51.

**Communications.**—In 1950 the state had 9,403 mi. of rural highways and 513 mi. of urban highways. Highway funds expended during 1949 and 1950 were \$49,887,316. There were 8,500 mi. of railroads; 95 municipal, 74 privately owned and 1 Civil Aviation administration airports.

**Banking and Finance.**—The budget for the biennium 1950-51 totalled \$58,042,806, an increase of \$20,828,873 over the previous budget. Sales tax (2%) collected for the 1950 fiscal year totalled \$37,430,330. The income tax for 1950 totalled \$11,767,803. The bonded indebtedness (soldiers' bonus) totalled \$4,250,000 as of June 30, 1950. There were 174 national banks, 435 state banks and 3 trust companies as of June 30, 1950. The deposits in the national banks and the insured state banks totalled \$1,456,033,547.

**Agriculture.**—Kansas agricultural production during 1950 was generally above that of 1949 and compared favourably with the average of the previous ten years. Winter wheat, Kansas' most important crop, was 14,000,000 bu. above 1949 but 10,000,000 bu. below the ten-year average. Corn, sorghum grain and soybean yields were near record and resulted in large crops. Hay production was about the same as in 1949 and 124% above the ten-year average. Production of most fruit crops was below 1949 and below average. The livestock inventory numbers on Jan. 1, 1950, were: cattle and calves 3,627,000; hogs 1,253,000; sheep and lambs 786,000; chickens 15,668,000. The cash receipts from farm marketings of Kansas agricultural products during the first seven months of 1950 were about 9% less than in the corresponding period of 1949. The cash net farm income for the year was \$940,918,000.

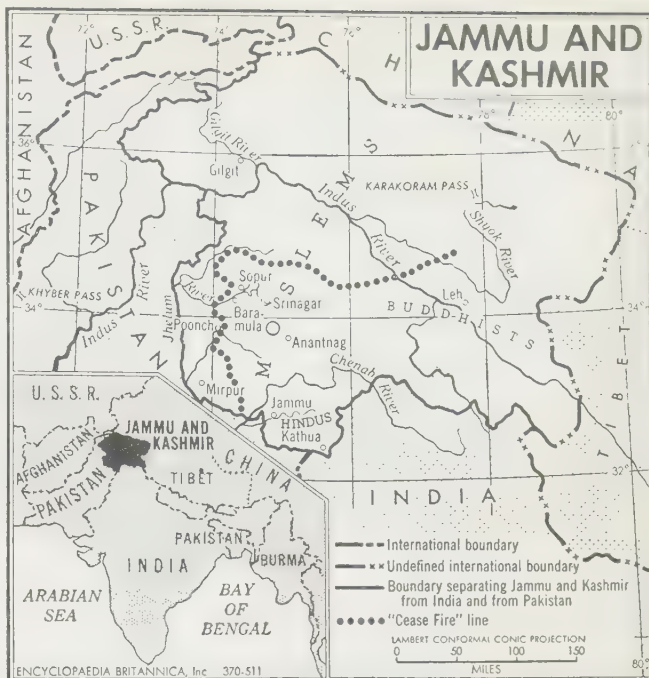
Leading Agricultural Products of Kansas

Crop	1950	1949	Average 1939-48
Wheat, bu. . . . .	178,060,000	164,208,000	188,577,000
Corn, bu. . . . .	93,188,000	73,196,000	64,779,000
Sorghum grain, bu. . . . .	42,096,000	26,404,000	20,651,000
Oats, bu. . . . .	21,120,000	18,942,000	35,197,000
Barley, bu. . . . .	3,556,000	3,757,000	12,468,000
Soybeans, bu. . . . .	6,462,000	3,436,000	1,715,000
Hay, tons . . . . .	3,273,000	3,299,000	2,604,000
Potatoes, bu. . . . .	1,060,000	1,114,000	1,920,000

**Manufacturing and Mineral Production.**—In 1950 the value of the petroleum production of Kansas was \$257,214,716 and of natural gas \$23,574,640. Kansas is also recognized for the production of zinc, cement, lead, coal and salt. In 1950 there were nearly 2,800 manufacturing and processing plants engaged in the production of more than 1,000 items. The total output was valued at approximately \$461,100,000. (F. C.N.)

**Kashmir.** Kashmir is a state in the Indian subcontinent; bounded on the northwest, northeast and east by Afghanistan, Sinkiang province of China and Tibet respectively. Area (inc. Jammu and frontier districts): 82,258 sq.mi. Pop. (1941 census): 4,021,616. Ruler: Lieut. Gen. Maharaja Sir Hari Singh.

**History.**—The trouble in Kashmir originated in Aug. 1947. The maharaja, a Dogra rajput, was highly unpopular with his subjects, 80% of whom were Moslems. Risings in favour of accession to Pakistan were savagely suppressed by the state troops, and this provided a convenient pretext to the lawless tribesmen of the northwest frontier to proclaim a *jihad*, or holy war and invade the country in aid of their coreligionists. They met with little resistance and, after plundering Baramula and murdering many of the inhabitants, they advanced upon the capital, Srinagar. The maharaja in his extremity applied for accession to India. His request was accepted by the governor general, Lord Mountbatten, and Indian troops, flown in, arrived just in time to save Srinagar from destruction. Shortly afterward the maharaja retired to Jammu, leaving the government in the hands



of Sheikh Abdullah, a Moslem who favoured the Indian congress. The Indian government asserted that the maharaja had exercised his legal right in acceding and in Jan. 1948 it laid a charge before the Security council of the United Nations, complaining that Pakistan had aided and abetted the tribesmen in invading his territory. The Pakistan representative, Sir Zafrulla Khan, retorted with accusations of genocide against the Hindus and Sikhs, whom he charged with the wholesale murder of the Moslem inhabitants and with expelling large numbers of others from their homes. In April 1948 the Indian army had taken the offensive against the tribesmen and had advanced as far as Uri on the main Rawalpindi road. This compelled the Pakistan government to take up a defensive line in order to protect its frontier and to stop the stream of refugees pouring into the country. The Security council sent a five-power commission to conduct inquiries on the spot and after negotiations which lasted until the end of the year a cease-fire agreement was arranged, by which each army was to hold the ground it occupied pending arrangements for mutual retirement; after that the wishes of the people were to be ascertained by a free and impartial plebiscite to be administered by a U.S. naval officer, Adm. Chester W. Nimitz. Meanwhile, Gen. A. G. L. McNaughton, the chairman of the Security council, drew up plans for carrying out the demilitarization of Kashmir by the simultaneous withdrawal of the Indian and Pakistan forces in successive stages over a period of five months; but this plan broke down because the Indian government insisted on regarding the *Azad*, or free, Kashmir forces who had formed the backbone of the resistance movement, as guerrillas and refused to evacuate its position until after these had been disbanded. In Feb. 1950 General McNaughton was obliged to report to the council the failure of his efforts. The Security council refused to be discouraged by the failure of the commission to bring about a decision, and in April the improvement in relations between the two countries seemed to offer a fresh opportunity of breaking the deadlock. The commission was replaced by Sir Owen Dixon, a judge of the Australian high court and formerly ambassador to the U.S., who acted as mediator. Both India and Pakistan promised him their support. Sir Owen Dixon spent three months in conferences and negotiations which, unfortunately, proved as abortive as before. As neither state was ready with a constructive plan, he was obliged to offer



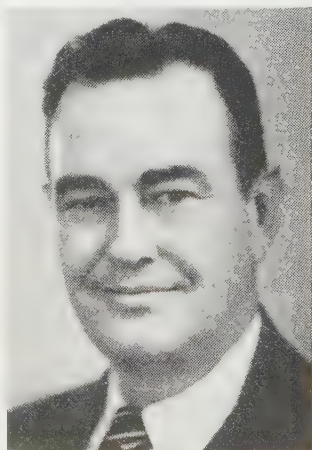
a solution of his own. This took the form of a limited plebiscite. Where the desires of the inhabitants were clearly known, as in Poonch, the territory should be partitioned in accordance with their wishes, due regard being paid to geographical and other considerations; but where they were in doubt, as in the vale of Kashmir, a plebiscite should be held to ascertain them. Neither country was able to agree. Pakistan took its stand upon the United Nations resolution specifying an over-all plebiscite as the manner of settlement. India, on the other hand, claimed that Kashmir had legally acceded to the Indian union and that the Pakistan troops, as the aggressors, must be withdrawn before a plebiscite was conducted under the auspices of Sheikh Abdullah's government. As it was impossible to reconcile these widely divergent views, Sir Owen Dixon left India on Aug. 23 to report to the Security council. In his report he recommended that the council should renounce responsibility for a settlement and should inform India and Pakistan that they must come to an agreement between themselves. (H. G. R.N.)

**Kefauver Committee:** see BETTING AND GAMBLING; MUNICIPAL GOVERNMENT.

**Kellogg Foundation:** see SOCIETIES AND ASSOCIATIONS.

**Kendall, Edward Calvin** (1886— ), U.S. physiologist and chemist. was born March 8 in South Norwalk, Conn. He studied at Columbia university, receiving the B.S. degree in 1908, the M.S. degree in 1909 and a Ph.D. in 1910. He joined Parke, Davis & Co. as a research chemist in 1910, then became attached to St. Luke's hospital in New York city. From 1914 he was with the Mayo clinic, Rochester, Minn. He also held after 1914 the posts of professor of physiological chemistry and head of the section of biochemistry at the Mayo foundation, University of Minnesota. In 1914 he isolated thyroxin, the active principle of the thyroid gland, for which achievement he was awarded in 1925 the Chandler medal from Columbia university. Between 1926 and 1930 he isolated glutathione from yeast. By 1938 he had isolated six hormones of the adrenal cortex, including compound E which eventually was used under the name of cortisone in the treatment of arthritic patients. Philip S. Hench and his associates of the Mayo clinic began treating arthritic patients with cortisone in 1948. He and Kendall, along with Tadeusz Reichstein of Basle, Switz., who had carried on, for the most part independently of the others, research similar to theirs, were jointly awarded the Nobel prize for medicine on Oct. 26, 1950, by Sweden's Caroline Institute of Medicine.

**Kentucky.** An east south-central state of the United States, admitted to the union on June 1, 1792, Kentucky is popularly called the "Blue Grass state." Area: 40,395 sq.mi., of which 286 sq.mi. are water. The population by the 1950 U.S. official census determination as of April 1, 1950, was 2,944,806, a gain of 3.5% since 1940. Capital: Frankfort (pop. 11,949, preliminary 1950 census figures). Other cities are Louisville (367,359); Covington (64,282); Lexington (54,449); Owensboro (33,983); Paducah (32,430); Ashland (31,228); Newport (31,015);



LAWRENCE W. WETHERBY, Democrat, was sworn in as governor of Kentucky on Nov. 27, 1950, to succeed Earle C. Clements who was elected to the U.S. senate on Nov. 7

Bowling Green (18,424); Henderson (16,760); Middlesboro (14,419); Hopkinsville (12,531).

**History.**—Gov. Earle C. Clements defeated Charles I. Dawson on Nov. 7, 1950, for the U.S. senatorship, the vote for the full term being 334,072 to 277,654. Lieutenant Governor Lawrence W. Wetherby took the oath as governor on Nov. 27. The other principal state officers were George G. Hatcher, secretary of state; A. E. Funk, attorney general; Harry N. Jones, auditor; Pearl Frances Runyon, treasurer. The general assembly increased the state income tax from 5% to 6% on taxable income of more than \$8,000, lowered the tax credit allowed married persons and the heads of families from \$50 to \$40, and raised the tax on corporations from 4% to 4.5%. A significant event was the spirited but unsuccessful fight of the public school teachers for adequate school support.

**Education.**—Public schools in 1949-50 numbered 5,090; 4,550 elementary, 113 high schools, and 427 combined elementary and high schools. Total pupils numbered 570,805, and teachers numbered 19,230. The state per capita fund was \$19,350,000, and the equalization fund was \$2,150,000. The state superintendent of public instruction was Boswell B. Hodgkin.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Unemployment insurance paid in Oct. 1950 amounted to \$650,115, an average of \$15.98 for 40,690 weeks. Old-age assistance went to 67,948 in the amount of \$1,405,365. Aid to dependent children amounted to \$895,491 for 61,164 and to the needy blind to \$53,470 for 2,430 people. The population of the correctional institutions on Sept. 30, 1950, was: reformatory, 2,134; penitentiary 1,114; women's prison 67; house of reform for boys 354; house of reform for girls 64.

**Communications.**—As of Sept. 1, 1950, the department of highways had under maintenance 570 mi. of municipal roads and 12,240 mi. of rural roads. Through its division of rural highways it aided the counties in maintaining as of Nov. 1, 1950, 12,398 mi. of county roads.

**Banking and Finance.**—On June 30, 1950, there were 92 national banks with total assets of \$636,018,000 and 296 state banks and trust companies with resources of \$953,843,874.72. The state tax receipts, according to the latest available figures, amounted to about \$106,517,635 for the fiscal year 1949-50: general fund \$56,515,404; road fund \$47,147,370; other \$2,854,861. The chief sources of tax revenue with their approximate percentages were: selected sales and gross receipts (55%); income (18%); licence and privilege (15%); property (8.6%); and inheritance and estate (2.5%). All revenue collections, including fees, tuitions and federal grants, amounted to \$161,234,319; preliminary data on expenditures indicated: general control \$25,115,703; education \$43,596,982; welfare and health \$51,420,626; and highways \$56,956,707. Kentucky closed its 1949-50 fiscal year with \$26,304,622.87 in investments, chiefly government bonds. Cash credited to various funds amounted to: road \$25,817,194.29; general \$18,255,021.67; trust and agency \$8,764,379.63; institutional improvement \$3,922,304.16; and other \$1,633,487.48.

**Agriculture.**—The leading crops in 1950 appear in the table.

#### Leading Agricultural Crops of Kentucky

	1950	1949	Average 1939-48
Corn, bu. . . . .	78,810,000	88,762,000	74,129,000
Winter wheat, bu. . . . .	3,900,000	5,268,000	5,260,000
Oats, bu. . . . .	2,832,000	3,328,000	2,078,000
Barley, bu. . . . .	1,480,000	1,638,000	1,719,000
Rye, bu. . . . .	242,000	378,000	344,000
All hay, tons . . . . .	2,633,000	2,635,000	2,258,000
Soybeans (for beans), bu. . . . .	1,890,000	2,202,000	1,102,000
Tobacco, all types, lb. . . . .	364,450,000	438,245,000	386,325,000
Potatoes, Irish, bu. . . . .	2,418,000	2,730,000	3,616,000
Potatoes, sweet, bu. . . . .	870,000	913,000	1,248,000

**Manufactures.**—In 1947, 2,244 establishments averaged 129,504 employees who received \$304,668,000 in salaries and wages. The value added by their efforts was \$740,772,000. The major industry groups for the entire state were, in value added: food and kindred products (\$288,814,000); metal products, primary and fabricated (\$81,887,000); lumber and products including furniture and fixtures (\$62,611,000); machinery including electrical (\$56,471,000); chemical and allied products (\$47,953,000); tobacco (\$41,784,000); apparel and related products (\$38,475,000); printing and publishing, with paper and allied products (\$33,440,000); petroleum and coal products (\$20,215,000); stone, clay and glass products (\$16,302,000); textile mill products (\$12,744,000).

**Mineral Products.**—During 1949 coal mines yielded 73,997,676 tons and employed 76,821 miners with a loss of 66 lives. The output of petroleum in 1949 was 8,853,311 bbl. and the estimated natural gas production was 90,000,000,000 cu.ft. (W. W. Js.)

**Kenya:** see BRITISH EAST AFRICA.

**Kim Il Sung** (1912?— ). Korean Communist leader, was in 1950 the subject of much speculation, since he allegedly was a Communist creature of soviet Russia who had assumed the name of a Korean war hero. He was believed to have been born Kim Sung Chu near Pyongyang, and to have been educated in Marxist tactics both at the Whampoa Military academy



in China and in Moscow. He was alleged to have assumed the name of a Korean guerrilla hero who disappeared in 1919. On March 17, 1949, Kim had been reported as signer for Korea of a treaty with the U.S.S.R. covering increased trade, technical assistance and soviet credits for the North Koreans. At the outbreak of the war in Korea in June 1950, Kim was repeatedly spotlighted through Communist propaganda as the leader of the so-called "people's" forces of North Korea, but his identity remained a mystery.

**Kiwanis International:** see SOCIETIES AND ASSOCIATIONS.  
**Knights of Columbus:** see SOCIETIES AND ASSOCIATIONS.

**Korea.** Korea occupies a peninsula extending from Manchuria 600 mi. southward between the Yellow sea and the Sea of Japan. Two rivers mark the northern border: the Yalu and the Tumen. Area: 85,225 sq.mi. The 38th parallel north, established in 1945 to separate soviet and U.S. troops negotiating the surrender of Japanese troops, remained a rigid barrier between the two zones until June 25, 1950, when North Korean troops violated the line by invasion. The southern zone had 44% of the area, but more than twice the population: 20,189,000 (1949 est.) to 9,102,000 (1949 est.). The capital city of the south is Kyong-song (Seoul) with nearly 2,000,000 inhabitants; capital city of the north is Pyongyang with about 500,000. Three other large cities in the south are Pusan, 473,619, Taegu, 313,705, and In-chon, 265,767, according to 1949 estimates. Religions: Buddhism, Confucianism and a unique eclectic religion, Tonghak. In 1939 there were roughly 500,000 Christians.

**History.**—The first half of 1950 was marked by important adjustments between the United States and the Republic of Korea regarding economy, reform and measures for defense, by the holding of the spring elections and by steps taken to implement the land reform laws and to equalize taxation. Tension along the 38th parallel increased and guerrilla warfare was waged by North Koreans in the South Korean provinces. Unification plans by peaceful methods were part of the platforms of all moderates in the elections in South Korea; they were also the subject of North Korean proposals in June and were considered in good faith by United Nations officials. The second half of the year was marked by the Korean war. (See KOREAN WAR.)

**U.S. Aid to Korea.**—On Jan. 19, 1950, the U.S. house of representatives defeated the \$60,000,000 Korean aid bill, an action stemming largely from opposition to the administration's China policy and from those who opposed supporting what they considered to be a corrupt South Korean regime. Both Pres. Harry S. Truman and Secretary of State Dean Acheson urged the house to repeal its veto. A new Korean aid bill linked to extension of aid to Formosa passed the house on Feb. 10. It authorized \$60,000,000 in aid which with previous authorization for an equal amount represented a reduction of \$30,000,000 from the original sum requested by the state department. Among the new stipulations to the bill was the provision that U.S. aid would terminate at once if a coalition government were established which included one or more members of the Communist party of North Korea. On April 8 Acheson sent a note to the Korean ambassador in Washington demanding greater economy in government spending and emphasizing the seriousness with which the U.S. would view any postponement of the scheduled May 30 elections.

**The Elections.**—On May 30 approximately 7,000,000 people went to the polls to vote for 210 assemblymen. Independent candidates won 120 seats and only 31 former members were returned. This was interpreted as a move against the administration of Syngman Rhee, president of the Republic of Korea, rather than as support for Communism. The terrorist acts of the police, especially after the appointment of German-educated Home Min-



"YOU CAN SEE HOW NORTH KOREA WAS INVADED," a cartoon by Herblock published in the *Washington Post* in 1950

ister Paek Sung Ok, had alienated many from support of the government. The election results were a sign of a pull away from the extreme right.

**U.N. Commission.**—Another United Nations Commission on Korea was authorized by the general assembly in spite of opposition from the Soviet Union and its satellites, but the new commission met with no better success than the former commission in its unification attempts or any of its efforts to enter or communicate with leaders in North Korea. The North Korean press and radio were extremely offensive in their attacks on the commission, branding it as a tool of the Rhee regime and of the U.S. However, in the first few days of June the North Korean government announced over the radio that it would send three envoys to the 38th parallel to discuss plans for unification with U.N. members. The U.N. appeared interested in this. Two weeks later the North Korean proposals were broadcast. They called for unification under certain conditions including the arrest of Rhee and other "traitors." The South Korean regime branded this as propaganda but offered to exchange political prisoners.

On Jan. 26 a Military Assistance agreement between the U.S. and the Republic of Korea was signed. Korea thereby became eligible for a share of the \$27,000,000 voted by congress for strengthening Korea, the Philippines and Iran against communism. By June 25, when the North Korean Communists began their invasion south of the 38th parallel, the first shipment of arms under this agreement was on the seas but had not yet arrived in Korea. In April Defense Minister Shin Sung Mo became acting premier when Lee Bum Suk resigned.

**Education.**—On April 28, 1950, an agreement between the U.S. and the Republic of Korea was signed at Seoul. It was based on the educational exchange provisions of the Fulbright act. Ten Korean technicians, the first of a group of 90, were sent to the U.S. to begin special training in industrial techniques. The cost of the project, estimated at \$36,000, was met by the Economic Cooperation Administration. In North Korea, according to radio broadcasts, emphasis was placed on compulsory education. Plans were made to give higher education to more than 41,000 students and technical training to more than 20,000 administrative personnel.

**Finance.**—The value of the won in South Korea continued to drop in



1950. Measures to halt inflation were ineffective. Currency in circulation increased from 42,600,000,000 won in Jan. 1949 to 53,300,000,000 won in October. The two-year period, March 1948 to March 1950, saw a rise of currency in circulation, from 34,000,000,000 won to 74,000,000,000 won. In South Korea the budget for the fiscal year 1950-51 was 50,833,756,000 won in revenue, plus 96,047,547,000 won special income. Estimated expenditures were 89,230,405,000 won general and 56,650,898,000 won special. In North Korea, according to information from broadcasts, the budget was estimated to be 25,222,740,000 won revenue and 26,722,740,000 won expenditure.

**Trade.**—Imbalance which characterized Korean trade in 1949 persisted throughout 1950. In South Korea imports had exceeded exports by a ratio of about 10 to 1 during 1949. By contrast, North Korea's trade was almost balanced, at least with Hong Kong. During the first four months of 1949 imports were 23,300,000 Hong Kong dollars, exports were 20,300,000 Hong Kong dollars. On Feb. 18 the Republic of Korea made an agreement to sell Japan 100,000 tons of rice at \$142 per ton. The ECA (Economic Cooperation Administration) budget for the fiscal year 1950-51 provided for \$100,000,000 worth of supplies. Of this \$42,223,600 was to be spent on fertilizers, \$4,670,000 on petroleum products and \$2,565,000 on industrial equipment.

**Communications.**—In 1944 there were 3,115 mi. of railroad track in operation, carrying 106,372,624 passengers and 27,525,654 metric tons of freight. Of the \$11,000,000 spent by ECA in July and Aug. 1950, \$4,340,000 was for communications, including locomotives, tracks and parts.

**Agriculture.**—Crops in 1950 were good and much was harvested in spite of war conditions. Rice production in the south in 1949 was estimated at 2,700,000 metric tons, nearly 5 times the barley crop and 30 times the wheat crop. Figures for 1948 were, in metric tons: rice 2,500,000; barley 352,393; naked barley 212,480; wheat 89,912; and rye 18,896. The price of rice reached an all-time high in Jan. 1950, having doubled in six weeks. Fish and marine products (shellfish, sea weeds, sea animals) were estimated at slightly less than 300,000 metric tons (1948). Agricultural production for 1949 was aided by ECA imports, \$11,600,000 being spent on fertilizers, or 29% of the entire ECA appropriation; altogether, \$24,700,000 was spent on imported fertilizers. The estimated expenditure by ECA for fertilizers for 1950 was \$34,670,870 and for 1951 it was \$42,223,600.

**Manufacturing.**—Production increased substantially during 1949 in the following items: electric insulators, amorphous graphite, brick, paper, cotton yarn, rubber shoes and salt. Production goals for 1948 in the north were claimed to have been attained in 1949. However, industrial production had been lagging considerably according to statements made by Communist officials at the end of the year. The lack of electric power, shut off by North Koreans, hampered industry in the south.

**Mineral Production.**—The major mineral resources are found in the north where iron, coal, gold and other ore deposits were exploited by the Japanese. Production of anthracite coal in South Korea during 1949 about doubled that of 1947. Three new power projects were announced by ECA on Dec. 28, 1949, to increase electric output by 59,400 kw.hr. ECA also announced in Jan. 1950 a project to increase the output of tungsten by 100 metric tons per day. (See also UNITED NATIONS.)

(E. B. Mc; W. Sm.)

**Korean War.** Toward the close of World War II, on Aug. 8, 1945, the U.S.S.R. declared war against Japan in order to participate in completing the victory of the Allies in the Pacific. Korea had been under Japanese rule since 1910, and after the signing of the World War II surrender, U.S. troops and the forces of the Soviet Union participated in accepting the surrender of the Japanese troops in Korea.

In Sept. 1945 the occupation of Korea by U.S. and soviet forces was completed. The 38th parallel was chosen as the arbitrary dividing line between North and South Korea for the surrender acceptance, with soviet forces to the north and U.S. forces to the south. The selection of this line was adopted for military purposes only and, so far as U.S. intentions were concerned, was not meant to be a barrier cutting Korea into two sections.

The United Nations resolutions, adopted without soviet concurrence, established a nine-nation U.N. Temporary Commission on Korea. These resolutions called for an election under the commission's observation to choose a representative national assembly for adopting a democratic constitution and establishing a national government.

It soon developed that a unified Korea was not the soviet intention, and on May 10, 1948, an election was held in South Korea—confined to the south because the U.S.S.R. refused to allow the U.N. Temporary commission access to North Korea.

As a result of the election, the government of the Republic of Korea was formally inaugurated on Aug. 15, 1948, at which time the United States terminated its military government in Korea and began the reduction of its occupation forces. By July 1, 1949, the Korean military advisory group consisted of approxi-

mately 500 U.S. officers and enlisted men, whose mission was the creation of defensive and internal security forces for South Korea.

At the end of Dec. 1948 the U.S.S.R. reported completion of the withdrawal of its occupation forces from Korea, but the U.N. commission was not permitted to verify this action.

In the meantime, the People's Democratic Republic of Korea had been established in the north under the Communist wing after an "election" not witnessed by the U.N. commission, and had been accorded recognition by the U.S.S.R.

In the succeeding months, especially from June 1949 to June 1950, there was an increasing number of raids by increasingly stronger forces which crossed the 38th parallel, from North Korea to South Korea, attacking smaller forces of South Koreans. Protests were made to the United Nations, and South Korean forces managed to repel these raids and to maintain the artificial boundary of the 38th parallel.

On June 25, 1950, at 4 A.M., without warning, the North Korean armed forces struck across the 38th parallel in force.

**First Phase—June 25 to Sept. 15.**—Driving down the peninsula with the main effort down the Ponchon-Seoul corridor, the North Korean infantry, led by an estimated 100 to 150 soviet-made tanks, achieved complete tactical surprise. Simultaneous secondary attacks were launched on the east coast, in the eastern mountains and in the Ongjin peninsula to the west. The initial North Korean attack was mounted with four to six infantry divisions, at least two brigades of border constabulary supported by soviet-made medium tanks and approximately the same number of soviet-made combat aircraft, the entire force totalling approximately 96,000 troops.

Republic of Korea troops, on the other hand, had along the 38th parallel approximately four divisions without armour or heavy artillery and with only 16 training aircraft. The lightly armed South Korean troops, confronted by greatly superior numbers and equipment, were forced to withdraw, and the armoured columns of the North Korean army drove within five to seven miles of Seoul on the first day.

By 9:30 A.M. of the third day, North Korean tank columns entered Seoul and street fighting for the capital city of Korea began. The South Korean government moved its capital south to Suwon.

At the request of the United States government, the United Nations Security council met on June 25. The council adopted a resolution which determined that the armed attack upon the Republic of Korea constituted a breach of the peace and called for immediate cessation of hostilities and withdrawal of North Korean forces north of the 38th parallel.

In addition, the resolution called upon all members to render every assistance to the United Nations in the execution of this resolution and to refrain from giving assistance to the North Korean authorities.

On June 27, at the time when the North Korean tank columns entered Seoul, Pres. Harry S. Truman announced that he had ordered U.S. air and sea support of South Korean troops as the beginning of the U.N. effort in Korea.

When President Truman on June 30 ordered a naval blockade of the Korean coast, the U.S. navy immediately took up blockade positions and, in accordance with the president's earlier order, began air and surface bombardment of military targets. On the same day, two reinforced rifle companies of the U.S. 24th infantry division were flown to Korea and on July 5 initial contact was made with North Korean troops in the vicinity of Osan, south of Seoul.

At the request of the United Nations, Gen. Douglas MacArthur was designated by the president of the United States on July 8, 1950, as the commander of United Nations forces in Korea.





Above: **KOREAN REFUGEES** fleeing southward across the Naktong river in Aug. 1950. Refugees posed a serious problem during the Korean war, for besides blocking highways, numerous Communists filtered in with them across U.N. lines

Right: **U.S. TROOPS** emerging from a railroad tunnel after firing into the tunnel to smoke out North Korean Communists. The action took place near Sohung, North Korea, in Oct. 1950



Below, left: **COMBAT TROOPS** covering a U.S. army convoy advancing against sniper fire into the hills in the Yongdong area, South Korea, in July 1950

Below, right: **VILLAGERS** north of Seoul, South Korea, cheering troops of the U.S. 1st cavalry division as they headed north to the 38th parallel. U.N. forces crossed the parallel on Oct. 7, 1950





The South Korean government had by this time moved to Taejon, as the North Koreans took Seoul and nearby Kimpo airfield on June 28.

The U.S. air force went into action against the North Koreans in support of South Korean troops within three days of the initial attack. By the middle of July, the U.S. 24th and 25th divisions had closed with the enemy; the South Korean forces had stiffened their resistance; the navy was involved in continuous coastal bombardments and naval air strikes; and the air force was engaged in round-the-clock strikes in support of U.N. troops.

The U.N. forces had withdrawn to the south bank of the Kum river, the last natural barrier before Taejon, and dug in. Lieut. Gen. Walton H. Walker, commanding general of the U.S. 8th army, assumed command of the ground forces in Korea on July 13.

By July 15, the North Koreans had established a bridgehead across the Kum river northwest of Taejon and by July 17 had reached the outskirts of Taejon.

On July 18 the 1st cavalry division, in the first amphibious landing of U.N. forces on Korea, went ashore unopposed at Pohang. On July 20 the U.S. 24th division withdrew its rear guards from Taejon, and two days later Maj. Gen. William F. Dean, its commander, was officially listed as missing. At the same time the U.S. army's new 3.5-in. bazooka was used for the first time, with great success, against heavily armoured soviet-made tanks which since the beginning of the Korean attack had moved almost unopposed through the South Korean army.

The North Korean 4th and 6th divisions effected a strategic envelopment against Republic of Korea police forces and, driving toward western and southern ports, seized Mokpo, Kwanju, Amwon and Chinan on July 24. After shifting the direction of the attack to the east, the enveloping force drove toward the ports of Masan and Pusan.

During this period, numerically superior North Korean forces continued their pressure in all sectors, despite heavy losses sustained in air and ground actions. The U.N. forces in successive withdrawals lost Yongdong and Yongdok on the west coast and corresponding towns in the central and eastern sectors during the slow compression of the peninsula defense. It became evident that the enemy strategy was a double envelopment of the U.N. forces, at the same time maintaining pressure in the centre. The deepest penetration in this area occurred on Aug. 6 when North Korean forces were stopped eight miles west of Masan by a U.N. attack.

By this time, Australia, Canada, France, the Netherlands, New Zealand, the United Kingdom and the United States had all sent naval forces to aid the United Nations effort and the U.N. naval force maintained a continuous patrol of North Korean ports and coastline together with carrier air strikes and shore bombardments.

Heavy air attacks on rail and highway traffic during daylight by the U.N. air force compelled North Korean forces to move only at night. North Korean air activity practically ceased. The South Korean forces, overwhelmed in the early combat, had regrouped and had been resupplied and were fighting effectively.

By Aug. 4 the withdrawal of the U.N. forces to defensive positions east of the Naktong river had been completed. Severe attacks by the North Koreans probing for a crossing of the river succeeded to the extent that one North Korean division crossed south of Pugong-ni and despite heavy casualties remained there. Other crossings were forced, but in many seesaw battles back and forth across the river, U.N. forces managed generally to maintain their positions.

On Sept. 1 the North Koreans opened a general offensive against the U.S. 2nd and 25th divisions on the left flank of the

Naktong defense line with 13 infantry divisions and 2 new tank regiments. Within two days the attack spread over the entire U.N. line. Initial penetrations of 6,000 to 8,000 yd. in the north sector of the Naktong river area were contained after bitter fighting and United Nations counterattacks began to make limited progress.

By Sept. 12 the momentum of the North Koreans' attacks had been lost, and they were forced to withdraw after suffering severe casualties. Though the Naktong river had been crossed at several points, counterattacks had generally restored U.N. positions.

Throughout these engagements the United Nations forces, ever increasing in number and strength, had repulsed the heaviest attacks which the enemy was able to mount. U.N. losses were heavy but those of the North Koreans were far heavier. With the comparative stabilization of the line, the compression of the bridgehead and the preparation of the U.N. forces for the offensive, one phase of the war was considered to have ended.

**Second Phase—Sept. 15 to Nov. 2.**—In the early morning of Sept. 15, the U.S. 10th corps launched an amphibious landing on the island of Wolmi-Do, commanding the approaches to Inchon. The marines secured the island within an hour and a half, and 11 hours later Inchon was stormed by the 1st marine division, four Republic of Korea marine battalions and supporting army and navy units. The attack had been preceded by bombing and shelling of the Inchon area by naval ships and aircraft.

Within two days the U.N. forces had advanced all along the line against stubborn resistance, and Kimpo airport had been retaken. In an enveloping movement, Seoul, the capital city, fell on Sept. 26 and on Sept. 29 the Republic of Korea government moved back into Seoul.

On Sept. 16 the 8th army attacked with the mission of effecting a juncture with the troops at the Inchon bridgehead. Within four days, U.N. forces had driven almost to Chinju.

In the north sector, the U.S. 1st corps crossed the Naktong river on Sept. 19 and drove up the main Kumchong-Taejon axis and advanced about 35 mi. On the far northern and western fronts the North Korean troops began withdrawing on Sept. 22, and within six days they had withdrawn 70 mi. northward. The credit for the rapid progress on this front went to the Republic of Korea 1st and 2nd corps.

On Sept. 26 troops from the U.S. 1st cavalry division made contact with the 7th infantry division, and the 8th army and the 10th corps were united. Thus all effective escape routes in the pocket were closed, and encircled North Korean forces numbering more than half of the North Korean invaders faced death or capture.

During the next week, U.S. forces reached the 38th parallel, and South Korean troops, who crossed the parallel on Oct. 1, advanced up the east coast approximately 50 air miles north.

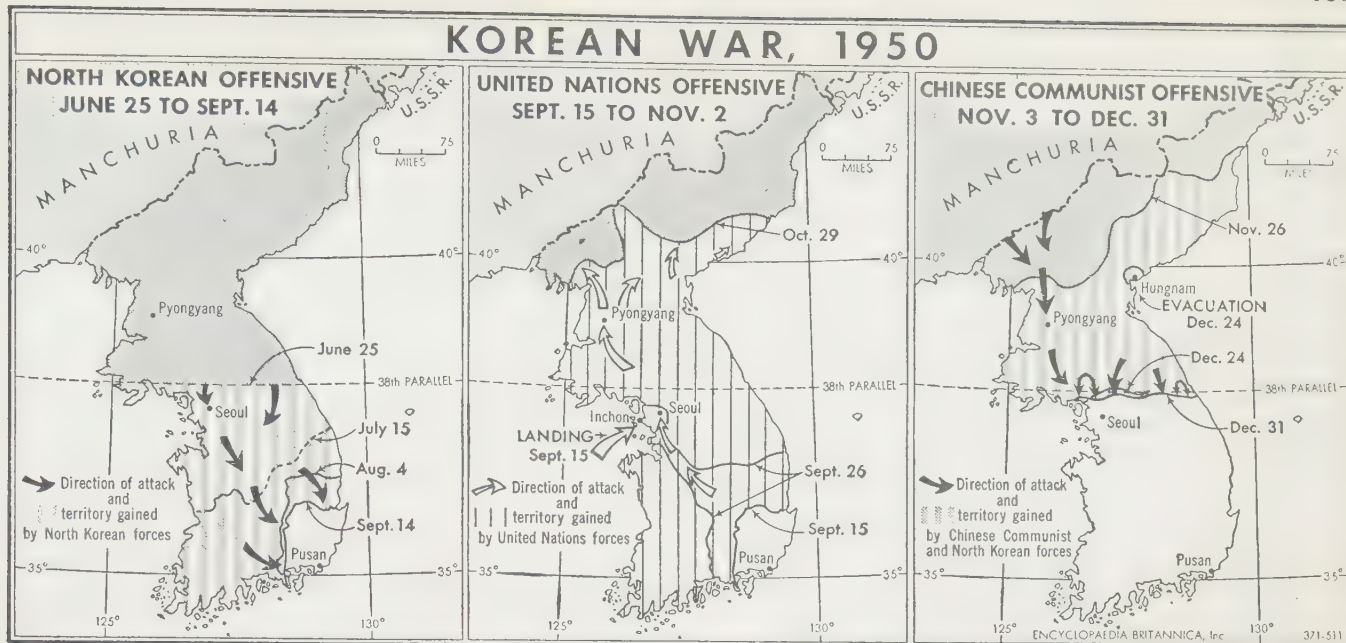
For the first 96 consecutive days of operation, the air force had flown a total of 40,456 sorties (including 1,520 sorties by royal Australian squadrons) and had delivered 29,711 tons of bombs, expended more than 23,000,000 rounds of ammunition and 63,000 rockets, carried 16,000 tons of freight and 25,000 passengers, evacuated 8,500 persons and dropped more than 51,500,000 leaflets.

By Oct. 10 the Republic of Korea 1st corps, consisting of the 3rd and Capitol divisions, captured the North Korean port of Wonsan, advancing about 15 mi. a day against elements of three divisions and numerous garrison units. The 8th army moved up the peninsula, relieved the 10th corps of the Seoul-Inchon area on Oct. 7 and continued its attack to the north.

On Oct. 15 President Truman, accompanied by diplomatic and military advisers from Washington, D.C., conferred on Wake Island with General MacArthur and John J. Muccio, U.S. ambas-



## KOREAN WAR, 1950



sador to Korea, discussing, among other things, the military situation in Korea.

An interesting high light which occurred during the early Korean fighting was the successful integration of South Korean troops into U.S. divisions. It was found that the battlewise South Koreans, accustomed to the mountainous country and acquainted with the terrain, were invaluable to the U.S. troops.

On Oct. 7 elements of the U.S. 1st cavalry division crossed the 38th parallel and drove toward Pyongyang. By Oct. 20, the capital of North Korea had fallen.

In the meantime, on Oct. 18, the Republic of Korea Capitol division entered Hamhung and Hungnam, while other U.N. forces advanced rapidly to the north, against light resistance.

Maj. Gen. Edward M. Almond now commanded all U.N. forces on the east flank in the Wonsan-Hamhung area. By the end of October more than 135,000 North Koreans had been captured.

On Oct. 26, elements of the U.S. 1st marine division landed at Wonsan, ending a six-day wait for mine clearance. On the same day the Republic of Korea 6th division gained the distinction of being the first of the U.N. forces to reach the Manchurian border (near Chosan). On Oct. 29 the U.S. 7th infantry division with Republic of Korea units landed at Iwon approximately 180 mi. N. of Wonsan.

Toward the end of October, North Korean resistance stiffened and all along the front about 50 mi. S. of the Manchurian border U.N. forces experienced greater difficulty in their efforts to reach the Yalu river and the border. On Oct. 27 Chinese Communist forces were first encountered in combat by the Republic of Korea army in the vicinity of Unsan.

On Nov. 1 the 8th cavalry regiment of the U.S. 1st cavalry division was ambushed by Chinese Communist forces near Unsan with high U.S. casualties and heavy loss of matériel. Strong enemy counterattacks throughout the front put the U.N. forces on the defensive except for limited actions. On the same day the air force encountered jet planes for the first time in the Korean war and discovered other Communist aircraft in the air and on the ground for the first time in several months.

On Nov. 4 General MacArthur reported to the press that the Chinese Communist forces had intervened in Korea and had been identified prior to Oct. 30. On Nov. 6 General MacArthur reported officially to the U.N. Security council that Chinese Communist forces were fighting in Korea. During this period the

Chinese Communists continued to assert that any forces fighting in Korea were volunteers and not organized regular Chinese units.

South Korean refugees presented throughout the campaign a difficult problem, not only because they clogged the roads and in many cases were destitute and had to be supplied with food, but also because it was difficult to distinguish bona fide refugees from Communist guerrillas.

In many cases, organized troop units operating as guerrillas infiltrated U.N. positions, requiring large numbers of U.N. troops to guard supply lines.

With the Chinese Communist intervention, the second phase of the Korean war ended, with the original invading army of North Koreans largely destroyed, their air force out of action and their sea forces nonexistent. The United Nations army combat forces representing six different nations, the U.N. air force, representing three nations, and the U.N. sea forces, representing nine nations, had advanced from a perimeter defense at Pusan practically to the Manchurian border.

Again and again the United States government and the United Nations gave assurances through the press and through diplomatic correspondence that the United Nations forces would not advance beyond the Manchurian border. Despite this guarantee, the Chinese Communist forces continued to assemble across the Yalu river. The U.N. air force had numerous engagements with enemy aircraft which, after brief passes, always retreated across the Yalu river.

General MacArthur was faced with a situation probably unparalleled in history in that he was unable, because of political considerations, either to prevent the build-up of Communist forces and their equipment and supply or to prevent air attacks from a sanctuary a few miles north of his own troop locations.

Until the commitment of the Chinese Communists in force, it appeared that the campaign was about to be ended. Approximately 140,000 prisoners had been taken. Great amounts of supplies and equipment had been seized. The backbone of the North Korean army had been broken and plans had been laid for the military occupation of North Korea.

**Third Phase—Nov. 3 to Dec. 31.**—The third phase of the Korean war started with the appearance of Chinese Communist forces south of the Manchurian border in force. The combat potential of the North Korean army had been reduced practically to



zero, and with the movement of the Chinese armies across the Yalu river and the supply and transport of its army in a build-up just north of the border, an "entirely new war" began.

On Nov. 8 the U.N. Security council invited Mao Tse-tung to send a delegation to the United Nations to answer the United States charge that Chinese Communists had intervened in the Korean war.

On Nov. 9 an enemy jet fighter was destroyed by a U.S. F-80 aeroplane. This was the first jet-against-jet engagement in history.

On Nov. 10 the United Kingdom, France, Norway, Cuba, Ecuador and the United States presented a resolution to the Security council to request the Mao government to withdraw troops from Korea, and further to assure Peking that U.N. forces would not cross the Chinese border. The Soviet Union vetoed this resolution on Dec. 1. On Nov. 11 the Chinese Communist government accepted the Security council's invitation of Sept. 29 to appear with reference to the alleged attack by the U.S. against Formosa and refused the Security council's invitation to discuss the Chinese Communist intervention in Korea.

Table I.—U.N. Units, in Addition to Those of the United States and the Republic of Korea, in Action in Korea by Dec. 31, 1950

Country	Participation
Australia . . . . .	2 naval vessels R.A.A.F. squadron 1 infantry unit
Belgium . . . . .	3 aircraft with crews
Canada . . . . .	3 naval ships 1 R.C.A.F. transport squadron 1 infantry unit Canadian-Pacific Airline facilities (commercial)
France . . . . .	1 infantry unit
Great Britain . . . . .	9 naval ships 2 infantry units Brigade group Marine commando unit 1 R.A.F. flight
Greece . . . . .	7 transport planes 1 infantry unit
India . . . . .	One field ambulance unit
Netherlands . . . . .	1 naval ship 1 infantry unit
New Zealand . . . . .	2 ships Volunteer artillery unit
Philippines . . . . .	A number of tanks One infantry unit
Sweden . . . . .	Field hospital unit
Thailand . . . . .	One regimental combat team
Turkey . . . . .	3 ships Regimental combat team
Union of South Africa . . . . .	One fighter squadron

Despite the attacks of the Chinese Communists, U.N. forces continued advances on several fronts. By Nov. 15 the 7th marines had advanced against heavy resistance and had reached the Choshin reservoir. On Nov. 20 the U.S. 7th division reached the Manchurian border at Hyesanjin. These actions, together with the Republic of Korea 6th division reaching the Manchurian border near Chosan, constituted the farthest point of advance of the U.N. forces.

On Nov. 24 the "end the war" offensive, as it was called in U.S. headlines, was launched by the 8th army, and by the next day elements of the U.S. 24th infantry division had taken Chonju. The offensive launched on Nov. 24 disclosed a tremendous build-up of Chinese Communist forces to the extent of possibly 24 divisions. Had the 8th army remained stationary and not subjected the enemy to attack, it is probable that the Chinese offensive would have been launched shortly thereafter. The attack progressed satisfactorily for two days when strong attacks largely by Chinese Communists required U.N. forces to resume defensive operations.

In the east coast sector within the 10th corps area, U.N. forces faced only sporadic resistance. However, in the western sector Chinese Communists launched a strong offensive and on Nov. 27 a major effort was made against the U.S. 8th army right flank in the Tokchon area. In spite of heavy losses, the Chinese continued their advance, employing elements of approximately eight Chinese Communist divisions while continuing holding operations on the remainder of the 8th army position with six addi-

tional Chinese Communist divisions.

Communist guerrilla activity became increasingly troublesome during this period, and nearly 30% of the U.N. troops in Korea were employed in protecting vital lines of communication. It was estimated that 30,000 to 35,000 guerrillas were in action against U. N. forces.

Wu Hsiu-chuan and his Chinese Communist delegation arrived in New York city on Nov. 24, and on Nov. 28 General MacArthur reported that all hope for localization of the conflict to North Korean troops with only token Chinese elements must be abandoned. He stated that this was undeclared war and estimated that more than 200,000 Chinese Communist troops were now arrayed against the United Nations forces in Korea.

The U.S. 10th corps, operating on the right flank out of the east coast ports of Wonsan and Hamhung, had reached the Manchurian border at several points when the Chinese Communists attacked. The forced withdrawal of the 10th corps seriously endangered the troops in the Choshin reservoir area about 50 mi. from the coast. A general withdrawal toward Hungnam was ordered, the port of Wonsan was abandoned and a huge evacuation fleet was concentrated at Hungnam. In the withdrawal to the port the 1st marine division and the three battalions of the 7th infantry division encountered from six to eight Chinese Communist divisions. On Dec. 4 these U.N. units attacked southward to rejoin the remainder of the 10th corps.

A marine battalion and later a special task force of the 3rd infantry division were charged with keeping the road to the port open and with this help together with maximum assistance from air force, marine and naval aircraft by bombing, by supplying and by evacuating the wounded, the surrounded forces blasted their way to the port.

On Dec. 10 leading elements of the column entered the 10th corps defensive positions and by Dec. 12 the concentration of the 10th corps was complete. Fighting against terrific odds in the bitter cold, the marines and the three battalions of the 7th division had marched and fought 60 mi. along a narrow and often precipitous road. From Dec. 12 to Dec. 24 the 10th corps engaged in a succession of withdrawals upon the port of Hungnam. Heavy bombardment and air strikes from naval ships assisted materially in the success of the evacuation. As the 10th corps troops and their equipment were embarked, the beachhead contracted and the 3rd and 7th divisions and later the 3rd division alone defended the beachhead. Naval guns furnished artillery support for defending troops and air force, naval and marine planes prevented enemy concentrations in sufficient numbers to endanger the defense.

By Dec. 24 the evacuation had been completed. Approximately 105,000 men, 17,500 vehicles, 350,000 tons of cargo and 91,000 Korean civilians had been evacuated from Hungnam.

In the meantime, the exposal of the right flank of the 8th army by the Communist attack on the 10th corps forced the 8th army to withdraw. The U.S. 2nd infantry division and the Turkish brigade were exposed to heavy enemy pressure but succeeded in protecting the flank.

Table II.—U.S. Casualties in the Korean War Through Dec. 29, 1950

	Total	Army	Navy	Marine corps	Air force
1. Total casualties (sum of items 3, 4 and 5)	40,176	33,184	458	6,212	322
2. Total deaths (sum of items 3, 4a and 5a)	6,761	5,377	60	1,216	108
3. Killed in action—total . . . . .	6,031	4,826	52	1,048	105
4. Wounded in action—total . . . . .	27,997	22,578	338	5,059	22
a. Died of wounds . . . . .	716	537	8	168	3
b. Other (current wounded, returned to duty, evacuated to the U.S., etc.) . . . . .	27,281	22,041	330	4,891	19
5. Missing in action—total . . . . .	6,148	5,780	68	105	195
a. Died . . . . .	14	14	0	0	0
b. Returned to military control . . . . .	720	694	2	0	24
c. Current captured . . . . .	107	104	0	0	3
d. Current missing . . . . .	5,307	4,968	66	105	168

Source: The department of defense.



During the last two weeks of December, the United Nations forces were engaged principally in regrouping in defensive positions near the 38th parallel in preparation for an anticipated enemy attack. Tenth corps troops which had been evacuated from Hungnam were moved up to defensive positions and resupplied. Local patrol action and skirmishes with the enemy in size up to approximately a regiment took place, but there was no concentrated offensive effort on either side. At the end of the year it was evident that the Chinese forces, noted for their slow build-up of men and equipment, were preparing for an all-out assault against U.N. positions.

In General MacArthur's communiqués and in reports from front-line observers, one of the most significant results of the Korean war from June 25 until the end of the year was the extent of the U.N. co-operation among air, ground and sea forces. Never before in modern war had armed forces encountered a situation in which such close co-ordination was required. United Nations ground forces, the U.N. air force and U.N. sea forces were completely integrated.

News commentators pointed out that the Korean war could not be interpreted as a prototype for future wars. The enemy, after the earlier engagements, never used air power except in negligible strength. U.N. sea forces were in complete control of both coasts of Korea. On the ground, U.N. troops were faced by large numbers of troops which had, except in earlier phases, little armour and comparatively little heavy artillery. The North Korean troops and those of Communist China were lightly equipped and lightly armed, relying upon unconventional methods of transportation and utilizing the mountainous terrain of Korea to the utmost advantage.

In this respect, U.N. forces were comparatively roadbound and consequently were frequently at a disadvantage in the mountains.

The death of Gen. Walton W. Walker, commanding general of the 8th army, in a traffic accident on Dec. 23, resulted in the assignment of Lieut. Gen. Matthew B. Ridgway, army deputy chief of staff, as commanding general, 8th army.

(See also AVIATION, MILITARY.)

FILMS OF 1950.—*Our Stand in Korea* (United World Films, Inc.—U.S. Office of Education). (C. V. C.; G. S. Bd.)

**Kuwait:** see ARABIA.

**Labor, U.S. Department of:** see GOVERNMENT DEPARTMENTS AND BUREAUS.

**Labour:** see AGRICULTURE; CHILD LABOUR; CHILD WELFARE; EMPLOYMENT; INTERNATIONAL LABOUR ORGANIZATION; LABOUR UNIONS; LAW; NATIONAL LABOR RELATIONS BOARD; NATIONAL MEDIATION BOARD; SHIPBUILDING; STRIKES; UNITED STATES; WAGES AND HOURS. See also under various states.

**Labour Party, Great Britain:** see SOCIALISM.

**Labour Unions.** Recovery from the business recession of 1948-49 and increased business activity resulting from the rearmament program of the government changed the course of economic events in the United States during 1950 and the labour policies related to them. Hourly wage rates of factory employees, which for more than a year had stood at \$1.40, began moving up again and in the last months of 1950 exceeded \$1.50. Employment rose, unemployment declined and, after the outbreak of the Korean war in June, the revised foreign policies of the government added to a renewed post-World War II boom, the powerful influences of expanded armament schedules and plans for increasing the country's armed forces. These developments fortified the position of organized labour, stiffened its demands and turned its attention to the problems of unions in a war economy.

The early labour negotiations of 1950 were concerned mainly with the issue of old-age pensions and social insurance in indus-

tries in which these matters had not been settled the year before. In coal mining, the United Mine Workers continued to inspire stoppages and to limit the number of days worked in its efforts to rehabilitate the miners' welfare and retirement fund. Intervention by the president, the appointment of a fact-finding board and the granting of an injunction failed to produce a settlement and peace. On March 5, as a result of negotiations between union and employers, an agreement was reached raising the operators' contribution to the retirement fund from 20 to 30 cents per ton of coal mined and increasing miners' wages by 70 cents a day.

A three-month strike, beginning Jan. 25, shut down the Chrysler automobile plants over much the same issue. The company was willing to set up a pension plan for its employees but was unwilling to agree to the methods of financing proposed by the United Automobile Workers. An agreement was finally reached on May 4 whereby a \$100-a-month pension was established, the company undertaking to fund its obligations for past services of older employees.

The wage and pension agreement between General Motors and the United Automobile workers, signed late in May, climaxed the year's labour settlements. In addition to liberal pension and insurance benefits, the agreement provided for the automatic adjustment of wages to changes in living costs and granted an annual increase of four cents an hour, the so-called "improvement" factor, to enable employees to share in the gains from technological progress. The inclusion of these provisions in a contract which was to run for five years was received with relief throughout the country. It was considered a key to industrial peace and an evidence of the foresight of one of the country's largest corporations. The effects of the announcement of the contract were prompt and dramatic.

Chrysler, in voluntary discussion with the union, raised wages ten cents an hour and not long after adopted the General Motors wage formula. The formula, in fact, became the favourite method of wage settlement, with the result that more than 2,000,000 employees were estimated to be working under it at the close of the year. The only misgivings of the supporters of the formula grew out of the prospects for price control and the consequent uncertainties as to the fate of an automatic plan for raising wages while prices were being frozen.

Although these agreements contributed to industrial peace, conditions continued disturbed in the railroad industry. In this industry public regulation of labour negotiation through the Railway Labor act appeared to cause labour relations to deteriorate. The railway unions were irked by the length of time it took for negotiations to reach a conclusion. The machinery of the law acted as an obstacle to direct discussion between the operators and unions; and railroad employees felt that their wages and working conditions had fallen behind the standards of other industries. The result was a succession of strikes, authorized and unauthorized, by switchmen, yardmen, trainmen, firemen, engineers and conductors on one or another of the railroads of the country. The foremost issue arose out of the introduction of the 40-hr. week. In dealing with this question, decisions by emergency boards had granted only partial compensation for the reduction in hours. Negotiations to improve these awards were interrupted by strikes. Added to this problem was the perennial one of work rules and the realization by railroad employees and their unions, as the year rolled on, that they were lagging still further in relative wages.

Organized labour's intervention in politics received another test in the November congressional elections. For this election all factions of the labour movement made long preparations. The C.I.O. and the A.F. of L. worked closely together to defeat Sen. Robert A. Taft in Ohio and to elect Sen. Elbert D. Thomas in



Utah. The results were a great surprise, particularly to the labour unions. The Democrats retained control of both the senate and the house, but by much reduced majorities. More important, however, were Taft's overwhelming victory and the defeat of Thomas, a staunch labour supporter, by Wallace F. Bennett, former president of the National Association of Manufacturers.

The C.I.O. continued to purge itself of unions which were under Communist control. During the year it expelled nine unions, including the International Longshoremen's and Warehousemen's union, the Mine, Mill and Smelter Workers, and the Fur and Leather Workers. In the electrical manufacturing industry, the International Union of Electrical, Radio and Machine Workers, set up by the C.I.O. to replace the United Electrical Workers, won control over the larger part of that industry in elections conducted by the National Labor Relations board. But the U.E.W. retained a substantial membership and a large number of contracts with employers.

The A.F. of L. was relatively free from internal dissension during 1950 and was little troubled with communistic influences. The executive board of its former affiliate, the International Association of Machinists with about 500,000 members, voted to recommend reaffiliation with the A.F. of L. This would bring the total membership of the A.F. of L. to about 8,000,000. The C.I.O. probably lost in membership during the year because of the expulsion of its nine affiliates. Estimates based on dues payments to the C.I.O. suggest that its total membership declined from 3,900,000 in Oct. 1949 to 3,500,000 in Oct. 1950.

These rival federations of labour continued their search for greater unity and co-operated closely in politics, international labour activities and in their relations with the new war agencies in Washington, D.C. Actual merger of the two organizations, however, seemed far away. (See also *AUTOMOBILE INDUSTRY; LAW; NATIONAL LABOR RELATIONS BOARD; STRIKES.*) (L. Wo.)

**Canada.**—In Oct. 1950 the federal department of labour announced there were 1,005,639 labour unionists in Canada in 1949. The Trades and Labour congress had 459,068 members in 2,865 locals; the Canadian Congress of Labour 301,729 in 1,175 locals; the Canadian and Catholic Confederation of Labour 80,089 in 424 locals.

During 1950 the large unions held conventions, at which important resolutions were passed: the Canadian Congress of Labour supported a national labour code which covered every worker, higher old-age pensions without a means test, higher income tax exemptions, price ceilings at June 1950 levels and federal health insurance; the Trades and Labour congress supported annual two-week vacations with pay for all workers, payment for workers on statutory holidays and a five-day, 40-hr. week. The Canadian and Catholic Confederation of Labour presented a brief to the federal government requesting the appointment of an ambassador to the Vatican, adoption of a national flag, continued protection of industry against foreign competition and no compulsory military training in peacetime.

Both the large labour unions had trouble with Communist elements. The Canadian Congress of Labour threw out the 25,000-member United Electrical, Radio and Machine Workers, one of its largest affiliates; and the Trades and Labour congress amended its constitution in order to oust Communists from office and to expel any union electing Communists. The Canadian labour relations board of the federal government ruled that the 6,000-member, Communist-dominated Canadian Seaman's union was no longer a trade union within the meaning of the industrial relations and disputes investigation act and was not entitled to certification as a bargaining agent. (C. Cy.)

**International Movement.**—The world trade union movement continued in 1950 to be split between the Communist-led World Federation of Trade Unions (W.F.T.U.) and the International



PREPARING PICKET SIGNS for use in a strike by 89,000 Chrysler Corp. employees which began Jan. 25, 1950, over a pension and wages dispute. The strike ended on May 4 when the United Automobile Workers (C.I.O.) won guarantees of \$100-a-month pensions

Confederation of Free Trade Unions (I.C.F.T.U.), of which the British and U.S. unions formed the main nucleus. There was no substantial change during the year in the relative positions of the two bodies, except that the Chinese trade union movement was undergoing an extensive reorganization after the change of government in China and was in 1950 actively associated with the W.F.T.U., which also continued its efforts to secure the support of the growing trade union movements in Asia and in the African colonies, as well as in Latin America. In western Europe, the trade union movements connected with the W.F.T.U. continued to command the allegiance of the main bodies of manual workers in both France and Italy, whereas the Scandinavian countries, the Netherlands, Belgium and Switzerland were practically solid on the side of the I.C.F.T.U. At the inaugural congress of that body, in Nov.-Dec. 1949, it was decided to invite representatives of the Christian trade union movements which existed in a number of countries to join the new international. The French and Belgian Christian unions were actually represented, and subsequent negotiations with the International Federation of Christian Trade Unions took place for the discussion of future relations. The I.C.F.T.U. congress had agreed to accept the affiliation of the Christian unions only on condition that, within two years, they "along with all other affiliated bodies, accept and give effect to the principle of affiliation to one Trade Union international." This condition proved to be unacceptable to the Christian international, and the future relations between the I.C.F.T.U. and the Christian unions remained uncertain.

**Great Britain.**—For the first time for a number of years the affiliated membership of the British Trades Union congress showed a slight fall, from 7,937,091 to 7,883,355. The greater part of the fall, which was not large enough to have much significance, was in the railway trade unions, where it was partly a



consequence of staff reductions, and in the other transport and general workers' groups. There was also a small decline in the engineering group, whereas most others maintained or improved their positions. The British unions reached a point at which considerable further increases in membership could not easily be achieved without invasion of new fields.

In Jan. 1950 the general council convened a special conference of trade union executives and laid before it a report on the economic situation, including wages policy. The report, while recognizing the special claims of low-paid workers, reaffirmed the need for general restraint in wage applications and called on the trade unions to follow a policy of holding wage rates stable until Jan. 1951, as long as the retail price index remained within the range of 118 and 106 (June 1947=100). At the same time, the report recommended the further extension of systems of payment by results. The conference was sharply divided and the report was adopted by 4,263,000 votes against 3,606,000—a vote which was generally interpreted as a sign that wage-restraint was breaking down. This view was confirmed by the voting on a resolution put forward at the annual Trades Union congress in Sept. 1950, proposing much less rigid limitations on wage demands. This resolution was rejected by a small majority, leaving the T.U.C. with no wage policy at all. The rejection of wage restraint did not mean that there was any immediate danger of widespread strikes for higher wages. Compulsory arbitration remained in force, in the sense that strike action was unlawful unless a dispute was previously reported to the ministry of labour and the minister failed to use his power to refer it to the National Arbitration tribunal or some other approved body.

The activities of the communist minority inside the trade unions, in face of the intensification of the "cold war," led to an increased desire to take what steps were practicable to counter "subversive movements" without limitations on trade union freedom. Communist strength was in the main concentrated in a few unions. It appeared to be greatest in the Electrical Trades union, the National Union of Foundry Workers, the Civil Service Clerical association and a few small unions of technicians. It was most manifest, however, in the docks section of the widespread Transport and General Workers' union, and this section, especially in London and Liverpool, was the chief centre of significant unofficial strike action during the year. Communism was also strong in the leadership of the Scottish miners, but not in the National Union of Mineworkers as a whole. Certain leaders, notably Arthur Deakin of the Transport and General Workers' union and George Isaacs, the minister of labour, who was secretary of one of the printing unions, were vehement in denunciation of Communist influence; and a few unions, including the Transport and General Workers' union, took action against unofficial leaders who violated trade union discipline. But most unions preferred to let matters alone, aware that the power of the Communist minority to make trouble was very limited.

**Western Europe.**—In France, trade union events in 1950 turned chiefly on the question of wages and on the peace campaign conducted by the Communist party and the Communist-led *Confédération Générale du Travail* (C.G.T.) in opposition to the development of closer Franco-U.S. relations in connection with the North Atlantic treaty. The one-day general strike called by the C.G.T.-Force Ouvrière in Nov. 1949 was followed by prolonged negotiations on the wage issue, the trade unions pressing more and more for advances to meet the rising cost of living. When, in Aug. 1950, the government announced a new minimum wage scale the C.G.T. promptly rejected the concessions offered and denounced the Force Ouvrière and the Christian unions for refusing to join with it in outright opposition. There

was, however, an evident consciousness on the part of the C.G.T. that it was not then strong enough to force matters to a crisis.

In western Germany, the Trade Union federation (*Deutscher Gewerkschaftsbund für die Bundesrepublik Deutschland*), formed in Oct. 1949 by the union of the seven federations previously in existence for the separate *Länder*, was extended in July 1950 to include the trade unions of west Berlin. The highly centralized trade union organization set up in eastern Germany had no connections at all with the west. The west German unions had not regained their full pre-Hitler strength; but they advanced considerably and were pressing hard for representation on the controlling agencies in the Ruhr and in German industry generally.

In Italy the Socialist *Federazione Italiana del Lavoro*, which broke away in 1949 from the Communist-controlled *Confederazione Generale Italiana del Lavoro*, decided early in 1950 to merge with the mainly Catholic *Libera Confederazione Generale Italiana dei Lavoratori*. The last-named had already shed its exclusively Christian basis. (See also *WAGES AND HOURS*.)

(G. D. H. C.)

**Labrador:** see NEWFOUNDLAND AND LABRADOR.

**Labuan:** see BRITISH BORNEO.

**Lacrosse.** The Johns Hopkins university team won the Wingate Memorial trophy, symbolic of the championship of the United States Intercollegiate Lacrosse association, in 1950. The Baltimore team, which had annexed the title outright in 1947 and 1948 and shared the honours with the U.S. Naval academy in 1949, placed two of its men, Lloyd Bunting and Robert Sandell, on the association's official All-America ten.

Rensselaer Polytechnic institute of Troy, N.Y., Army, Syracuse and Yale were among the other top-flight squads in a campaign that saw heavier schedules in the colleges and schools and a definite gain in popularity of the Indian game. The feature of the season was the ninth annual all-star battle between the north and the south at College Park, Md. With men from upstate New York colleges accounting for nine goals, the north triumphed in the night contest, 12-8. The losers closed with a 4-goal rally, but could not overcome the 9-2 lead gained by their rivals in the first half.

The Mt. Washington Lacrosse club of Baltimore, Md., retained its national open crown but came out second best in one of the major surprises of the year when it dropped a 7-6 decision to Army at West Point, N.Y. Yale's high-scoring squad visited England for a series of matches, the feature of its invasion coming when the Elis routed a combined Oxford and Cambridge ten, 17-4.

Philadelphia triumphed in the women's national tournament, which attracted eight teams to Vassar college at Poughkeepsie, N.Y.

(T. V. H.)

**Lamb:** see MEAT.

**Laos:** see FRENCH UNION; INDOCHINA.

**Lard:** see MEAT; VEGETABLE OILS AND ANIMAL FATS.

**Latin America:** see ARGENTINA; BOLIVIA; BRAZIL; BRITISH GUIANA; BRITISH HONDURAS; CHILE; COLOMBIA; COSTA RICA; ECUADOR; FRENCH UNION; GUATEMALA; HONDURAS; NICARAGUA; PANAMÁ; PARAGUAY; PERU; SALVADOR, EL; SURINAM; URUGUAY; VENEZUELA.

**Latter Day Saints:** see MORMONS.

**Latvia.** From Nov. 18, 1918, to Aug. 5, 1940, when it was annexed by the U.S.S.R., Latvia was an independent republic. The U.S., British and other governments, however, did not recognize the annexation. Area: 25,395 sq.mi. Pop.: (1939



est.) 1,994,500, (1950 est.) 2,100,000. Nationalities (1939 est.): Latvian 75.5%, Russian and Byelorussian 11.9%, Jewish 4.8%, German 3.2%, Polish 2.5%, others 2.1%. Religion (1939 est.): Lutheran 56.6%, Roman Catholic 23.7%, Greek Orthodox 8.9%, Jewish 4.9%, others 5.9%. Chief towns: Riga (cap.; pop. 1939 est., 393,211); Liepaja (1935 census, 57,098). Chairman of the presidium of the supreme soviet of the Latvian S.S.R. in 1950, August M. Kirchensteins; chairman of the council of ministers, Vilis T. Lacis.

**History.**—On July 22, 1950, the soviet press published a letter addressed to Stalin by the Latvian working people expressing satisfaction that Latvia as "a puppet state in the hands of the imperialists" had ceased to exist in 1940. Other changes during the decade included the reduction of the number of Latvians, it was estimated, from 1,496,000 to 1,222,000, which meant that by 1950 they represented only 58% of the alleged total population against 75.5% in 1939. According to an advertisement in *Cina*, the mouthpiece of the Latvian Communist party, on Aug. 9, out of 15 secondary schools of Riga, the language of instruction in 9 was Russian, in 2 was both Russian and Latvian and in 4 was Latvian only.

In September and October four members of the government were dismissed for "bourgeois nationalism." They were: Serghey N. Gulnitsky, deputy prime minister; Peteris I. Valeskalns, foreign minister; Karlis Strazdins, minister of education; and N. Sakss, minister for forestry. Ivan P. Ostrov, a Russian deputy prime minister, took over the ministry of foreign affairs; Vilis Samsons, a Russified Latvian and soviet guerrilla leader during World War II, became minister of education.

By March 1 there were 4,115 *kolkhozy*, or collective farms, but by mid-August this number had been reduced to 1,908, and it was expected to decrease further by the amalgamation of smaller *kolkhozy* into bigger ones. The proportion of peasant property collectivized was 95%.

In connection with the tenth anniversary celebrations it was announced that 90,000 sq. metres of housing space had been built in Riga since 1945, compared with 170,000 sq. m. totally destroyed during World War II and 220,000 sq. m. of housing built in Riga during 1934-38.

On Jan. 31 a new administrative division of the country, based on the soviet pattern, was introduced: 58 *rayons* were to supersede the 19 districts into which Latvia had been previously divided. In the elections of March 12 to the supreme soviet of the U.S.S.R. 1,358,294 (99.94%) out of a possible 1,359,051 electors cast their votes; Latvia elected 7 members to the council of the union (including Gen. Ivan H. Bagramian, commander of the Baltic military area) and 25 to the council of nationalities (among them Ilya Ehrenburg, born in Kiev and never a resident of Latvia). (See also ESTONIA; LITHUANIA.)

**Education.**—In 1950 there were 282,000 pupils in elementary and secondary schools and 27,000 students in 66 technical schools and 10 institutions of higher education.

**Finance.**—Budget: (1949 est.) revenue 1,572,000,000 roubles, expenditure 1,478,000,000 roubles; (1950 est.) revenue 1,470,000,000 roubles, expenditure 1,420,000,000 roubles.

**BIBLIOGRAPHY.**—*Newsletter from behind the Iron Curtain* compiled by the *Baltic Review* (Stockholm). (K. Sm.)

**Law.** The fight against communism in the United States continued on the legal front during 1950 through actions against alleged Communists for sedition, perjury and contempt and the enactment by congress of a drastic subversive control law. The 81st congress also enlarged the benefits of social security, raised income tax rates, extended rent control, empowered the president to proceed with a program of priorities, allotments and price and wage controls and, reconvening for two days after the end of the year, passed a group of bills which included defense measures and an excess-profits tax. The supreme court

rendered decisions striking at race discrimination in colleges and dining cars, giving the national government dominion over oil-rich Texas and Louisiana tidelands, construing due process in criminal and administrative proceedings and adjudicating various technical issues.

Only the more important legal developments of general interest are reported in this article.

**Agriculture.**—Efforts of two Puerto Rican sugar refining companies and the island's government to knock out the sugar quota system administered by the U.S. secretary of agriculture were blocked by a supreme court decision upholding the constitutionality of the Sugar act of 1948. Annual allotments of the maximum tonnage of refined sugar which could be marketed on the mainland of the U.S. from offshore sugar-producing areas were not so discriminatory or oppressive as to violate the due process clause. "This court is not a tribunal for relief from the crudities and inequities of complicated economic legislation," said Justice Felix Frankfurter on behalf of a majority of the court (*Secretary of Agriculture v. Central Roig Refining Co.*, 338 U.S. 604).

Through amendments to the Agricultural Adjustment act of 1938, congress tried to correct inequities in acreage allotments and quotas in the marketing of cotton and peanuts, provided means by which farmers might have their 1950 acreage allotments reviewed, gave the secretary of agriculture power to dispose of surplus Irish potatoes acquired under the 1949 price support program by giving them to nonprofit agencies and institutions, and made price support for 1951 and subsequent potato crops contingent upon the coexistence of marketing quotas.

**Aliens and Citizenship.**—The exclusion from the United States by order of the attorney general of the German-born wife of a U.S. war veteran for security reasons was a proper exercise of executive power unaffected by the War Brides act. Nor was the exclusion order reviewable by the courts. The barring of aliens is an act of sovereignty to be carried out by the executive department as part of its control of foreign affairs (*Knauff v. Shaughnessy*, 338 U.S. 537).

An alien who has succeeded in entering the U.S., however, is entitled to the sort of hearing prescribed by law. The supreme court said that a native of China, ordered deported for unlawful entry, should have another chance because his case had been heard before an immigrant inspector who also investigated similar cases. This combination of functions violated the rules laid down by the Administrative Procedure act, which applied since the Immigration act does not specify how such hearings should be conducted (*Sung v. McGrath*, 339 U.S. 33).

The deportation of two German-born former citizens, whose naturalization had been cancelled after they had been convicted of violating the Espionage act of 1917, was approved by the supreme court as authorized by statute. The majority of the court held that it made no difference whether they had the status of aliens at the time of their conviction or not (*Eichenlaub v. Shaughnessy*, 338 U.S. 521).

An American woman, who had signed a renunciation of U.S. citizenship when she married an Italian, was told by the supreme court that she had been "playing for keeps," even though she may not have realized it. Upon her return to the U.S. she found that she had expatriated herself (*Savorgnan v. U.S.*, 338 U.S. 491).

The Displaced Persons act of 1948 was amended to permit the entry into the U.S. of a total of 415,744 political refugees apportioned among four groups: (1) 54,744 expellees from German ethnic countries; (2) 5,000 orphans from western Europe; (3) 15,000 persons already in the U.S. on temporary visas; and (4) 341,000 other displaced persons. The requirements that 30% must be farmers and 40% must come from Balkan countries were repealed. The deadline for displaced persons to have been in camps was extended to Jan. 1, 1949, for issuing general visas to June 30.



1951, and for visas for expellees and orphans to July 1, 1951.

Congress also created the International Claims commission in the state department to hear and adjust claims of the U.S. and its nationals against foreign governments from the funds provided through previous lump sum settlements by international agreement. Special procedures were set up to handle claims arising from the appropriation of U.S. property in Yugoslavia.

**Armed Forces.**—An attack upon the legality of court-martial proceedings on behalf of a soldier convicted of rape, on the ground that the issue of his insanity had not been properly treated was rejected by the supreme court. All that was required was that this issue should be considered at some time during the proceedings, which had been done. The right to trial by jury guaranteed by the federal constitution does not apply to military trials (*Whelchel v. McDonald*, 340 U.S. 122).

The high court also denied writs of habeas corpus to 21 German alien enemies convicted of war crimes by a U.S. military commission in China for engaging in military activities against the U.S. after German capitulation and before the surrender of Japan. The judiciary had no power to inquire into the legality of the military trial. The constitution does not confer immunity from military trial and punishment upon alien enemies engaged in hostile action against the U.S. (*Johnson v. Eisentrager*, 339 U.S. 763).

Members of the armed forces cannot maintain suits against the U.S. under the Tort Claims act for injuries sustained while on active duty, resulting from the negligence of other servicemen (*Peres v. U.S.*, 340 U.S. 135). The court pointed out that its 1949 ruling in *Brooks v. U.S.*, 335 U.S. 901, permitted suits against the government by service personnel only for injuries suffered while off duty. Congress has provided other means of compensation for service-connected injuries and death.

An amendment to the Selective Service act, known as the Dependents Assistance act of 1950, provided for contributions by the government to the support of wives, children and dependent parents of enlisted men in the amount of \$45 for one dependent, \$67.50 for two and \$85 for three or more, to supplement contributions from pay of \$40, \$60 or \$80 per month, according to grade. Congress also approved a uniform code of military justice.

**Business Regulation.**—Congress attempted to plug a loophole in the Clayton Antitrust act by broadening its antimerger provision, which forbids the purchase of stock of one corporation by another for monopolistic purposes, to include a prohibition against the purchase of corporate assets for similar purposes.

The maintenance of a mandatory schedule of brokerage fees by a Washington, D.C., real-estate board was ruled by the supreme court to be an illegal price-fixing scheme in violation of section 3 of the Sherman act. Although the real-estate business does not involve the sale of commodities, it comes within the designation "trade" used in the statute (*U.S. v. Real Estate Boards*, 339 U.S. 485).

In a suit to stop manufacturers of gypsum products from fixing industry prices through patent licensing agreements, the supreme court found the lower court decree to be too narrow in scope. Instead of merely enjoining the price fixing of patented gypsum board in the eastern area of the U.S., it should have been extended to include all gypsum products moving in interstate commerce (*U.S. v. Gypsum Co.*, 340 U.S. 76).

Among regulatory actions of government agencies approved by the high court were the confiscation by the food and drug administrator of numerous shipments of mineral tablets, which he believed to be misbranded, without first holding a hearing (*Ewing v. Mytinger*, 339 U.S. 594); the awarding by the Civil Aeronautics board to a carrier of routes not requested in its application in spite of objections by a competing carrier (*CAB v. State Airlines*, 338 U.S. 572); and an order of the Federal Trade com-

mission to a business concern requiring it to submit reports showing compliance with a four-year-old cease and desist order, although the particular form of reports required had not been authorized by the decree nor by statute (*U.S. v. Morton Salt Co.*, 338 U.S. 632).

The Louisiana supreme court knocked out the state's Liquor Control act of 1948 as unconstitutional because of mandatory minimum price mark-up provisions. The court held that such price fixing in no way served the announced purpose of the statute, namely, to control the liquor traffic so that it "may not cause injury to the economic, social and moral well-being of the people of the state" (*Schwegmann Brothers v. Louisiana Board*, 43 So. 2nd 248). On the other hand, the supreme court of Arkansas sustained the state's liquor price-fixing law, and the New York legislature passed a new mandatory liquor fair-trade act to replace a former law which had been declared unconstitutional by the state's highest court. The new act required distillers, importers and wholesalers to fix minimum resale prices for their products sold through licensed retail outlets.

**Civil Rights.**—Proponents of race segregation suffered setbacks in three cases. The supreme court condemned Jim Crow practices on railroad dining cars as a violation of section 3 (1) of the Interstate Commerce act, which makes it unlawful for a railroad to subject any person "to any undue or unreasonable prejudice or disadvantage." Rules limiting Negroes to the use of two tables curtained off from the rest of the diner and compelling them to wait for vacancies at those tables constituted such disadvantage (*Henderson v. U.S.*, 339 U.S. 816).

In two other cases the court construed the equal protection clause of the 14th amendment as meaning literally "equal" when

PRESS ROOM set up in a courthouse basement at Manchester, N.H., during the trial of Hermann N. Sander, a physician, who was acquitted on March 9, 1950, of the "mercy killing" of a cancer patient. Sander's medical licence was revoked on April 19 but was restored to him on June 28





applied to the facilities of state-operated professional and graduate schools. Contentions of a Negro, who had been denied admission to the University of Texas law school, that a special law school created exclusively for Negroes did not offer educational opportunities substantially equivalent to those available to white students were sustained by the high court (*Sweatt v. Painter*, 339 U.S. 629). At the instance of a 55-year-old Negro professor, engaged in graduate study, the court also directed the University of Oklahoma to treat Negroes in the same way as white students. Assigning Negroes to a separate row of seats in a classroom or to a designated table in the library or cafeteria did not satisfy constitutional requirements (*McLaurin v. Oklahoma Regents*, 339 U.S. 637). Although the court did not expressly repudiate the "separate but equal" doctrine, previously laid down, it definitely narrowed its availability as a defense against charges of unlawful discrimination.

Adhering to its hands-off policy toward state election laws, the supreme court declined to interfere with Georgia's "county unit system" in primary elections, which in effect reduces Negro state-wide voting strength (*South v. Peters*, 339 U.S. 276), and brushed aside an attack on a new Georgia statute setting up an educational test for voters designed to cut down the total Negro vote.

A new phase of censorship was approved by the supreme court in a decision that section 245 of the federal criminal code, which makes illegal the interstate shipment of any "obscene . . . book, pamphlet, picture, motion-picture film, paper, letter, writing, print, or other matter of indecent character," applies to obscene phonograph records. The defense that the ban was intended to apply only "to objects comprehensible by sight" was rejected by the court (*U.S. v. Alpers*, 338 U.S. 680).

**Criminal Law.**—The 1949 conviction of 11 Communist leaders for conspiring to use their party to advocate the violent overthrow of the U.S. government was affirmed by the second circuit court of appeals in a 66-page opinion by Chief Judge Learned Hand. The supreme court agreed to review the case solely on the question of the validity of the Smith act, the peacetime sedition law under which they were convicted.

Several high court decisions dealt with the contempt powers of congressional committees. In a four-to-three decision the court upheld the power of the un-American activities committee to hold a member of the executive board of a voluntary association in contempt for failure to produce the group's records in answer to a subpoena. The plea that the records were under the control of the executive secretary and that compliance with the subpoena would require the co-operation of other members of the executive board was no defense (*U.S. v. Fleischman*, 339 U.S. 349). Nor could the refusal of the executive secretary of the Joint Anti-Fascist Refugee committee to produce the records of her organization before the same committee be justified on the grounds that a quorum of the committee was not present at the time set for her appearance as a witness, since she had not raised that point at the hearing. The court distinguished its 1949 ruling in the Harold R. Christoffel case as inapplicable because it arose upon the construction of a dissimilar statute (*U.S. v. Bryan*, 339 U.S. 323). The court also declined to review the contempt convictions of two Hollywood writers for refusing to tell the same congressional committee whether or not they were Communists. Neither of them had rested his refusal on the ground that his answer might incriminate him. But in another case the court made it clear that the constitutional privilege against self-incrimination is available to those who wish to claim it in good faith. A woman witness before a grand jury was justified in refusing to answer questions concerning her employment by the Communist party on the ground that she might incriminate herself. Her fear that criminal charges might be brought

against her was more than "a mere imaginary possibility" in view of the provisions of the Smith act (*Blau v. U.S.*, 340 U.S. 159).

The general secretary of the U.S. Communist party found the supreme court cold to his contention that the jury which convicted him of contempt for failing to appear before the un-American activities committee was not "impartial," as guaranteed by the 6th amendment, because it included federal employees (*Dennis v. U.S.*, 339 U.S. 162). The executive director of the National Council of American-Soviet Friendship, however, succeeded in getting his contempt conviction reversed because the trial judge had denied his lawyer an opportunity to ask prospective jurors, who were on the government pay roll, whether a so-called loyalty order would affect their ability to render an impartial verdict (*Morford v. U.S.*, 339 U.S. 258).

Officers armed with an arrest warrant, but not with a search warrant, were legally justified in searching the offices of a stamp dealer at the time of his arrest and seizing stamps in the belief that some of them had been illegally altered. Searches and seizures incident to lawful arrest do not violate the 4th amendment, the supreme court said, overruling the two-year-old *Trupiano* decision (334 U.S. 699) to the extent that it requires a search warrant whenever "practicable." The proper test is reasonableness rather than practicability (*U.S. v. Rabinowitz*, 339 U.S. 56). The court also held that due process had been satisfied when Georgia's governor on the advice of three physicians ruled that a convicted murderer was sane and thereby confirmed his death sentence, although the state law made no provision for judicial review of such decisions (*Solesbee v. Balkcom*, 339 U.S. 9). The court also reiterated its view that the failure of an accused to be offered counsel is not necessarily a denial of due process. A defendant who had pleaded guilty and made no claim that he had not been advised of his right to counsel could not later complain of unfair treatment (*Quicksall v. Michigan*, 339 U.S. 660).

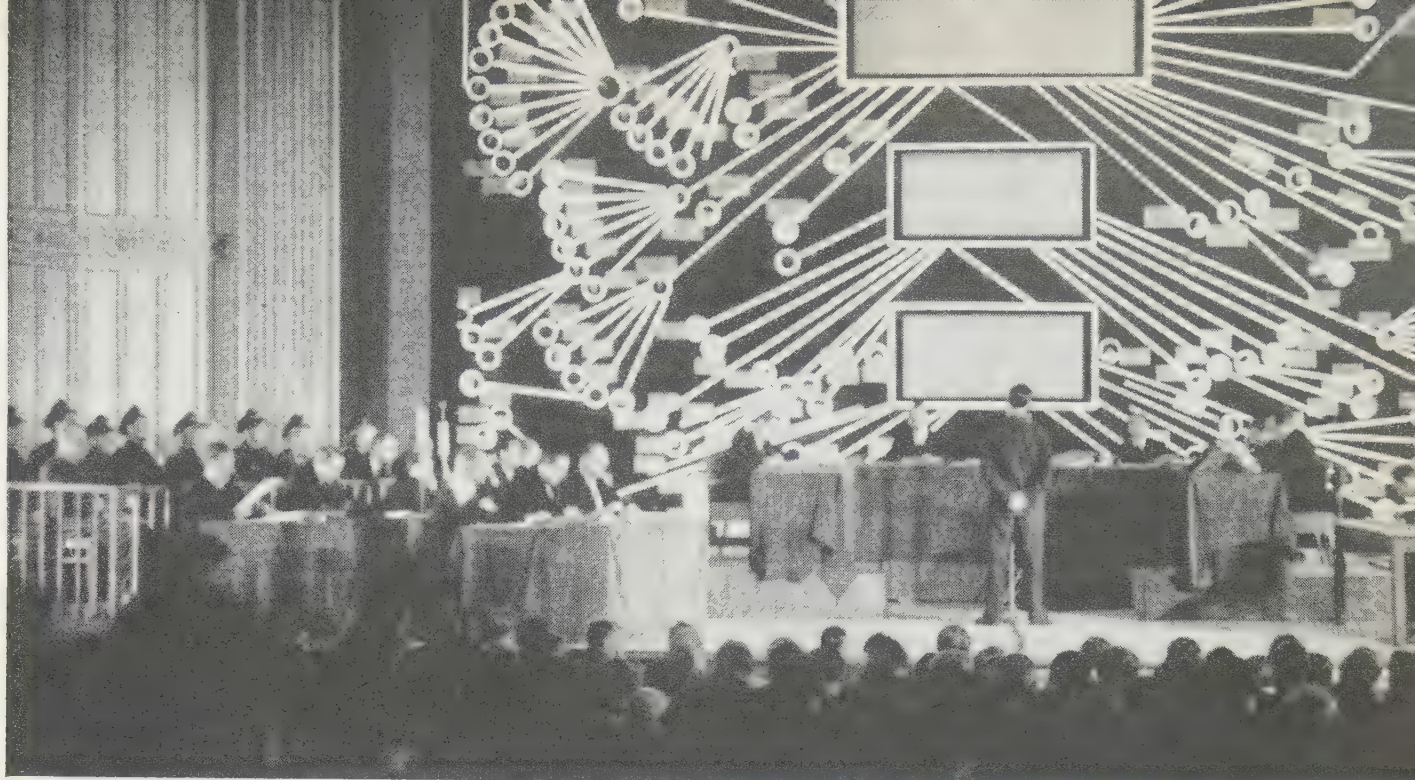
The murder conviction of a Negro was reversed on the ground that his motion to quash the indictment should have been granted because Negroes had been discriminated against in selecting the grand jury. Although 15.5% of the population of the county were Negroes, there had never been more than one Negro on any grand jury during a period of five and one-half years. The 14th amendment prohibits racial discrimination in selecting grand juries (*Cassell v. Texas*, 339 U.S. 282).

On recommendation of the Kefauver committee, which investigated organized gambling, congress banned the interstate shipment of slot machines.

**Defense Measures.**—The president was empowered by the Defense Production act of 1950 to enforce priorities and allocations, stabilize wages and prices, requisition equipment, materials and facilities, control consumer and real-estate credit, settle labour disputes on a voluntary basis and take steps to expand the nation's productive capacity and supply. The new act contained antihoarding provisions and directed that wage controls should also be imposed to prevent inequities in industries where price ceilings are set. Pursuant to the authority thus given to him, the president created the National Production authority (*q.v.*) in the department of commerce to exercise priority and allocation powers not reserved to the secretaries of agriculture and the interior and the Interstate Commerce commission (*q.v.*). The president also created the Economic Stabilization agency (*q.v.*) with orders to hold the wage-price line on a voluntary basis. Time-payment buying was slowed down by new regulations issued by the board of governors of the federal reserve system effective Sept. 18, which ordered larger down payments and shorter periods for instalment purchases.

The Civil Defense act, passed by the 81st congress two days after the end of 1950, set up a three-year program for building





**TRIAL OF NINE INDUSTRIALISTS** in eastern Germany who were convicted without appeal in April 1950 on charges of smuggling assets to western Germany and of preventing the transfer to public ownership of all assets of the German Continental Gas corporation when it was nationalized in 1946. Neon diagram in the background traced the corporation's structure

atomic bomb shelters, stockpiling medical supplies, co-ordinating defense activities of state and local governments, disseminating defense information and establishing communications systems, to be in charge of an administrator with powers to seize property and requisition the facilities and services of other federal agencies.

**Housing and Rent.**—Provision was made by congress for a five-year program of repair and modernization loans through the passage of the Housing act of 1950, which substantially increased the amount of mortgage insurance available to the housing administrator, authorized revolving funds for direct loans to veterans and for faculty and student housing in colleges and universities, and provided an additional \$250,000,000 for the Federal National Mortgage association to be used in creating a secondary mortgage market by buying existing mortgages. (*See HOUSING.*)

Two respites from rent increases were granted to tenants in rent control areas through the extension of controls first to Dec. 31, 1950, and later to March 31, 1951. Provision was made for further extension to June 30, 1951, at the option of local governments.

**Internal Security Act.**—Congress created a three-pronged weapon against subversive activities through the passage of the much-debated McCarran act, which required the registration of organized Communists and fellow travellers, denied them citizenship and gave the attorney general emergency powers to detain persons suspected of planning to spy or commit sabotage. Under Title I, known as the Subversive Activities Control act of 1950, Communist-action and Communist-front organizations must list their officers and submit accounts of their receipts and disbursements to the attorney general. Action groups must also list their members. Registered organizations are denied tax deductions and exemptions. Their members are barred from federal jobs and denied passports. Such organizations must label all mail and broadcasts as sponsored by a Communist organization. Failure to register is punishable by fine not to exceed \$10,000 and imprisonment not to exceed ten years. Title I also amended various statutes relating to immigration and naturalization. It excluded from entry into the U.S. all aliens who are, or ever have been,

members of the Communist party or of any organization required to register. Resident aliens, who have been within any of the excludable categories within ten years prior to filing a petition for naturalization, must be denied citizenship. Joining a registered organization within five years after naturalization creates a presumption that the alien was not attached to the principles of the U.S. constitution and if not rebutted by other evidence will warrant denaturalization.

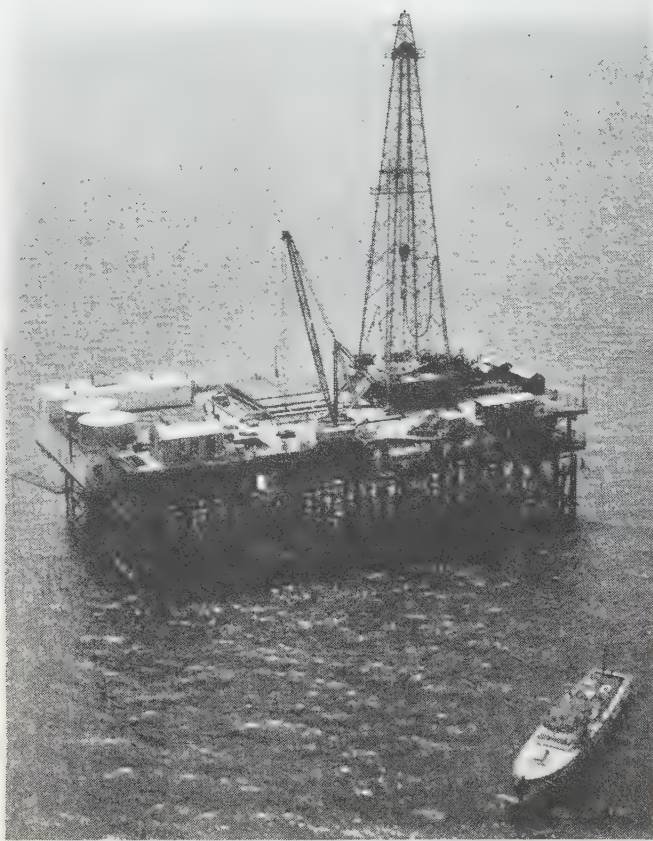
Title II, known as the Emergency Detention act of 1950, empowered the attorney general, in the event of invasion, declaration of war or insurrection within the U.S. in aid of a foreign enemy, to detain any person as to whom there is reasonable ground to believe that he will engage in espionage or sabotage. Membership in the Communist party after Jan. 1, 1949, may be considered in deciding the existence of reasonable grounds for detention.

**Labour.**—Two C.I.O. (Congress of Industrial Organizations) unions lost their fight against the anti-Communist affidavit requirements of the Labor-Management Relations act. The supreme court justices ruled five to one that union officers must disclose their affiliation with or membership in the Communist party as a prerequisite for using the machinery of the National Labor Relations board. But the court split three to three over the requirement of an oath disclaiming membership or belief in any organization advocating the forceful overthrow of the government (*A.C.A. v. Douds*, 339 U.S. 382).

In three cases arising on the west coast, the supreme court approved injunctions granted by state courts against picketing. A teamsters' union had been properly restrained from trying to force a garage owner, who operated without employees, to comply with union rules (*Teamsters Union v. Hanke*, 339 U.S. 470). Nor was a building service employees' union justified in picketing a hotel owner in an effort to compel him to sign a union shop agreement when his employees did not want to join the union (*Building Service Union v. Gazzam*, 339 U.S. 532). Similarly, an injunction against the picketing of a grocery store by a group called the Progressive Citizens of America in order to force the owner to hire Negro clerks in proportion to his Negro customers was not a violation of the right to free speech (*Hughes v. Superior Court*, 339 U.S. 460).

The strike-vote provision of the Michigan labour mediation





OFFSHORE DRILLING PLATFORM in the Gulf of Mexico, located on the tidal oil lands bordering Louisiana and Texas over which the federal government was given dominion by a 1950 supreme court ruling

law, which laid down certain prestrike mediation procedures, was nullified by the federal supreme court because it invaded a field pre-empted by congress under the Labor-Management Relations act (*International Union v. O'Brien*, 339 U.S. 454). The court also ruled that delay by the National Labor Relations board in exercising its power to enforce a cease and desist order did not terminate such power (*NLRB v. Pool Manufacturing Co.*, 339 U.S. 577). Nor did compliance by an employer with a similar order deprive the board of its power to enforce the order later upon the resumption of the unfair practice at which the order was aimed (*NLRB v. Mexia Mills*, 339 U.S. 563).

Workers in government-owned munition plants, operated during World War II by private companies under a cost plus a fixed fee basis, were held by the supreme court to be governed by the wage-hour law and to be entitled to overtime pay (*Powell v. U.S. Cartridge Co.*, 339 U.S. 497).

The court reaffirmed the exclusive jurisdiction of the National Railway Adjustment board to adjudicate disputes between railroads and labour unions without interference by state courts while such proceedings are pending (*Slocum v. D.L. and W.R. Co.*, 339 U.S. 239; *Railway Conductors v. Southern Railway Co.*, 339 U.S. 255). The Railway Labor act was amended to permit railroad and air line unions to negotiate for a union shop and checkoff.

**Social Security.**—Congress amended the Social Security act to extend old-age insurance to about 10,000,000 persons not previously covered, including some domestic and agricultural workers, self-employed persons and employees of state and local governments and nonprofit organizations who may come in on a voluntary basis. Self-employed farmers and certain professional

groups including lawyers, doctors and ministers were excluded. The new coverage was extended only to those domestic servants who work for an employer 24 days in a calendar quarter and receive \$50 or more in wages, and to farm hands who work at least 60 days in one quarter and receive \$50 or more, provided they have worked for the same employer continuously during the preceding quarter.

Under the new law maximum family benefits would be increased from \$85 to \$150 a month. The wage base for benefit and contribution purposes was raised from \$3,000 to \$3,600. World War II veterans were given wage credits amounting to \$160 for every month of service.

So-called "new start" provisions liberalized eligibility requirements; for instance, a worker who was 65 on Sept. 1, 1950, could qualify for benefits after working six quarters in a covered employment earning at least \$50 a quarter.

The tax rate under the new law as to employed persons would rise to 2% in 1954, 2½% in 1960, 3% in 1965 and 3½% in 1970. Self-employed persons, choosing to take advantage of old-age insurance, would pay 2½% on their income up to \$3,600 at the end of 1951 with the rate rising to 3% in 1954, 3½% in 1960, 4½% in 1965 and 4½% in 1970. (See also SOCIAL SECURITY.)

**States' Rights.**—The supreme court unanimously rejected claims of Louisiana over a strip of land 27 mi. wide extending along the Gulf coast. Relying on the precedent of *U.S. v. California*, 332 U.S. 19, Justice William O. Douglas said, "Property rights must be so subordinated to political rights, as in substance to coalesce and unite in the national sovereign. Today the controversy is over oil. Tomorrow it may be over some other substance. . . . If the property, whatever it may be, lies seaward of low water mark, its use, position, management, and control involve national interests and national responsibilities" (*U.S. v. Louisiana*, 339 U.S. 699). The justices had more difficulty in disposing of the claim of Texas that it had never ceded to the U.S. sovereignty over the marginal sea to the three-mile limit which it had acquired as an independent republic. In a four-to-three decision, the court concluded that Texas had transferred all its rights in tidelands to the national government upon its admission into the union by joint resolution of congress on an equal footing with the existing states (*U.S. v. Texas*, 339 U.S. 707).

The supreme court, however, agreed to apply the law of California in adjudicating claims by riparian owners to compensation for damage done through the impounding of the San Joaquin river in California for irrigation purposes. The construction of the Friant dam and its dependent irrigation system was a reclamation project rather than a navigation project for the purpose of determining the rights of the landowners (*U.S. v. Gerlach Co.*, 339 U.S. 725).

The high court also upheld the powers of states to forbid their residents to make bequests of property to the federal government (*U.S. v. Burnison*, 339 U.S. 87); to prohibit out-of-state corporations from soliciting insurance business by mail within the state (*Travelers Health Assn. v. Virginia*, 339 U.S. 643); and to fix the minimum price at which natural gas may be taken from the common reservoir by interstate pipe lines, or otherwise, as a conservation measure (*Cities Service Co. v. Peerless Co.*, 340 U.S. 179). But the high court ruled that a natural gas company, bringing gas into Ohio through the interstate lines of other companies, which connected with the local company's intrastate lines, was involved in interstate commerce so as to subject it to the regulations of the Federal Power commission (*FPC v. East Ohio Gas Co.*, 338 U.S. 464).

**Taxation.**—The Revenue act of 1950 became law on Sept. 23 and applied to income received after Oct. 1. The new act increased the starting rate on individual income from 16.6% to



20% and from about 82% to 91% in the top bracket and restored the maximum rate limitation to the previous level of 87%. The withholding rate on wages and salaries was raised as of Oct. 1, 1950, from 15% to 18%. The top tax rates on corporations went up from a 38% average to a new high of 45%. The so-called "notch" rates on corporate income, which applied to that part of income between \$25,000 and \$50,000, resulting in a 53% rate, were eliminated. The new statute imposed a flat 20% surtax rate on a flat normal tax rate of 20% with a \$25,000 surtax exemption. It also provided for speeding up collections of corporate income tax. The new corporate rates were made retroactive to July 1, 1950. In an effort to block a device used by educational, charitable and other tax-exempt organizations, the new law made income derived by nonprofit organizations from unrelated business activities taxable.

A further levy on corporations was enacted by the 81st congress, upon reconvening after the year's end, through an enactment boosting the tax rate on corporations earning more than \$25,000 a year from 45% to 47% and levying a tax of 77% on excess profits, which were defined as corporate earnings in excess of 85% of average profits for the three best years from 1946 through 1949. Combined normal- and excess-profits tax was limited, however, to 62% of yearly earnings.

Congress also repealed the federal tax on oleomargarine which had been on the books for 64 years. It provided, however, for the marking of this product on the package label with the word "oleomargarine" or "margarine" in large type and that oleomargarine served in restaurants must be cut in triangular pieces.

Tax decisions by the supreme court included rulings that a corporation is not liable for income tax on the sale of assets which are first transferred to stockholders in partial liquidation and are then sold (*U.S. v. Cumberland Co.*, 338 U.S. 451); that a new Maryland law imposing a 2% tax on interstate motor carriers using Maryland roads was not an unreasonable burden on interstate commerce (*Capitol Greyhound Lines v. Brice*, 339 U.S. 542); that a New Jersey statute subjecting the intangibles owned by insurance companies to a state tax up to 15% of their value was valid since such a tax might apply to U.S. bonds (*N.J. Insurance Co. v. Division of Tax Appeals*, 338 U.S. 665); that a transfer of property from a wife to her husband as part of a divorce settlement was not subject to the federal gift tax (*Harris v. C.I.R.*, 340 U.S. 106); and that a tax on marijuana of \$100 per ounce, intended to slow down traffic in that drug, was not unconstitutional as a penalty, even though its primary purpose was for regulation rather than for revenue (*U.S. v. Sanchez*, 340 U.S. 242).

(See also EDUCATION; NATIONAL LABOR RELATIONS BOARD; TAXATION; UNITED STATES.) (M. DN.)

**United Kingdom Legislation.**—Legislation in the British imperial parliament during 1950 naturally reflected the prevailing political conditions; the standstill before the general election of February and the stalemate that ensued upon the even state of the parties in the new house of commons thereafter.

The latter months of 1949 saw the royal assent granted to, among other measures, the British North America (No. 2) act, 1949, the Parliament act, 1949, and the Law Reform (Miscellaneous Provisions) act, 1949. The main effect of the Parliament act was to reduce the period during which the house of lords had power to delay legislation from three sessions and two years, as fixed by the Parliament act of 1911, to two sessions and one year, operating retrospectively to the session of 1947-48 when the measure was first introduced. Thus there passed into law one of the most controversial constitutional measures of modern times, fiercely debated in the commons and three times rejected in the lords until it was finally passed under the machinery of the 1911 Parliament act which it amended.

Whether its ultimate importance would be found equal to its capacity for engendering controversy remained to be seen. The British North America (No. 2) act was, on the contrary, a wholly uncontroversial measure designed to enable the parliament of Canada to amend (with some reservations) the Canadian constitution, a further step in the constitutional decentralization of the commonwealth (see below).

The third measure mentioned above, the Law Reform (Miscellaneous Provisions) act, 1949, made a series of important changes in the law relating to divorce and other matrimonial proceedings. Perhaps the most important of these were: (1) the provision, by section 4, that where a decree of nullity was granted in respect of a marriage that was voidable (as distinct from being void from the beginning), the children born to such a marriage should not necessarily be deemed illegitimate; and (2) the overruling by parliament, under section 7, of the judicial rule known as the rule in *Russell v. Russell* whereby the evidence of a spouse was not admissible to prove that marital intercourse did or did not take place between them during any period.

The legislation brought before the new parliament was not of more than second-rate importance, though much of it was extremely useful. One measure dealing with the legal aspects of international relations was the International Organisations (Immunities and Privileges) act, giving the crown power to confer by order in council diplomatic privileges on members of organizations declared by order in council to be organizations of which the United Kingdom and one or more other sovereign powers (or their governments) are members; and on judges, officials, advocates and suitors of the International Court of Justice.

On Oct. 2, 1950, there came into force in England certain parts of the Legal Aid and Advice act, 1949, namely those relating to proceedings in the supreme court of judicature or remitted from it to the mayor's and city of London court or to any county court. Thus was inaugurated an experiment in providing a public legal service administered by the legal profession itself.

**Commonwealth Legislation.**—In Canada, while there was some interesting discussion of the procedure for amending the constitution, the principal measure under consideration was a proposal, following on the British North America (No. 2) act, 1949, to group the provisions of the British North America acts, 1867-1949, and other constitutional acts under two heads: viz., (1) provisions concerning parliament, the legislature of the dominion, only; and (2) provisions concerning the provincial legislatures only. It was proposed that measures in the first category should be amended by acts of the parliament of Canada and that measures in the second should be amended by acts of the provincial legislatures.

In India the new constitution, keenly debated in the previous year, came into force and on Jan. 26 the republic of India was inaugurated by proclamation of the governor general, Chakravarti Rajagopalachari, with Rajendra Prasad as the first president. In Pakistan the process of constitution-building continued with the presentation to the constituent assembly in September of the interim reports of the basic principles committee and the committee on the fundamental rights of citizens.

In South Africa, following the example of Canada, appeals from the courts of the dominion, which for some time had fallen virtually into desuetude, were formally abolished.

**British Case Law.**—*International Law.*—An interesting action was brought in the chancery division and heard by Justice Harry Vaisey, under the name of *Republic of Italy v. Hambros Bank Ltd.*, and *Gregory (Custodian of Enemy Property)* (1950 Weekly Notes 102), and arising out of the treaty of peace concluded in 1947 between the United Kingdom, among other signa-



tory powers, and Italy. A financial agreement was concluded between the United Kingdom and Italy later in 1947 concerning the liquidation and disposition of Italian property held by the custodian of enemy property as belonging to Italy or Italian nationals. In the action the republic of Italy claimed that the terms of the financial agreement impressed certain assets in the United Kingdom formerly belonging to King Victor Emanuel III of Italy with a certain trust or fiduciary obligation in respect of which the republic was the beneficiary, and which it sought to enforce against the bank and the custodian. Justice Vaisey held that the financial agreement was in substance a treaty and that the court could not take cognizance of it. Neither of the two defendants, the judge pointed out, was a party to the agreement, and the British government, which was a party, was not a defendant. On a subsequent application in the chancery division Justice Wynn Parry authorized Hambros bank as administrator of the United Kingdom estate of King Victor Emanuel, to hand over the assets of the estate valued at more than £1,000,000 to the heirs of the king, subject to the provisions of the Exchange Control act.

The doctrine of the immunity of one sovereign or state from being sued in the courts of another, raised in *Krajina v. Tass Agency* (1949 2 All England Reports 274), came to the forefront again in *Dollfus Mieg v. Bank of England* (66 Times Law Reports 675), and though this case was decided in the court of appeal on a question of fact, the master of the rolls expressed his fears that the doctrine had been pushed too far, a matter of particular interest in view of the appointment by the lord chancellor, following on the Tass agency case, of a committee under the chairmanship of Lord Justice Somervell to consider the doctrine's proper limits. On Dec. 1 this committee's report had not been published.

A decision of great human interest as well as of some importance as an instance of the application of a well-known rule was given by the court of appeal in *Kenward v. Kenward* (66 Times Law Reports, part 2, 150). This was one of a series of cases in which English husbands who had married Russian wives while stationed in the Soviet Union sought to have their marriages annulled, the soviet authorities not permitting the wives to leave their country of origin. The court here held that it was possible to infer from the whole conduct of the Russian authorities that they took the view that marriages between British men and Russian women were not marriages to which the smallest regard would thereafter be paid. Therefore the absence of certain formalities went to the root of the matter, and the so-called marriage was never a marriage that the court would recognize because it never conformed with the law of the place where it was celebrated.

Another case arising out of the tangle of wartime and post-war international relationships was *Boguslawski v. Gdynia Ameryka Linie* (1950 Weekly Notes 335). This decision of the court of appeal, affirming that of the lower court, illustrated a limitation to the principle that the recognition by the United Kingdom government of a foreign government had retroactive effect where the question at issue was the validity of acts done by the foreign government in territory indisputably under its *de facto* control, in that the court held it to have no application to transactions effected in the United Kingdom at a time when the government from whom recognition was later withdrawn in favour of its successor still enjoyed recognition. In this case an offer had been made by the Polish government in London that had been recognized during the war to seamen who should feel compelled to leave their ships on a change of government. The foreign office certified that the former Polish government had been recognized until midnight of the night of July 5-6, 1945, and the new government thereafter. The court held that

the new government was bound by the acts of the old until it rescinded or repudiated them, and that even if this act on the part of the old government was an offer and not a contract, until it was withdrawn it could be accepted and so a contract constituted.

*Municipal Law.*—The decision of the judicial committee of the privy council in *Canadian Pacific Railway v. Attorney General for British Columbia* (66 Times Law Reports 34) was of some interest: the committee held that a hotel, owned and operated by the railway company for the benefit of the general public as well as for travellers, was not a part of their railway undertaking connecting British Columbia with other provinces and so was not within the legislative competence of the dominion of Canada under the British North America acts, and that the hotel and the hours of work in it were within the legislative sphere of the province.

There was in *R. v. Taylor* (66 Times Law Reports 1182) an extremely important statement by the lord chief justice of circumstances in which the court of criminal appeal was not bound by its previous decision. In Lord Goddard's words (at p. 1183):

"The Court of Criminal Appeal usually considers itself bound by its own decisions or by decisions of a court of co-ordinate jurisdiction. . . . The House of Lords, also, always considers itself bound by its own decisions. In civil matters it is essential, in order to preserve the rule of *stare decisis*, that that should be so; but this court is concerned with the liberty of the subject, and if in the opinion of a full court the law in a particular case had been either misapplied or misunderstood, and as a result of following that decision a person has been sentenced for an offence and imprisoned for it, it would be its bounden duty to reconsider the earlier decision and determine whether that person had been properly convicted."

In another case, *Nicholas v. Penny* (66 Times Law Reports 1122), the divisional court refused to follow a previous decision on the ground that this had not been fully argued on both sides. Thus it might not be exaggerated to suggest that in 1950 the doctrine that English courts are bound by their previous decisions had fallen a little below its high-water mark. (See also AGRICULTURE; BANKING; BUSINESS REVIEW; CONSUMER CREDIT; EDUCATION; INTERNATIONAL COURT OF JUSTICE; INTERNATIONAL LAW; PATENTS; PUBLIC UTILITIES; RELIEF; TAXATION.)

FILMS OF 1950.—*Due Process of Law Denied, Justice Under Law* (Teaching Film Custodians, Inc.); *Our Basic Civil Rights* (Coronet Instructional Films). (W. T. WE.)

**Lawn Bowling.** The National tournament was held at Los Angeles, Calif., July 3-8, 1950. In the triples the winners were: first place (Rettie Memorial trophy)—Richard Folkins (skip), Hugh Folkins and Edward Magee, Arroyo Seco club, Los Angeles and Redlands, Calif.; second place (Chicago trophy)—D. Y. Deans (skip), Reed Rogers and W. D. Brattin, Columbus Park club, Chicago, Ill.; third place (Wisconsin trophy)—William Saunders (skip), Howard Saunders and C. C. Waterbury, Laguna Beach, Calif.; fourth place (no trophy)—A. Jarman (skip), Lewis Pilcher and A. R. Stevenson, Lakeside club, Chicago, Ill.

Doubles winners were: first place (California trophy)—Richard Folkins and Hugh Folkins; second place (Lakeside trophy)—Richard Allen and Jack Rose, Long Beach, Calif.; third place (Western New York trophy)—William Saunders and C. C. Waterbury; fourth place (no trophy)—Len Hughes and Lawrence Graham, Arroyo Seco club, Los Angeles and Redlands, Calif.

Singles winners were: first place (National Singles trophy)—Richard Folkins; second place (Metropolitan New York trophy)—Hugh Folkins; third place (no trophy)—Thomas Turnbull, Santa Barbara, Calif.; fourth place (no trophy)—



W. G. Hay, Beverly Hills, Calif.

Officers of the American Lawn Bowling association (United States) for 1950, re-elected for 1951, were: W. G. Hay, president; Lewis Pilcher, 1st vice-president; T. W. Gardiner, secretary-treasurer, 8106 S. New Hampshire Ave., Los Angeles, Calif.

(L. PR.)

**Lawn Tennis:** see TENNIS.

**Lead.** The lead outputs of the major producing countries are shown in Table I, as reported by the U.S. bureau of mines. The countries listed normally produce about 90% of the world total.

Table I.—World Smelter Production of Lead

(Thousands of short tons)

	1943	1944	1945	1946	1947	1948	1949
Argentina . .	26.2	21.1	23.3	17.8	22.0	23.7	16.5
Australia . .	202.3	173.1	174.6	154.0	177.6	178.6	204.3
Belgium . . .	8.8	8.5	8.0	26.2	44.6	72.4	87.3
Canada . . .	223.9	142.6	162.5	165.8	162.0	160.1	146.2
France . . .	13.7	2.1	3.0	38.3	38.1	37.8	60.0
Germany . . .	173.3	154.2	?	31.9	26.8	54.1	109.5
Italy . . . .	13.7	?	0.9	15.7	19.5	29.4	29.0
Japan . . . .	35.8	8.8	13.9	5.4	9.7	11.2	13.9
Mexico . . .	234.2	196.5	221.7	151.8	240.1	214.4	233.7
Peru . . . .	47.6	42.9	44.1	40.2	36.1	38.4	39.7
Spain . . . .	40.5	34.1	35.1	35.6	37.9	24.2	30.1
U.S.S.R. . . .	55?	50?	44?	53?	69?	83?	99?
U.S. . . . .	469.6	464.8	443.6	338.2	441.0	406.7	475.9
Total . . .	1,640	1,420	1,230	1,150	1,440	1,490	1,720

**United States.**—The salient features of the industry are shown in Table II, as reported by the U.S. bureau of mines.

Table II.—Data of Lead Industry in the U.S.

(Thousands of short tons)

	1943	1944	1945	1946	1947	1948	1949
Mine output . .	453.3	416.9	390.8	335.5	384.2	390.5	409.9
Refinery output .	469.6	464.8	443.6	338.2	441.0	406.7	477.3
Domestic ores .	406.5	394.4	356.5	293.3	381.1	339.4	404.4
Foreign ores . .	63.1	70.3	87.1	44.9	59.9	67.3	72.9
Imports . . . .	319.1	319.7	301.7	163.0	229.4	348.0	400.5
Exports . . . .	13.3	15.5	1.8	0.7	1.5	0.4	1.0
Secondary . . .	342.1	331.4	363.0	392.8	512.0	500.1	412.2
Consumption . .	1,113	1,119	1,052	956.5	1,172.0	1,133.9	957.7
Stocks, year-end							
Producers . . .	129.5	125.1	161.8	189.7	128.0	146.8	201.5
Consumers . . .	115.2	86.9	102.9	41.1	91.3	119.2	97.3

The moderate rise in output in 1949 carried over into 1950, with the mine production reported at 357,259 tons through October.

**Canada.**—The output of recoverable lead dropped from 167,251 tons in 1948 to 159,775 tons in 1949 and 103,587 tons through Aug. 1950. This was more of a decline than appeared on the surface, as the 1949 figure included 18,608 tons from Newfoundland, not previously included.

(See also MINERAL AND METAL PRODUCTION AND PRICES.)

(G. A. Ro.)

**League of Women Voters of the United States:** see SOCIETIES AND ASSOCIATIONS.

**Leather.** There was little change in U.S. leather production in 1950, compared with 1949 output. Increase in the use of substitute materials offset increased production by important leather-consuming industries. Restricted raw stock supplies, however, continued to discourage increases in productive capacity of the U.S. tanning industry, and production and consumption remained well balanced, with no accumulations of excessive inventories.

For the first time in a decade, U.S. tanners anticipated a gradual improvement in both domestic and imported raw stock supplies, barring unfavorable war developments. The tanning material supply situation also improved somewhat during 1950, with increased imports and further development of new domes-

#### Average U.S. Monthly Leather Production

(000's omitted)

	1950	1949	1948	1947	1946	1931-39 inclusive
All cattle hides (including kips for side leather) . . . . .	1,989	1,994	2,173	2,402	2,253	1,628
Calf and whole kip . . . . .	872	847	873	1,039	907	1,070
Goat and kid . . . . .	3,071	2,898	2,907	3,099	2,011	4,000
All sheep and lamb . . . . .	2,625	2,387	2,371	2,594	3,998	2,800

1950 figures are based on an average of the first nine months' production. Compiled from data of the Tanners Council of America and the U.S. Bureau of the Census.

tic materials. Imports of quebracho from Argentina rose more than 73% during the year.

Strikes in several chemical plants affected supplies of bichromates and soda ash available to tanners, but were adjusted before the leather industry was forced to curtail operations extensively.

To protect sources of raw stock supply, the industry urged that allocations by the Economic Cooperation administration (ECA) for the purchase of raw hides and skins be reduced to the absolute minimum, or curtailed entirely. Efforts were also made to secure removal of foreign restrictions and obstacles to the movement of hides and skins. Competition by U.S. tanners with other nations for hides and skins was especially keen in 1950. Increased leather production in many countries caused restrictions on imports and high bidding in world markets. U.S. tanners observed that nations receiving financial aid from the U.S. frequently outbid U.S. tanners for raw stock imports.

Norwegian tanners consumed practically all domestic supplies of hides and skins, having increased production 100% since 1939. Leather industry controls remained in force in Sweden, as did government subsidies for imported hides. Allocations and price controls were removed from imported and domestic raw hides in Japan in 1950.

Greece and Cuba reported substantial leather-production increases.

Livestock slaughter was substantially greater in Holland, but increased hide and skin output was absorbed by increased leather production. Mexico reported a crisis in the shoe and leather industry resulting from a raw stock shortage, and issuance of export permits on all hides and skins was suspended by the ministry of the interior for the duration of the crisis. Leather production in France showed substantial gains.

Faced with strong competition from substitute materials, U.S. tanners advanced merchandising efforts throughout the industry, although bookings after the start of the Korean war were sharply increased. There was increased use of leather upholstery by the automobile industry, and a strong effort was made to increase consumption by the shoe industry, largest user of both light and heavy leathers.

The Tanners Council Research laboratory at the University of Cincinnati reported several important contributions to leather science during 1950. A training program to acquaint U.S. army quartermaster personnel with tanning processes, characteristics of different types of leather, testing methods and procedures and similar information was launched by the laboratory. (See also SHOE INDUSTRY.)

(R. B. B.)

**Lebanon.** An independent Arab republic, formerly under French mandate, Lebanon is situated on the eastern Mediterranean, bounded by Syria and Israel. Area: 3,470 sq.mi. Pop. (1949 est.) 1,238,000. Languages: Arabic is the mother tongue of about 90% of the population, but Armenian, Greek and other languages are also spoken. Religions (1947): Christian 52%, Moslem 46%, other 2%. Chief towns (pop. 1946 est.): Beirut (cap. 181,300); Tripoli (86,400); Saida or Sidon (78,800); Zahle (78,000). President of the republic in 1950: Sheikh Bishari al-Khuri; prime minister: Riad Bey al-Sulh.

**History.**—In March 1950 the long-standing dispute between



Lebanon and Syria (*q.v.*) over customs came to a head. When the two states declared their independence and the French mandate ended in 1945, the French mandatory policy of a customs union between the two countries was maintained. But Lebanese policy for free trade through Beirut quickly clashed with the Syrian demand for protective tariffs, and on March 13, 1950, Syria denounced the convention and on March 26 the Lebanon closed its frontiers to Syrian exports and removed the existing import duties from wheat, butter, cheese, cattle, vegetables, cotton and rice. Simultaneously negotiations were started to open or develop foreign markets for Lebanese exports. Up to the end of the year no solution of the dispute had been found.

In the Arab league the Lebanon associated itself with the protests against the Jordan annexation of Arab Palestine (April 24) and on June 17 signed a collective security pact with Egypt, Saudi Arabia, Syria and the Yemen, and approved a resolution, taken in the absence of Jordan, that until Palestine was "finally liberated," Jordan must regard Arab Palestine as "trust property." On July 26 the government voted a grant of \$50,000 as symbolic assistance to the U.N. forces in Korea.

On Jan. 1, 1950, the prime minister formally opened the new oil refinery at Tripoli which had been built by the Iraq Petroleum company to handle the increased supplies made available by the duplication of the original Kirkuk-Tripoli pipe line. Throughout the year the construction of the world's largest oil pipe line, spanning 1,068 mi. between the Persian gulf and Sidon, was energetically pursued. The first oil reached the Lebanese port early in December. (O. M. T.)

**Education.**—Schools (1949): primary 734, pupils 60,019; private 808, pupils 75,475; foreign 279, pupils 53,208; technical and trade 5, pupils 456; universities 2, students 2,147.

**Finance and Banking.**—Budget: (1949 est.) balanced at L.L. 75,000,000; (1950) balanced at L.L. 85,300,000. Currency circulation (July 1950): L.L. 183,000,000. Bank deposits (June 1950): L.L. 210,000,000. Monetary unit: Lebanese pound with an exchange rate of L.L. 2.21 to the U.S. dollar.

**Foreign Trade.**—(Lebano-Syrian customs union, 1949): imports L.L. 116,700,000; exports L.L. 37,800,000.

**Transport and Communications.**—Roads (1949): 1,540 mi. Licensed motor vehicles (Dec. 1949): cars 9,200; commercial 3,600. Railways (1949): 475 mi. Telephones (Jan. 1949): 13,125. Radio receiving sets (1949): 13,000.

**Agriculture.**—Main crops (metric tons, 1948): wheat 50,000; barley 27,000; maize 13,000; oats 2,000; potatoes 35,000. Fruit production (metric tons, 1949): grapes 90,000; olives 35,000; olive oil 11,000; oranges and tangerines 37,000; lemons 3,000. Livestock (1949 est.): goats 400,000; sheep 25,000; cattle 20,000; horses 10,000; donkeys 20,000; mules 5,000. Wool production (incl. Syria, on greasy basis, 1949): 6,000 metric tons.

**Industry.**—Production (metric tons, 1949): cotton yarn 6,800; cotton textiles 6,000; silk and rayon textiles 2,600; leather hides and skins 2,700; cement 251,000.

**Leeward Islands.** This British colony consists of a group of islands forming the northern part of the Lesser Antilles in the Caribbean. Politically it is divided into four presidencies: Antigua (with Barbuda), area 171 sq.mi., pop. (1949 est.) 43,000; St. Christopher-Nevis (with Anguilla), 152 sq.mi., pop. 47,000; Montserrat, 32 sq.mi., pop. 14,000; Virgin Islands, 67 sq.mi., pop. 6,500; total area 422 sq.mi., total pop. 110,500. Pop. mainly Negro. Religion: Christian, many denominations. Principal towns: St. Johns (Antigua) (cap., pop. 10,962); Basseterre (St. Christopher) (pop., 12,201). Governors in 1950: Earl Baldwin of Bewdley and (from Sept. 17) K. W. Blackburne.

**History.**—It was announced in June 1950 that the secretary

of state for the colonies had agreed to the following constitutional changes in Antigua, St. Kitts-Nevis and Anguilla: the introduction of adult suffrage; the abolition of income, property, rent and tax qualifications for voters; the retention of a simple literacy test; the abolition of property and income qualifications for candidates; and the introduction of an advisory nonstatutory committee system on various subjects. Legislation was passed in July to restore the legislative council in the Virgin Islands after a lapse of 48 years. The currency act passed by the general legislative council in July was designed to implement an agreement between the governments of the eastern Caribbean territories to provide a uniform currency in those territories.

Record crops of sugar were produced in Antigua and St. Kitts, the tonnages being 30,680 and 41,204 respectively. In August two hurricanes struck the colony causing great damage in Antigua, Barbuda and Anguilla.

**Finance and Trade.**—Currency: British West Indian dollar valued at 58.33 cents U.S. (B.W.I. \$4.80=pound sterling). Principal exports: sugar and cotton. (P. H-MY.)

**Legislation:** see LAW; UNITED STATES. See also articles on individual nations and U.S. states.

**Lemons:** see FRUIT.

**Leopold III** (1901– ), king of the Belgians, was born at Brussels, Nov. 3. He acceded to the throne on Feb. 17, 1934. In World War II, after a courageous though vain resistance by the Belgian army, of which he was commander in chief, to the German invasion launched on May 10, 1940, the king capitulated on May 28. Against the views of his government, he decided not to leave his country and retired to the palace of Laeken. On June 7, 1944, Leopold left Brussels under German escort for internment at Hirschstein, near Dresden, Ger., and on March 6, 1945, he and his family were moved to Strobl, near Salzburg, Aus. He was liberated on May 8, 1945, by the U.S. 7th army. The Belgian Social Christian party asked for his immediate return, but a section of the Liberals, the Socialists and the Communists advocated his abdication. Since the summer of 1945 King Leopold and his family had been living in Pregny, near Geneva, Switz. Leopold's insistence on his reinstatement created a deadlock, and the situation was not clarified either by the result of the Belgian general election of June 25, 1949, or by the referendum of March 12, 1950. The pro-Leopold Social Christian party having secured at a new election (June 4) a small absolute majority in both houses, a bill ending the regency of Prince Charles and thereby enabling King Leopold to resume the royal prerogatives was passed on July 20. Two days later Leopold returned to Brussels by air. A critical situation arose, however, of which the only peaceful solution was the king's decision, on Aug. 1, to transfer his prerogatives to his son Prince Baudouin (*q.v.*). The word "abdication" did not appear in the king's statement. (See also BELGIUM.)

**Leprosy.** **Epidemiology.**—In studying the family and household contacts of leprosy patients of Bombay, India, investigators observed that leprosy bacilli could be demonstrated in the skin of some people who did not have clinical evidence of leprosy. There were 573 contacts examined. Of these, 319 (54.6%) presented definite or probable evidence of clinical leprosy. Although signs of clinical leprosy were absent in 254 (44.3%), smears (snips) of the deep skin of the back and ear lobes were positive for acid-fast bacilli in 25 (9.8%). Later (one and one-

#### Leeward Islands

	Antigua	St. Christopher-Nevis
Revenue (1950 est.) . . . . .	B.W.I. \$2,369,653	B.W.I. \$2,320,250
Expenditure (1950 est.) . . . . .	B.W.I. \$2,568,933	B.W.I. \$2,654,018
Imports (1949) . . . . .	B.W.I. \$4,180,779	B.W.I. \$4,801,626
Exports (1949) . . . . .	B.W.I. \$2,951,572	B.W.I. \$4,859,936

Montserrat	Virgin Islands
B.W.I. \$620,404	B.W.I. \$202,208
B.W.I. \$700,977	B.W.I. \$286,445
B.W.I. \$703,142	B.W.I. \$315,162
B.W.I. \$867,542	B.W.I. \$170,601



half months to one and one-half years) four of this group developed clinical signs of leprosy.

An epidemiological study from the South Pacific island of Niue again emphasized the contagiousness of leprosy. A native who had spent some time in Hawaii returned to Niue with leprosy. He directly or indirectly infected his father, two sisters, a brother and two sons. Altogether during a period of 50 years the 18 cases of leprosy which had been diagnosed in this island were attributed directly or indirectly to this native.

**Status of Therapy.**—After nine years of experience with sulfone drugs in the treatment of leprosy, physicians at the National leprosarium, Carville, La., reported that drugs which could be administered orally, such as sulfoxone (diazone), thiazosulfone (promizole) and sulphethrone, were preferred and if one drug was not well tolerated another might be substituted. In the patient with lepromatous leprosy who persisted with the treatment a slow but progressive improvement could be expected. This improvement began in the early weeks of treatment and continued with gradual recession of the skin nodules and plaques, healing of ulcers of skin, nose, mouth and larynx and gradual improvement of the distressing symptoms of nasal and laryngeal obstruction. Following this clinical improvement there was a slowly progressive reduction in the number of leprosy bacilli demonstrable in smears from the skin or nasal mucous membrane. Some cases eventually reached a stage of maximum improvement with persistent, but greatly reduced clinical activity. Others no longer had any clinical evidence of activity, but leprosy bacilli in reduced numbers could still be recovered from their skin. In some with clinical arrest, bacilli no longer were demonstrated. Of the original group of 16 patients in whom glucosulfone (promin) therapy was begun nine years before, 9 had taken regular treatments and, of these, 3 still showed positive skin smears though the number of organisms was small.

The authors added a note of caution on the possible public health hazard which might result from the use of sulfone therapy. They expressed the opinion that patients who underwent clinical recession of the disease but remained bacteriologically positive must still be regarded as open cases capable of transmitting the infection to others. This hazard might be increased by the fact that patients in whom lesions were no longer easily recognized would be more prone to carry on a normal life and thereby increase the frequency of their contact with nonleprosy individuals.

Follow-up study had been possible in 33 patients who after prolonged sulfone therapy had been declared cases of "arrested" leprosy. Some of these had returned home. It was possible to obtain follow-up examinations for periods ranging from six months to five years after the cases had been declared "arrested." Following discharge from the hospital 11 of the 33 "arrested" cases had discontinued the use of the drugs. Five of these (45%) experienced a relapse of the disease. Of the 22 who had continued using the drug after "arrest" only 1 (4.5%) relapsed. While the above numbers were too small for drawing definite conclusions, the authors thought there was a tendency for relapse unless the drug was continued indefinitely and recommended that all released patients continue using a sulfone after leaving the hospital.

**Serology.**—During the year two reports appeared comparing in serum from leprosy patients the results of several different tests for syphilis when cardiolipin and regular antigen were used in testing the same serum. All of these patients were considered nonsyphilitic. One laboratory found that the Kolmer complement-fixation test (Wassermann) in 120 serums from leprosy patients gave 53.3% positive results when regular antigen was used and only 36.6% positive results when cardiolipin antigen was used. The other laboratory using the same test found that

in 225 serums from leprosy patients regular antigen gave 44.8% positive and the cardiolipin antigen 62.6% positive, indicating a trend which was the reverse of that obtained in the first laboratory. It therefore appeared that cardiolipin antigen did not aid in solving the problem of serologically differentiating leprosy from syphilis.

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**Lewis, John Llewellyn** (1880— ), U.S. labour leader, was born Feb. 12 in Lucas, Ia. (See *Encyclopædia Britannica* for his early career.)

Early in 1950 Lewis ended a nine-month period of strikes and shortened working weeks in the U.S. coal industry when he signed, on March 5, a new contract between the United Mine Workers of America and the coal operators. The contract, which was to run until July 1, 1952, provided wage increases for the miners and increased payments by the coal operators to the miners' welfare fund. On March 15 Lloyd H. Sidener, ousted president of the U.M.W.'s Canton, Ill., local said the union had fined him \$50,000 and barred him from working because he had tried to lead a back-to-work movement after U.S. Judge Richmond B. Keech had issued an antistrike injunction against the union. Sidener declared before the National Labor Relations board that despite Lewis' telegram to end the strike, he had passed around to his locals a prearranged code signal—"The whistle blew once"—meaning that the miners should not return to work. Sidener repeated these charges before the house of representatives labour committee subcommittee. Lewis, in a letter, denied the charges. He was subpoenaed to testify on the matter, but managed to avoid the subpoena when Chairman John Lesinski of the committee withdrew the subcommittee's subpoena power on May 9.

When Pres. William Green of the American Federation of Labor offered a "no-strike" pledge for the duration of the Korean emergency, and suggested that Lewis do likewise, Lewis informed Green, Aug. 29, "we do our own no-striking." When Sen. Robert A. Taft was campaigning for re-election in Ohio, Lewis threatened to close down any mine Taft visited in his search for votes. On Dec. 23 the National Labor Relations board cleared Lewis and his union of charges of violating the Taft-Hartley labour law in imposing a three-day work week on the mines in 1949.

**Liaquat Ali Khan** (1895— ), Pakistani prime minister, was born at Karnal, East Punjab, Oct. 1. He was educated at the Aligarh Moslem university and at Exeter college, Oxford, where he took a law degree in 1921. He returned to India in 1922 and joined the Moslem league in 1923. He was a member of the United Provinces legislative council from 1926 to 1940, when he was elected to the central legislative assembly. He was elected secretary of the All-India Moslem league in 1936 and in 1943 became the deputy leader. He was appointed to the viceroy's executive council in 1946 and held the portfolio of finance. On Aug. 15, 1947, Mohammed Ali Jinnah appointed him the first prime minister and minister of defense of Pakistan. He attended the British Commonwealth conferences in London in 1948 and 1949. During 1950 the subcontinent of India was troubled with severe communal riots, mainly in Bengal, and by the continued dispute between Pakistan and India over Kashmir (*q.v.*). These problems caused Liaquat Ali Khan and Jawaharlal Nehru (*q.v.*) to meet together in Karachi and Delhi a number of times during the year, and on April 8



they signed an agreement on minorities. On May 3, Liaquat Ali Khan arrived in Washington, D.C., for a tour of the United States and Canada. From July 20 to 24 he was in New Delhi for discussions with Nehru on the working of the minorities agreement and also for tripartite discussions with Nehru and Sir Owen Dixon, the United Nations mediator on Kashmir. On Aug. 23, the day after Dixon had announced his failure to secure agreement, Liaquat Ali Khan stated, "The responsibility lies squarely on the shoulders of India."

**Liberia.** Liberia, on the great western bulge of Africa, immediately north of the equator and adjacent to the great rain forests, is Africa's only republic. Its area is approximately 43,000 sq.mi. It is bounded on the northwest by the British colony of Sierra Leone, on the north and northeast by the French colony of Guinea, and on the east by the French Ivory Coast colony and on the south by the Atlantic ocean.

The population was estimated by the United Nations as 1,648,000 as of 1949. A labour survey completed in 1950 suggested that the actual population was considerably less, with 1,250,000 a more probable total. The great majority of Liberians are members or descendants of the 23 indigenous tribes, plus a probable 14,000 to 15,000 descendants of Negro immigrants from the United States. Though English is the official language, the living languages include at least 26 tribal languages or dialects, principally from Bantu, Nilotic or Arabic bases. Monrovia, with a population estimated at 12,000, is the national capital.

The government and constitution of Liberia are modelled closely after those of the United States, though the right of property ownership is limited to "persons of African descent." Similar requirements hold for citizenship.

Pres. William V. S. Tubman began his eight-year term of office in Jan. 1944.

**History.**—Two developments of international importance marked the course of 1950 in Liberia. The first of these was

the operational opening of a major iron-mining centre in the Bomi hills area by Republic Steel corporation in co-operation with the U.S. Export-Import bank. This project involved an investment of approximately \$8,000,000 of U.S. capital and credit. The nation's first freight-bearing railroad and approximately 90 mi. of supplementary roads and highways had been completed by 1950. Also during 1950 the initial laboratory and staff dwellings for the Liberian institute, an international research centre for tropical medicine sponsored by the American Foundation for Tropical Medicine, were completed, and the first research projects were planned with the co-operation of the U.S. public health service and the Liberian government.

**Education.**—In 1950 Liberia had 206 schools in operation, including 81 government-maintained schools, 83 mission schools, 21 private schools and 21 tribal schools, the latter under supervision of the national department of education. Institutions for advanced education included Liberia college and the College of West Africa at Monrovia and the Booker T. Washington institute, Kakata, which is supported jointly by the Liberian government, the United States government, the Firestone Plantations company and six American churches and foundations.

**Finance and Trade.**—The U.S. dollar is the official monetary unit of Liberia and is supplemented by Liberian fractional coins with the dollar base freely negotiable and at par. The preliminary estimate of revenue receipts for the year ending Aug. 31, 1950, was \$4,998,865, an increase of approximately \$1,263,312 above the previous year. The estimate of foreign trade for the year ending May 1, 1950, was \$59,350,750, of which approximately 95%, or \$56,515,000, was with the United States. The latter total included exports valued at \$45,602,000 (preponderantly of natural rubber at soaring world prices) and imports amounting to \$10,913,000.

**Transportation and Communications.**—During 1950 the public road system of Liberia was extended and linked with that of French Guinea, while Monrovia was joined by highway with the heretofore segregated western province. Pan American World Airways maintained scheduled air services at Roberts field, a bomber base established during World War II, on a basis of 27-hr. direct flights from New York city via the Azores and Lisbon.

**Industry and Agriculture.**—For 1950, industrial employment including that of the Firestone Plantations company and the Bomi iron-mining developments was estimated at 55,000, an increase of approximately 10,200 above the total of the previous year. Even so, subsistence agriculture remained the preponderant source of employment, with rice, cassava, African palm oil, pineapple, bananas and citrus fruits the principal subsistence crops. In 1950 natural rubber remained the preponderant export item, with gold, piassava fibres, palm oils and kernels, kola nuts and coffee following in that order. In 1950 the Liberia company, as organized in 1947 by the Edward R. Stettinius Associates, withdrew from all operations in Liberia. (C. M. Wi.)

**Libraries.** During 1950 U.S. librarians and libraries continued their professional international activities. They participated in the CARE (Cooperative for American Remittances to Europe, Inc.) book program and were informed that the U.N.E.S.C.O. (United Nations Educational, Scientific and Cultural organization) book-coupon program was extended to libraries. They participated in U.N.E.S.C.O.'s second library seminar at Malmö, Sweden, and the first International Congress on Archives at Paris during the summer.

**Books and Publications.**—In the fall a joint committee of American Library association members and of publishers, headed by Cass Canfield of Harper & Brothers, was established to explore common problems such as postage rates, freedom of the press, exhibits and promotion, etc. A survey of "paper bounds" in pocket size disclosed surprisingly little interest in general use by libraries. Among library publications, the Army Medical library discontinued its *Index Catalog* and augmented its *Current List of Medical Literature*. The Library of Congress instituted its *Cumulative List of Works Represented . . . by [L.C.] Cards*, which would be a useful subject bibliography. The Boston Public library converted its monthly *More Books* to a quarterly of entirely scholarly content.

**Regional Deposit Libraries.**—This kind of library, not to be confused with regional libraries, grew. The Midwest Inter-Library centre at Chicago, Ill., with 14 participating college, public and research libraries in that region, was not only fully organized but broke ground for an \$850,000 building to house more than 2,000,000 volumes; it differed in many administrative respects from the New England Deposit library at Cambridge,



W. V. S. TUBMAN, president of Liberia, meeting in 1950 with T. P. Thayer of the U.S. geological survey (standing) and L. K. Christie of New York city, president of the Liberian Mining company (right), to discuss construction of Liberian railroads



Mass. A regional deposit library was also established at Denver, Colo.

**College and Research Libraries.**—The libraries of Duke university, Durham, N.C., and Northwestern university, Evanston, Ill., passed the 1,000,000-volume mark during 1950, which, according to a Duke news release, brought to 14 the number of colleges in the U.S. having libraries with 1,000,000 or more volumes; the others were Harvard, Yale, Illinois, Columbia, Chicago, California, Minnesota, Michigan, Cornell, Stanford, Pennsylvania and Princeton universities.

**Special Libraries and Collections.**—The problem (principally financial) of maintaining organizational reference libraries was evidenced in the transfers of the Carnegie Endowment for International Peace library to George Washington university (both in Washington, D.C.), the Woodrow Wilson library to the United Nations and the Russell Sage Foundation library to the College of the City of New York (all in New York city). The University of California at Los Angeles opened an English literature library, with a nucleus of Frederic T. Blanchard's collection (strong in Henry Fielding), with an endowment for the purchase of 18th-century works. Gifts and acquisitions included the Edward S. Harkness collection of rare books to the New York Public library; the James Boswell manuscripts to Yale University library; H. L. Mencken's library to the Enoch Pratt Free library, Baltimore, Md.; the Mark Twain papers to the University of California, Berkeley, which would seek funds for a building and an endowed chair; and the A. W. Stern collection of Lincolnia to the Library of Congress.

**Public Libraries.**—The Library Demonstration bill was again defeated in congress, despite the support of congressional leaders and many nonlibrary organizations. The Public Library inquiry, underwritten by the Carnegie Corporation of New York for \$200,000, was completed and most of the volumes were published. Robert D. Leigh, the director, issued his summary volume, based on his findings with the aid of 24 research (mainly nonlibrarian) assistants. To provide better library service for the entire U.S. and adequate service for the 35,000,000 who had no library service at all, he recommended that the existing 7,408 separate library systems be combined into 1,000, each having 100,000 or more volumes and with a total of 7,500 outlets; he also urged a 50% increase in expenditures (in 1948-49 less than \$100,000,000, or less than 1% of public-service expenditures, had gone to libraries in the U.S.). He thought that library schools were inadequate and recommended general 10% salary increases to attract better people to the profession.

Most state library budgets were increased and state aid was holding well; libraries were combining into county or "regional" systems, and bookmobiles were multiplying. Kansas had made a survey of its public libraries, Missouri was commencing one, and Connecticut was writing a legislative bill to implement one recommending state aid. In New York the legislature passed a \$3,000,000 grant, designed to hasten county organization. The Rotarians were busy in Alaska, aiding in supplying books to outlying districts, and Hawaiian librarians took considerable pride in their part in writing a state constitution.

Public libraries continued to grow. According to the U.S. office of education, libraries in cities of 100,000 or more population had increased, between 1945 and 1949, from 42,099,905 volumes to 46,304,469 in book stock (it must be remembered that public libraries are continually discarding worn-out and outmoded volumes, as well). Their expenditures (excluding capital outlay) had risen from \$31,686,929 to \$51,133,225, the number of borrowers had increased 14.34% and circulation was up 8.61%. The 1948 per capita expenditures of larger public libraries that had met or surpassed the American Library association's \$1.50 minimum were, according to a Toledo, O., Public



PERCY GRAINGER (right) preparing to transcribe a Danish folk song at the Library of Congress for deposit in the folklore section, one of its many special collections. The library celebrated its 150th anniversary in 1950

library release: Cleveland, O., \$3.51; Boston, Mass., \$2.88; Long Beach, Calif., \$2.32; Fort Wayne, Ind., \$2.24; Springfield, Mass., \$2.22; Oakland, Calif., \$2.09; Newark, N.J., \$2.06; Seattle, Wash., \$2.01; Tacoma, Wash., \$1.97; Toledo, O., \$1.86; Minneapolis, Minn., \$1.86; Milwaukee, Wis., \$1.70; Pittsburgh, Pa., \$1.58; and Worcester, Mass., \$1.50. Twelve western Massachusetts libraries set up regional co-operative headquarters in the Field Memorial library, Conway, with funds provided by Marshall Field.

Salaries held firm, with job classification and pay plans becoming almost universal in public libraries of any size; the *Library Journal* reported only three new plans: Los Angeles, Calif.; Des Moines, Ia.; and Tacoma, Wash. New York state moved in two directions, with rulings that all public libraries serving 5,000 or more population could employ only state-certified librarians after Oct. 1, 1950, and that retirement would be elective at age 55. California reported several appointments to prison librarianships—a neglected field.

**School and Children's Work.**—The shortage of children's librarians continued. The Children's Library association, affiliated with the American Library association, observed its 50th anniversary with a dinner at A.L.A.'s Cleveland conference, during which it honoured Frederic G. Melcher, donor of the John Newbery and Caldecott awards for outstanding children's books, the 1950 selections being, respectively, *Door in the Wall*, by Marguerite de Angeli, and *Song of the Swallows*, by Leo Politi. The American Association of School Librarians assumed divisional status in the A.L.A. Several state library associations provided "sections" for high school library assistants as a means of recruiting.

**Audiovisual.**—Was television making inroads in the reading of library books? No one seemed to know; the pitched battle was still between television and motion pictures. Record and film



collections for lending were so general as to merit no special comment, but two libraries—the City Library association, Springfield, Mass., and the Brooklyn, N.Y., Public library—purchased and began circulating framed pictures, a practice not uncommon in college libraries but not undertaken by more than a half dozen public libraries. The Library of Hawaii reported a successful patio art gallery. The Louisville, Ky., Public library was the first to have its own radio station (FM). Microcards were gaining in popularity. The Library of Congress began lending microfilms.

**Buildings and Equipment.**—The Los Angeles County library and the San Diego, Calif., Public library had extensive building programs, the latter including a new central library. The Cincinnati, O., Public library's plans were complete for a new central library. The extensive building program of the Oregon state system of higher education was under way, with the University of Oregon at Eugene receiving a large addition. Other noteworthy additions to buildings included that of Duke university (completed) and of the Providence, R.I., Public library. The St. Paul, Minn., Public library opened a children's room, and the Iowa City, Ia., Public library installed a music room.

Modernization of equipment went on apace, with all kinds of office aids being investigated and adapted. The Oklahoma City, Okla., libraries set up a drive-in depository for returning books. The public libraries of Racine and Milwaukee, Wis., were respectively borrowing and lending after teletype communication. The New York Public library's circulation department had installed completely mechanized book-processing machinery, including a conveyor. The Charlotte, N.C., Public library was doing its book-charging with a dictating machine. (See also AMERICAN LIBRARY ASSOCIATION; SOCIETIES AND ASSOCIATIONS.)

**BIBLIOGRAPHY.**—For further information about U.S. libraries, consult the *A.L.A. Bulletin*; *Library Journal*; *College and Research Libraries*; *Library Quarterly*; *Library of Congress Information Bulletin*. Important contributions to library literature were: Special Libraries Association, *Employers' Evaluation of Training for the Special Librarian* (1950); American Library Association, *Buildings for Small Public Libraries* (1950); G. Naudé, *Advice on Establishing a Library* (1950); H. E. Haines, *Living with Books* (1950); R. D. Leigh, *Public Library in the United States* (1950); *Catholic Library Practice* (1950); A. Hessel, *History of Libraries*, Eng. trans. by Reuben Peiss (1950). (K. BN.)

**Great Britain.**—The outstanding event of 1950 was the celebration by the Library association of the centenary of the passing of the first British Public Libraries act, which received the royal assent on Aug. 14, 1850. Delegates attending represented the International Federation of Library Associations, the United Nations Educational, Scientific and Cultural organization (U.N.E.S.C.O.), and more than 50 British commonwealth and overseas governments and library associations.

The public library statistics of Great Britain and Northern Ireland showed that in the financial year 1949–50, £2,170,000 or 10½d. per capita of the population was spent on books and the total cost of the service was £8,653,000 or 3s.6d. per capita, nearly £1,000,000 more than in the preceding year. The total population served was 49,430,000, leaving 58,000 in five areas (three of them in County Antrim, Northern Ireland) without service. The number of books issued from lending departments was 306,100,000, a decrease of about 6,000,000. There were 1,631 municipal libraries (including central libraries and branches), 96 county library headquarters (of which 3 were combined with town libraries), 730 county branches and 21,300 county service points, served by about 70 mobile libraries of varying types and numbers of delivery trucks. Separate local authorities numbering 586 controlled this system, possessing between them about 42,500,000 volumes and employing a total staff of 10,820 (excluding part-time staff, porters, binders, etc.). The expansion was most marked in the county library service.

The National Central library's annual report for 1949–50 showed that books lent by or through the National Central library

numbered 78,000 (compared with 75,500 in 1948–49) and, through the regional systems and the Scottish and Irish central libraries, 192,000 (191,500 in 1948–49). In addition, more than 21,000 books were lent in each of the two years by the National Central library and the National Library of Wales to adult classes, the totals in round figures thus being 291,000 for 1949–50 and 288,000 for 1948–49. More than 600 libraries co-operated in the work of the system, to which must be added more than 200 "outlier" libraries of a special or technical character which lent on request works not to be found elsewhere.

**British Commonwealth.**—Perhaps the most important development of the year was the establishment of a public library "pilot project" in Delhi, India, under the joint auspices of U.N.E.S.C.O. and the Indian government, with the purpose of demonstrating the value of an effective public library service both in adult education and in the campaign against illiteracy. If the scheme were successful, it might prove a model for the extension of public library services not only to other cities in India but also to Asia as a whole. Special attention was to be devoted to the needs of newly literate adults and to services for children. The building was to be in Old Delhi and reference, information and lending services were to be provided. U.N.E.S.C.O. would contribute a fellowship for study outside India to the Indian librarian selected as director, and the library would be opened to the public with an initial stock of about 10,000 volumes and other material early in 1951. The Karachi Library association arranged a convention in July with a view to establishing a comprehensive library service throughout Pakistan.

The Australian Institute of Librarians, founded in 1937, adopted at the end of 1949 a new constitution similar to that of the library associations in Great Britain, the U.S. and elsewhere, and was renamed the Library Association of Australia. Plans for the library of the new Australian National university at Canberra made progress; many volumes were purchased and held in readiness at Melbourne.

**Europe.**—The important collections of Hebraica in the Royal library, Copenhagen, Den., were considerably enlarged by the acquisition of the library of Lazarus Goldschmidt of London, containing 2,500 volumes—all of importance and some of great rarity—among which was a valuable series of Ethiopic printed books.

A bibliographical information service was established in Florence, It., for the purpose of organizing and co-ordinating bibliographical, historical and literary research work in Florentine libraries.

**U.S.S.R.**—Details on technical libraries in the U.S.S.R. taken from Vasilchenko's *Libraries in the Soviet Union* (Moscow, 1947) were quoted by Elsa von Schreiber in the *Zentralblatt für Bibliothekswesen*, vol. 64, Heft 3/4 (1950). The Polytechnic library in Moscow had 944,000 volumes in 1941. Apart from this library, which was under independent administration, there were four classes of technical libraries in the Soviet Union: those belonging to the ministry of higher education; those under other ministries; the libraries of the Academy of Sciences of the U.S.S.R.; and those attached to factories, institutes and cultural centres. The first group contained 31 university libraries, of which the biggest were those of Moscow, Leningrad, Kazan and Saratov, and 273 technical colleges, and, in addition, the National Scientific Technical library in Moscow, which had 1,200,000 volumes. The libraries of the second group formed a complicated system of highly specialized collections serving the activities of the ministries to which they were attached. The Academy of Sciences had in 1945 a total of 10,900,000 volumes in all its libraries. There were in 1947 approximately 3,800 libraries in the fourth group, containing more than 22,000,000 volumes, together with a system of travelling libraries disposing in 1940 of 35,000



volumes (no later figures apparently being available), relying largely on voluntary staffs and serving small scattered undertakings.

(F. L. K.)

**Libya.** A former Italian colony of north Africa, Libya is situated on the Mediterranean between Tunisia (west) and Egypt (east). Total area: 679,183 sq.mi. Under temporary British administration, introduced in 1943, Libya was divided into Tripolitania (106,471 sq.mi.) and Cyrenaica (330,259 sq.mi.); the western part of Libyan Sahara, or the Fezzan, was placed under French military administration. Total pop.: (1938 est.) 888,400 including 89,100 Italians; (1949 est.) total 1,177,000; Tripolitania 796,901, including 46,399 Italians; Cyrenaica 327,467, including 1,604 Greeks, Maltese and others; the Fezzan about 50,000. The population is Berber, intermixed with Arab strains, especially in Cyrenaica. Language: Arabic. Religion: mostly Moslem. Chief towns (pop. 1949 est.): Tripoli (144,616, including 28,485 Italians); Bengasi (59,087). On Nov. 21, 1949, the general assembly of the U.N. decided that Libya should be independent by Jan. 1, 1952, and on Dec. 10, 1949 elected Adriaan Pelt (the Netherlands) as high commissioner of the United Nations for Libya in charge of the interim administration.

**History.**—The United Nations commissioner, with his advisory council of seven representatives of member states, together with representatives of each of the territories and of minorities, started work in Libya early in 1950 on his task of advising the people in the formulation of a constitution and determination of the form of government. Cyrenaica had already been granted a wide measure of autonomy in internal matters and a local constitution under the leadership of the Emir Mohammed Idris el Senussi. Elections were held for an assembly of representatives. This was inaugurated on June 12. In the Fezzan elections to an assembly of representatives were held in February. The assembly unanimously elected Ahmed Bey Seif el Nasr as chief of the territory. The powers granted by the French administration to the chief were broadly confined to administrative matters, the French resident retaining the executive power.

The first step taken by the high commissioner, after a long tussle with the members of his council, who represented divergent political conceptions, was to form a national committee of 21 members, 7 of whom were nominated by each territory. This committee prepared plans to convoke a national assembly whose task would be to determine the form of government and to formulate a Libyan constitution. The committee decided that the national assembly should be composed of an equal number of members to be nominated from each of the three territories. This decision, although within the competence of the committee, was attacked by several delegations in the general assembly of the United Nations in Nov. 1950, when progress in Libya came under review. The general assembly eventually passed a resolution calling for greater speed in setting up a Libyan state and for the establishment of a provisional government by April 1, 1952, to which the powers of the present administrations would be progressively transferred.

The Libyan national assembly met in Tripoli on Dec. 2 and decided that the state should be a federation and that its government should be a "democratic, representative, constitutional monarchy under the crown of the emir of Cyrenaica." Having made these decisions and preliminary arrangements for the formulation of a constitution the assembly adjourned and moved *en bloc* to Bengasi to offer the emir the crown of king of Libya. The emir decided to delay the proclamation until he possessed the constitutional powers necessary to exercise sovereignty.

(F. E. St.)

**Economy.**—*Tripolitania:* Budget (1948-49, actual) revenue £4,337,416; expenditure £4,918,950. Foreign trade (1949): imports £3,458,800; ex-

ports £1,332,800. Roads (1949) 2,500 mi.; railways (1949) 122 mi.; ships entered at Tripoli (1949) 1,058,531 net registered tons.

*Cyrenaica:* Budget (1948-49, actual): revenue £2,089,392; expenditure £2,826,703. Foreign trade (1949): imports £1,894,400; exports £1,565,400. Roads (1949, including tracks) 6,600 mi.; railways (1949) 101 mi.; ships entered at Bengasi and Tobruk (1949) 857,157 net registered tons.

**Lie, Trygve** (1896- ), Norwegian diplomat and United Nations official, was born July 16 in Oslo. Between 1922 and 1940 he was identified with the Norwegian Labour party, as its legal adviser and later as a member of its national council. From 1935 to June 1939 he was minister of justice, then minister of commerce, and after the German invasion of Norway he went with the exile government to London, where he served as its minister of foreign affairs. He was reappointed minister of foreign affairs of Norway in 1945. After serving as chairman of the commission that drafted the charter for the Security council at the United Nations organization conference in San Francisco, Calif., he was elected U.N. secretary-general on Feb. 1, 1946.

Early in 1950 Lie implied that the Chinese Communists should be admitted to the U.N. by holding that U.N. policy should be to deal with whatever government exercised effective authority in any country and was habitually obeyed by a majority of the people. After conferring with Pres. H. S. Truman (April 20) and Premier Joseph Stalin of the U.S.S.R. (May 15) and with the heads of the western European states, he proposed on June 6 a 10-point, 20-year program "for achieving peace through the U.N."

When the North Korean Communists attacked South Korea on June 25, Lie, at U.S. request, convened the U.N. Security council (without the U.S.S.R., which was boycotting the council in protest at continued recognition of nationalist China); the Security council demanded that the North Koreans cease fire and withdraw, and voted that U.N. members should enforce this order. Repeatedly thereafter, during the Korean fighting, Lie sought reinforcements for the ground troops from the U.N. members. On Nov. 1 his term as U.N. secretary-general was extend-



"RETREAT FROM MOSCOW?" sceptical cartoon comment by Little of the *Nashville Tennessean*, published in May 1950 after Trygve Lie's visit to Moscow to discuss possible solutions to the so-called "cold war" with Marshal Stalin



ed, by vote of 46 to 5 in the general assembly, for three years beyond the Feb. 2, 1951, date on which it was to expire.

**Liechtenstein.** A small independent principality between Switzerland and Austria, Liechtenstein has an area of 61.4 sq.mi. Pop. (Dec. 1949 est.). 13,200, including 2,100 foreign residents. Language: German. Religion: Roman Catholic. Capital: Vaduz (pop. 2,400). Ruler: Prince Franz Josef II; prime minister, Alexander Frick.

**History.**—The principality, which is not a member of the United Nations, expressed the wish to become a party to the statute of the International Court of Justice. In Dec. 1949, therefore, the general assembly adopted by 40 votes to 2 with 2 abstentions a resolution stating that Liechtenstein would become a party to the statute on the date of the deposit with the secretary-general of the U.N. of an instrument containing: (1) acceptance of the provisions of the statute of the I.C.J.; (2) acceptance of all the obligations of a member of the U.N. under article 94 of the charter; (3) an undertaking to contribute to the expenses of the I.C.J.

Prince Franz Josef II offered for sale at a New York city gallery the only known copy of a map of America printed in 1507. It was announced on May 26, 1950, that there were no bids as the prince stipulated that the minimum must exceed \$50,000.

**Education.**—Schools (Nov. 1949): primary 13, pupils 1,599, teachers 47; secondary 2, pupils 145, teachers 8.

**Finance and Economy.**—Budget: (1950 est.) revenue 4,451,200 Fr., expenditure 4,775,949 Fr. Included since 1924 in the Swiss customs and monetary union, Liechtenstein uses Swiss currency (1 Swiss franc=22.94 U.S. cents, Sept. 1950).

**Life Insurance:** see INSURANCE.

**Life Statistics:** see BIRTH STATISTICS; DEATH STATISTICS; INFANT MORTALITY; SUICIDE STATISTICS.

**Lighting:** see ELECTRICAL INDUSTRIES.

**Limes:** see FRUIT.

**Linen and Flax.** Exports of linen fabrics from Northern Ireland reached a new high during 1950. In the third quarter of the year, they were double the 1949 shipments for the same period. The principal customer was again the United States, with the British Commonwealth countries next. Increased demand by the northern European customer-countries, notably Sweden and Denmark, partially compensated for a sharp decline in South American demand, especially by Argentina, whose purchases dropped from 1,432,000 sq.yd. in 1949 to 331,000 sq.yd. in 1950.

It was estimated that the U.S. took 42.6% of the world's production of linen fabrics during 1950, the British Commonwealth countries 24.9%, European countries 13.7%, Latin American countries 12.4% and other countries 6.4%.

Imports of linen fabric into the United States during 1950 totalled 11,700,000 lb. compared with 5,900,000 lb. in 1949. The United Kingdom, Belgium and Poland were the principal suppliers.

World consumption during 1950 ran ahead of the raw material supply. Flax growing and spinning had been curtailed sharply in recent years because of labour difficulties as well as diminishing demand. The sharp spurt in consumption found the industry in Northern Ireland alarmed over the prospects of the flax supply for 1951. Industry representatives urged that 100,000 ac. in the British Isles be planted to flax and that help be extended to farmers in the form of suitable seed and sufficient fertilizer.

In France, mill consumption rose by 10% in the first half of 1950, and in September the output of linen goods was almost 50% greater than the monthly average for 1949. Yarn output for

1951 was estimated at 30,000 tons, which would require 42,000 tons of fibre and tow. Of this, at least 16,000 tons of processed flax would have to be imported. Belgium was expected to supply most of it.

At the beginning of the year, Austrian farmers were being encouraged by their government to expand the flax crop by 25%. By December, however, it was reported that the plea had failed. The anticipated 1950 yield was 630 to 700 metric tons of long fibre and 315 to 350 tons of tow.

Among other countries mentioned in 1950 as flax producers were Poland, Czechoslovakia, British East Africa, Denmark, Cyprus and Australia. The Danish linen industry was hampered by the poorest flax crop in a decade. Not more than 500 tons of the 1,000 tons needed was expected.

Australian flax deliveries in 1950 dropped about 65% from 1947.

No reports were available on production in the U.S.S.R.

(I. L. BL.)

**Lions Clubs, International Association of:** see SOCIETIES AND ASSOCIATIONS.

**Liquors, Alcoholic.** U.S. production of distilled spirits decreased by 60,000,000 gal. in 1950. Whisky production was lower by about 31,000,000 gal. as the industry sought to level off at a stable production after war-depleted inventories had been brought into better balance with estimated demands. Similarly, production of spirits for blending and processing purposes was reduced from 93,500,000 to 77,000,000 gal. Immediately after the outbreak of the Korean war in June, the production of neutral spirits jumped noticeably and continued to climb steadily thereafter. Normal spirits inventory of about 50,000,000 gal. had been maintained up to this time, and spirits had been produced in quantities about equal to use—5,000,000 to 6,000,000 gal. monthly.

Table I.—U.S. Distilled Spirits, Fiscal Year Ended June 30, 1950

	Production (tax gal.)	Withdrawals (tax gal.)	Bottled output (wine gal.)
Whisky . . . . .	118,634,911	60,522,792	139,662,376
Gin . . . . .	4,735,862	4,661,719	13,507,101
Beverage rum . . . . .	1,780,749	290,059	610,396
Brandy, tax paid . . . . .	5,363,899	2,332,473	2,202,043
Neutral spirits . . . . .	77,597,811	76,292,258	98,815
Cordials and liqueurs . . . . .	—	—	4,485,890
Miscellaneous . . . . .	—	—	771,367
Total . . . . .	208,113,232	144,099,301	161,337,988

Note: Neither production nor withdrawal figures show volume of neutral spirits actually used for beverage purposes. Production and withdrawal equivalents may be determined by employing neutral spirits used in rectification which in fiscal 1950 totalled about 71,000,000 proof gallons.

Source: Prepared by Licensed Beverage Industries, Inc., research & statistical division, from data of the alcohol tax unit, Bureau of Internal Revenue, U.S. Department of the Treasury.

With the Korean crisis, the industry began to build up its inventories. In October the beverage-distilling industry offered to supply 10,000,000 gal. of alcohol during November and December for the government's reactivated synthetic rubber program.

In July of 1950 distillers began to produce vodka for the first time in quantity. Federal regulations were immediately extended to cover manufacture of this item.

At the end of June 1950 government original entry gauge figures (before losses) indicated 643,000,000 gal. of whisky were aging in the warehouses; allowances for leakage and evaporation losses left a net withdrawable inventory of 538,000,000 gal. For the first time since 1942 the composition of age breakdowns was in relatively favourable balance.

The amounts of all types of distilled spirits withdrawn tax paid from internal revenue bonded warehouses during the fiscal year 1950 showed but a slight increase—144,099,301 gal. compared with 141,766,697 gal. in 1949. But the net increase in withdrawals of whisky was 8,000,000 gal. This difference was di-



rectly attributable to a marked trend toward straight and bonded whisky as compared with neutral spirit blends, as shown by a decrease of 7,000,000 gal. in the withdrawals of neutral spirits for use in blending. This trend toward straights and bonds was further borne out by increased bottled output of straight and bonded whisky, from 21,469,086 wine gallons in 1949 to 31,921,876 wine gallons in 1950.

Table II.—Federal Internal Revenue Bureau Collections from Alcoholic Beverages

Calendar Year	Distilled Spirits	Beer	Wine	Total
1945	\$1,661,793,763	\$659,055,927	\$49,073,828	\$2,369,923,518
1946	1,972,860,338	642,224,380	75,898,249	2,690,982,967
1947	1,578,195,476	702,059,301	49,905,396	2,330,160,173
1948	1,427,017,216	684,570,490	65,016,303	2,176,604,009
1949	1,455,650,625	679,227,856	69,511,340	2,204,389,821
1st 8 months, 1949	882,283,761	471,709,512	41,241,575	1,395,234,848
1st 8 months, 1950	1,067,161,982	461,591,104	46,932,051	1,575,685,137

Source: Prepared by Licensed Beverage Industries, Inc., research and statistical division from reports of the Bureau of Internal Revenue, U.S. Department of the Treasury.

The straitened economy of England had a direct bearing on the rise of Scotch exports to the U.S. With the devaluation of the pound in Sept. 1949, much pressure was placed on the Scotch industry to increase its exports to hard currency countries, particularly the U.S.

Per capita U.S. consumption of distilled spirits for the fiscal year 1950 remained unchanged from the previous year, although there was a slight decrease in beer consumption and a marked increase in wine consumption.

Table III.—U.S. Consumption of Alcoholic Beverages

Fiscal year ended June 30	(Wine gallons)		
	Distilled spirits	Malt liquors	Wine
1949	150,933,996	2,663,179,622	125,578,856
1950	152,654,931	2,614,404,627	140,152,360
(Gallons per capita)			
1949	1.02	18.05	.85
1950	1.02	17.41	.93

Source: Prepared by Licensed Beverage Industries, Inc., from statistics released by U.S. Department of Commerce, Office of International Trade, food branch. Per capita figures based on U.S. Census Bureau population estimates of Jan. 1, 1949: 147,551,000 and Jan. 1, 1950: 150,161,000.

The industry remained an important producer of a substantial proportion of the nation's supply of penicillin, streptomycin and other antibiotics, as well as dried grain products for livestock and poultry feeding.

(A. J. Lr.)

**Liquor Control.**—During 1950, a law which would have prohibited the sale of promotionally advertised alcoholic liquors in Oregon was defeated in a state election. A proposal in Arizona permitting local-option elections on the sale of alcoholic liquors was also defeated. In Arkansas, one-half of whose counties were dry, a proposal to extend prohibition throughout the state was defeated. In South Dakota a proposal to prohibit the serving of food and liquor on the same premises (same room) was beaten. (This was in contrast to the New York law which says that a distilled spirits retail licensee with the right to sell for on-premise consumption may only sell where food is served.) There was little net change in 1950 as a result of local-option elections.

In Illinois the Price Posting and Credit law (limiting sale to cash only to accounts delinquent 30 days) was declared unconstitutional.

Efforts to limit liquor advertising which crosses state boundaries continued during 1950 but met with no success in congress.

The National Conference of State Liquor Authorities in 1948 appointed a committee of the states to study state alcoholic beverage laws. In 1949 the committee retained the Public Administration service of Chicago to conduct a survey. This survey was completed and published in 1950. It made a number of recommendations, all tending to raise the standard of operation.

The United States court of appeals in a unanimous opinion held that Oklahoma, one of the dryest of states, did not have a law prohibiting the importation of liquor; hence the federal



LIQUOR VATS CONFISCATED after passage of a prohibition act in April 1950 in the state of Bombay, to manufacture, own or consume alcoholic beverages. Bombay was the third Indian state to pass such a law

agencies had no authority to stop the importation of alcoholic liquors. An effort was to be made in the state legislature to make Oklahoma "bone dry." A state, according to this opinion, must prohibit all imports (except on special permit) in order to qualify under the 21st amendment to the federal constitution. States like Georgia, North Carolina and Texas would not come under federal jurisdiction (as to imports of alcoholic liquor) because they were not completely dry. In these and a number of other states, a majority of the counties were dry. In Kansas little opposition developed to the legislation authorizing the sale of liquor, which was in force for its first full year.

Fair-trade systems, which put a floor under prices, had by 1950 resolved themselves into two patterns. One was a compulsory system under which brand owners must file with the state authority minimum prices under which alcoholic liquor may not be sold to the consuming public. This system was in vogue in New York. The other was a voluntary system under which the brand owner may if he wishes file minimum consumer prices with the state authority. If he files he is bound by the filing, and the state enforces. This system was in vogue in New Jersey and Indiana. In states in which compulsory fair-trade laws had been found unconstitutional, as in Illinois, completely voluntary systems were still permissible. The distiller may contract with the retailer for minimum consumer prices. This contract is enforceable at law, but the state authority has no part in the enforcement. The controversy concerning fair trade continued to rage: the same was true, though in lesser degree, of price-posting systems, under which the distributor may or must post prices to retailers with the state authority and is then bound by such prices with provisions for amendment and refiling. (See also BREWING AND BEER; INTOXICATION, ALCOHOLIC; WINES.)

(M. Lb.)

## Literary Prizes.

The following is a selected list of literary prizes awarded during the year 1950:

**United States.**—ACADEMY OF AMERICAN POETS FELLOWSHIP.—\$5,000, given annually to a distinguished U.S. poet, awarded to E. E. Cummings.

**AMERICAN ACADEMY OF ARTS AND LETTERS, AWARD OF MERIT MEDAL.**—Medal and cash prize of \$1,000 given annually to an outstanding person in arts and letters, living in the U.S., and not a member of the academy or institute, to St. John Perse, poet.

**AMERICAN ACADEMY OF ARTS AND LETTERS, HOWELLS MEDAL.**—Given every five years in recognition of the most distinguished work of U.S.



fiction during that period, to William Faulkner.

AMERICAN ACADEMY OF ARTS AND LETTERS AND NATIONAL INSTITUTE GOLD MEDAL.—For essays and criticism, to H. L. Mencken.

AMERICAN HISTORICAL ASSOCIATION, ALBERT J. BEVERIDGE MEMORIAL FELLOWSHIP.—A grant of \$1,500 to Glyndon C. Van Deusen to complete a biography of Horace Greeley.

ANISFIELD-WOLF AWARDS.—Two awards of \$1,000 each, sponsored by the *Saturday Review of Literature*, for the year's best books on race relations, to S. Andhill Fineberg for *Punishment without Crime* and to Shirley Graham for *Your Most Humble Servant*.

ARMY SHORT STORY PRIZES.—\$1,000 each, awarded by *Collier's* to Maj. Franklin M. Davis, Jr., for "The Five Alls," to Maj. Gordon B. Enders for "Kismet and the Nomad Woman" and to Maj. Melvin B. Voorhees for "The Robe and the Sword."

BANCROFT PRIZES.—For distinguished writings in U.S. history, \$2,000 each to Herbert E. Bolton for *Coronado* and to Lawrence H. Gipson for *Great War for the Empire; The Victorious Years, 1758-1760*.

BOLLINGEN PRIZE IN POETRY OF THE YALE UNIVERSITY LIBRARY.—\$1,000 to Wallace Stevens.

JOHN BURROUGHS MEDAL.—For distinguished literature in the field of nature study, to Roger Tory Peterson for *Birds Over America*.

CAREY-THOMAS AWARD.—Annual award, sponsored by *Publishers' Weekly*, to honour publishing firms. Certificate to Rand McNally and company for *Cosmopolitan World Atlas*.

CATHOLIC WRITERS GUILD GOLDEN BOOK AWARDS.—Honorary awards to Leo Brady for *The Edge of Doom*, fiction; to Thomas Merton for *The Seven Storey Mountain*, nonfiction; to Dietrich von Hildebrand for *Transformation in Christ*, religious book.

COMMITTEE ON THE ART OF DEMOCRATIC LIVING LITERARY AWARD.—Cash prize of \$500 for the novel for young readers, aged 7-16, best portraying the ways people live together democratically, to Evelyn Sibley Lampman for *Treasure Mountain*.

GUGGENHEIM FELLOWSHIPS.—158 fellowships awarded, of which 18 went to writers: Lawrence C. Powell, Rosalie Moore, Theodore Roethke, Peter H. Taylor, Janet L. Winters, Walter B. C. Watkins, Eleanor Clark, Eleanor Green, Lincoln Barnett, Diana Trilling, Jean Evans, Francis Harper, Jay Leyda, Victor W. von Hagen, James Z. Rabun, Robert D. Clark, Rosamond Gilder and Charles M. Wiltse.

O. HENRY MEMORIAL AWARD PRIZE STORIES.—\$300 first prize to Wallace Stegner for "The Blue-Winged Teal"; \$200 second prize to Gudgey Bart Leiper for "The Magnolias"; \$100 third prize to Robert Lowry for "Be Nice to Mr. Campbell."

HOUGHTON MIFFLIN LITERARY FELLOWSHIPS.—Two awards of \$2,400 each for works in progress or finished manuscripts, to Katharine DuPre Lumpkin for a novel based on the life of Eli Wright and to Rebecca C. Patterson for a study of Emily Dickinson.

"JACK AND JILL" AWARDS.—Two awards given by the Curtis Publishing company for unpublished magazine serials: \$1,000 first prize to Ruth Fosdick Jones; \$750 second prize to William Howard Church.

JEWISH BOOK COUNCIL OF AMERICA AWARD.—\$250 for the best work of fiction of Jewish interest to John Hersey for *The Wall*; \$500 for a work of nonfiction of Jewish interest to Guido Kisch for *The Jews in Medieval Germany*.

JOSEPH W. LIPPINCOTT AWARD.—An award of \$500 for notable professional achievement in any field of library activity, to Halsey William Wilson in recognition of more than 50 years of work in developing bibliographic aids.

LYRIC FOUNDATION ANNUAL AWARD.—\$1,000 prize for lyric poetry to Gustav Davidson and to Nancy Byrd Turner.

MODERN LANGUAGE ASSOCIATION-MACMILLAN AWARD.—\$500 award for a book of significant contribution to general understanding of English and American literature, to Kenneth Neill Cameron for *The Young Shelley: Genesis of a Radical*.

HARRIET MONROE POETRY AWARD.—A prize of \$500 endowed by Harriet Monroe, awarded to E. E. Cummings.

MYSTERY WRITERS OF AMERICA AWARDS.—Honorary "Edgars," busts of Edgar Allan Poe, awarded for mystery writing: for the best first mystery novel, to Alan Green for *What a Body*; for the best fact-crime writing, to Joseph Henry Jackson for *Bad Company*; special awards to John Dickson Carr for *Life of Arthur Conan Doyle* and to Sydney Kingsley for his play *Detective Story*.

NATIONAL BOOK AWARDS.—Gold medals awarded by the entire book industry to Nelson Algren for *The Man with the Golden Arm*, for fiction; to Ralph L. Rusk for *The Life of Ralph Waldo Emerson*, for nonfiction; and to William Carlos Williams for *Paterson III* and *Selected Poems*, for poetry.

NATIONAL INSTITUTE OF ARTS AND LETTERS GRANTS.—\$1,000 each to six nonmember writers, for encouragement to young artists of ability and as practical recognition for more established authors: John Berryman, Paul Bowles, Maxwell Geismar, Caroline Gordon, Shirley Graham and Hyman Plutzik.

NEW YORK DRAMA CRITICS' CIRCLE AWARD.—Honorary award given by the New York metropolitan critics for the best play produced in New York city, to Carson McCullers for *The Member of the Wedding*; for the best foreign play, to T. S. Eliot for *The Cocktail Party*; for the best musical, to Gian-Carlo Menotti for *The Consul*.

NEW YORK UNIVERSITY'S SOCIETY OF THE LIBRARIES GOLD MEDAL.—Honorary award to Kenneth P. Williams for *Lincoln Finds a General*.

PARENTS' MAGAZINE MEDAL.—Awarded for the year's most outstanding book for parents, to H. A. Overstreet for *The Mature Mind*.

POETRY AWARDS.—Major award of \$1,250 for the best book of miscellaneous verse by an author who had published fewer than three books of poetry, to Frances Minton Howard for *All Keys Are Glass*.

MARY ROBERTS RINEHART MYSTERY NOVEL PRIZE CONTEST.—Cash prize of \$2,000 for a writer who had never before published a mystery novel, to William Wiegand for *At Last, Mr. Tolliver*.

SOUTHERN AUTHORS' AWARD.—Given for an outstanding book about the south by a southerner, to Lillian Smith for *Killers of the Dream*.

SPECIAL LIBRARIES ASSOCIATION AWARD.—To Anne L. Nicholson for *Numerial Index to the Bibliography of Scientific and Technical Reports*.

YALE SERIES OF YOUNGER POETS.—Award to Adrienne Cecile Rich for *A Change of World*.

ZONDERVAN CHRISTIAN BIOGRAPHY PRIZE.—\$2,500 to Mel Larson for *God's Man in Manhattan*.

U.S. Children's Books.—CALDECOTT MEDAL.—For the year's most distinguished U.S. picture book for children, to Leo Politi for *Song of the Swallows*.

CHILD STUDY AWARD.—Honorary award of the Child Study Association of America "for a book for young people which faces real problems in their world," to Maria Gleit for *Paul Tiber, Forester*.

CHARLES W. FOLLETT AWARD.—A prize of \$3,000 given by Wilcox and Follett, publishing company, for a "worthy contribution to children's literature," to Carol Hoff for *Johnny Texas*.

JULIA ELLSWORTH FORD FOUNDATION AWARD.—\$1,250 given by the foundation and sponsored by Julian Messner, Inc., for a distinguished contribution to current literature for children, to Chester Bryant for *The Lost Kingdom*.

HERALD TRIBUNE (NEW YORK) SPRING BOOK FESTIVAL AWARDS.—Three prizes of \$200 each: for the best picture book for younger children, to Ludwig Bemelmans for *Sunshine*; for the best book for children under 12, to Carl Carmer for *Windfall Fiddle*; for the best book for older boys and girls, to Elizabeth Yates for *Amos Fortune: Free Man*.

JUNIOR BOOK AWARDS.—Presented by the Boys' Clubs of America to authors of books which were favourites of boys in 73 Boys' clubs in the United States. Medals to Elma Erlich Levinger for *Albert Einstein*; to Alfred Powers for *Chains for Columbus*; to Capt. Edward Ellsberg for *Cruise of the Jeannette*; to Robert Sidney Bowen for *Fourth Down*; to Genevieve Foster for *George Washington*; to Clara Ingram Judson for *The Green Ginger Jar*; to William Herman for *Hearts Courageous*; to Mary and Conrad Buff for *Peter's Pinto*; to Herbert S. Zim for *Snakes*; to John Lewellen for *You and Atomic Energy*. Certificates to Ethel C. Brill for *Copper Country Adventure*; to Helen Acker for *Four Sons of Norway*; to David Grew for *The Ghost Man*; to C. Fox Smith for *Painted Ports*; to Fran Striker for *The Secret of the Lost Mesa*; to Colin Lochlons for *Stretch Smith Makes a Basket*; to Russell Gordon Carter for *Teen-Age Animal Stories*; to Billy Warren for *Tony Gay on the Longhorn Trail*; to Bertrand Shurtleff for *Two against the North*.

JOHN NEWBERRY MEDAL.—For the year's most distinguished contribution to literature for U.S. children, to Marguerite de Angeli for *The Door in the Wall*.

Canada.—GOVERNOR-GENERAL'S AWARDS, silver medals awarded to Philip Child for *Mr. Ames against Time* (fiction); to Robert MacGregor Dawson for *Democratic Government in Canada* (academic nonfiction); to Hugh MacLennan for *Cross-Country* (creative nonfiction); to James Reaney for *The Red Heart* (poetry); to R. S. Lambert for *Franklin of the Arctic* (juvenile). CANADIAN CHILDREN'S BOOK OF THE YEAR AWARD, bronze medal awarded by the Canadian Association of Children's Librarians, to R. S. Lambert for *Franklin of the Arctic*. LORNE PIERCE MEDAL, awarded by the Royal Society of Canada for achievement of special significance and conspicuous merit in imaginative or critical literature, to Marius Barbeau. LEACOCK MEDAL FOR HUMOUR, to Earle Birney for *Turvey*. RYERSON PRESS FICTION AWARD, \$1,000 to Jeann Beattie for *Blaze of Noon*. TYRRELL MEDAL, awarded by the Royal Society of Canada for research in Canadian history, to John Bartlet Brebner. (R. E. Bs.)

Great Britain.—Among the awards during the year were: the JAMES TAIT BLACK MEMORIAL PRIZES (about £250 each) to Emma Smith for *The Far Cry* (fiction) and to John Connell for *W. E. Henley* (biography); from the WILLIAM HEINEMANN FOUNDATION (up to £200) to John Guest for *Broken Images* and to Peter Quennell for *John Ruskin*; the CARNEGIE MEDAL (for an outstanding book for boys or girls) to Agnes Allen for *The Story of Your Home*; the ROSE MARY CRAWSHAY PRIZE (£100) for a critical or historical work on English literature by a woman to Helen Darbishire for her Clark lectures and in recognition of her collaboration on an edition of Wordsworth's poetical works; the JOHN LLEWELLYN RHYS MEMORIAL PRIZE (£50) to Kenneth Allsop for *Adventure Lit Their Star*; the SOMERSET MAUGHAM AWARD (about £250 for a British writer under 30 to be used for foreign travel) to Nigel Kneale on the strength of his book of short stories *Tomato Cain and Other Stories*; the DENYSE CLAIROUN MEMORIAL PRIZE to Antonia White for her translation of *Une Vie* by Maupassant; the SUNDAY TIMES BOOK PRIZE (£1,000) to T. S. Eliot for *The Cocktail Party*; the WILLIAM FOYLE POETRY PRIZE (£250) to Christopher Fry for *Venus Observed*.

A new literary prize founded in 1950 was the FREDERICK NIVEN AWARD. It was instituted in memory of the Scottish writer by his widow. The sum of £100 was offered for the most outstanding contribution to literature by a Scotsman or Scotswoman; the first award went to Nancy Bryson Morrison for her novel *The Winnowing Years*. Nearly 60 ATLANTIC AWARDS were given to young or new writers whose careers had been interrupted by the war by the committee responsible for administering the funds placed at their disposal by the Rockefeller foundation.

(E. Se.)

France.—ACADÉMIE GONCOURT PRIZE to Paul Colin for *Les Jeux sauvages*; THÉOPHRASTE RENAUDOT PRIZE to Pierre Molaine for *Les Orgues de l'enfer*; FÉMINA PRIZE to Serge Groussard for *Une Femme sans passé*; INTERALLIÉ PRIZE to Georges Auclair for *Un Amour allemand*; SAINTE-BEUVE PRIZE (summer) novel, to François Gorrec for *La Septième lune*, essay, to Marcel Arland for *Mariavaux*; (winter) novel, to Jean-Charles Pichon for *Il faut que je tue M. Rumann*, essay, to Georges Poulet for *Études sur le temps humain*; ACADÉMIE FRANÇAISE PRIZE (literary) to Marc Chadourne, (essay) to Joseph Jolinon for *Les Provinciaux*; SOCIÉTÉ DES GENS DE LETTRES PRIZE to Francis de Miomandre and Luc Estaing; SOCIÉTÉ DES AUTEURS ET COMPOSITEURS DRAMATIQUES PRIZE to Denys Amiel and Jacques Bernard. (See also NOBEL PRIZES.) (M. Jol.)



**Literature:** see AMERICAN LITERATURE; BOOK PUBLISHING; CANADIAN LITERATURE; ENGLISH LITERATURE; FRENCH LITERATURE; GERMAN LITERATURE; ITALIAN LITERATURE; LITERARY PRIZES; NOBEL PRIZES; PULITZER PRIZES; RUSSIAN LITERATURE; SPANISH-AMERICAN LITERATURE; SPANISH LITERATURE.

**Lithuania.** From Feb. 16, 1918, to Aug. 3, 1940, when it was annexed by the U.S.S.R., Lithuania was an independent republic. The U.S., British and other governments, however, did not recognize the annexation. Area (including Klaipeda [Memel] and Vilnius [Wilno] territories): 25,173 sq.mi. Pop. (Oct. 1939 est., including Vilnius, but excluding Klaipeda) 2,970,000, (1950 est., including Klaipeda) 3,000,000. Nationalities (Oct. 1939 est.): Lithuanian 69%, Polish 16%, Jewish 10%, Russian and Byelorussian 2.5%, others 2.5%. Religion (Oct. 1939 est.): Roman Catholic 80%, Protestant 7%, Greek Orthodox 2.5%, Jewish 9.5%, others 1%. Chief towns (pop., Oct. 1939 est.): Vilnius (cap., 207,800), Kaunas (152,400). Chairman of the presidium of the supreme soviet of the Lithuanian S.S.R. in 1950, Justas I. Paleckis; chairman of the council of ministers, Mečislovas A. Gedvilas.

**History.**—In a letter published in *Izvestia* on July 22, 1950, the working people of Lithuania expressed thanks to Stalin for liberating their country from the capitalist yoke and saving them from annihilation. In fact, the main outcome of the so-called liberation was a great change in the population of the republic: between 1940 and 1950, in consequence of many mass deportations, it was estimated that the number of Lithuanians in the area including Klaipeda and Vilnius was reduced from 2,084,000 (66%) to 1,645,000 (55%). Real power in the Lithuanian government was vested in the Russian deputy prime minister, Vasily Ilyich Pisarev. During the year another Russian, Maj. Gen. Petr Mikhailovich Kapralov, was appointed minister of state security.

Collectivization of agriculture made further progress and according to *Tiesa*, organ of the Lithuanian Communist party, there were in July 6,549 collective farms, or *kolkhozy*, comprising 76% of peasant holdings. From then began a drive to amalgamate smaller *kolkhozy* into bigger ones. Although Gedvilas stated in *Izvestia* on July 21 that industrial production in 1949 was 67% greater than before World War II (but neither year nor territory concerned was indicated), he complained on June 15 before the Lithuanian supreme soviet that many all-union ministries had not fulfilled Lithuanian contracts of machinery at dates agreed upon.

It was reported that the Roman Catholic bishop of Panevėžys, Msgr. Kazys Paltarokas, died in March. This completed the extinction of the Lithuanian Roman Catholic hierarchy which in 1940 had comprised one archbishop, four bishops and the vicar-general of Vilnius. According to an official Vatican source, by July 1950, out of 1,332 clergy left free until 1947, about 1,000 had been arrested and deported.

On July 5 a decree of the presidium of the supreme soviet of the Lithuanian S.S.R. abolished the prewar districts and communes and introduced a new administrative division consisting of provinces or *oblasti* (Vilnius, Kaunas, Klaipeda and Šiauliai) and 87 *rayons*. In the elections of March 12 to the U.S.S.R. supreme soviet 1,597,561 (99.88%) out of a possible 1,599,438 electors cast their votes: Lithuania elected 10 members to the council of the union and 25 to the council of nationalities. (See also ESTONIA; LATVIA.)

**Education.**—According to Gedvilas there were in October "almost half a million" pupils in all schools, including 170 secondary and 42 higher technical institutions; there were also 11,000 students in 11 institutions of higher education.

**Finance.**—The 1950 budget was balanced at 1,352,910,000 roubles.

**BIBLIOGRAPHY.**—*Current News on the Lithuanian Situation* compiled by

the Lithuanian Legation (Washington, D.C.).

(K. SM.)

**Liver Disorders:** see ALIMENTARY SYSTEM, DISORDERS OF.

**Livestock.** Hogs and cattle on U.S. farms in 1950 continued to increase in numbers, whereas the recent decline in sheep numbers to record low levels was arrested if not reversed. Cattle increased by about 2,000,000 head, mostly beef cattle. More brood sows were kept because of the large feed grain supply. More chickens and turkeys were produced because of the favourable demand for eggs and poultry. Horses and mules continued to decline.

The total farm value of livestock at the beginning of the year was \$13,211,222,000 as compared with \$14,656,631,000 a year earlier. Cattle accounted for nearly \$10,000,000,000 of the total. Livestock prices during 1950 followed divergent trends and were somewhat reversed as compared with 1949. High-grade beef was more abundant and lower in price, considerably below the new records of 1949. Lower quality butcher stuff and feeder and stocker cattle were scarcer and higher in price, especially calves. The number going on feed in the corn belt for marketing in 1951 continued large in spite of the fact that the year ended on a note of uncertainty as to whether and when there would be price ceilings and at what levels.

Stimulated by the record carry-over of corn from the crop of 1949, the pig crops of 1950 were larger than in 1949 with the promise of a still larger one in early 1951. The spring crop of 1950 was 59,997,000 head, compared with 58,426,000 head a year earlier, and a preliminary estimate of 63,500,000 head in the spring of 1951. The fall pig crop of 1950 was estimated at 40,657,000 head, compared with 37,175,000 head a year earlier. Thus the total for 1950 was nearly 101,000,000 head, against about 96,000,000 head in 1949. As the large spring crop of hogs moved to market, prices declined seasonally to a low of about \$17 per hundredweight, but were above the low level of the previous year.

Record low sheep numbers on farms at the beginning of the year plus a lamb crop of only 18,431,000 head, 2% smaller than in 1949 and the lowest on record, set the stage for rather steady prices at a high level.

Production of poultry and poultry products on U.S. farms in 1950 was at a level higher than in any other year. Nevertheless, only 670,000,000 farm chickens were raised, other than commercial broilers, as compared with 744,000,000 in 1949; commercial broilers were 10% higher than in 1949 at 540,000,000 head and turkeys were a record at 45,000,000 head.

Livestock on U.S. Farms

(In thousands of head)

	Jan. 1, 1950	Jan. 1, 1949	Average 1939-48
Horses . . . . .	5,310	5,898	9,054
Mules . . . . .	2,153	2,348	3,450
Cattle (including calves) . . . . .	80,277	78,298	77,600
Milk cows . . . . .	24,625	24,416	26,175
Sheep . . . . .	30,797	31,654	48,112
Hogs . . . . .	60,421	57,128	61,634
Chickens . . . . .	481,190	448,676	486,369
Turkeys . . . . .	6,120	5,540	7,056

Layers on farms at the year's end were indicated as slightly less numerous than the 442,000,000 head as of Jan. 1, 1950, and production in 1951 was anticipated to be on a moderately lower level than in 1950.

World horse numbers in 1950 were estimated to have continued their slow decline. There were, nevertheless, increases in some countries recovering from extensive war damage.

World cattle numbers continued their upward trend. The estimate at the beginning of 1950 was about 771,300,000 head, a record, and about 7,000,000 head more than a year earlier, and



28,000,000 head above the pre-World War II estimate. Significant increases occurred in all continents except South America where drought affected the situation in Argentina, Uruguay and Paraguay.

World sheep numbers at the beginning of 1950 were estimated at 730,100,000 head as compared with 723,800,000 head a year earlier and 747,000,000 head prewar. Decreases in the Americas and Asia were more than offset by increases elsewhere. The large wool stock pile which existed in the early postwar period practically vanished, and in spite of an increase in world wool production the better-grade wools were much in demand at the auctions of the year at much higher prices, particularly after the war in Korea began and the United States attempted a negotiated agreement for a 100,000,000-lb. stock pile of Australian wool. (See WOOL.)

World hog production expanded in 1949, resulting in about 279,000,000 head at the beginning of 1950, or 7% more than a year earlier and only 4% below the prewar average. Significant increases occurred largely in the formerly devastated areas of Europe and the U.S.S.R. and in North America. (See also AGRICULTURE; MEAT.)

FILMS OF 1950.—*Cattle Drive* (Encyclopædia Britannica Films Inc.). (J. K. R.)

**Livestock Shows:** see SHOWS.

**Lobotomy:** see PSYCHIATRY.

**Local Government:** see MUNICIPAL GOVERNMENT.

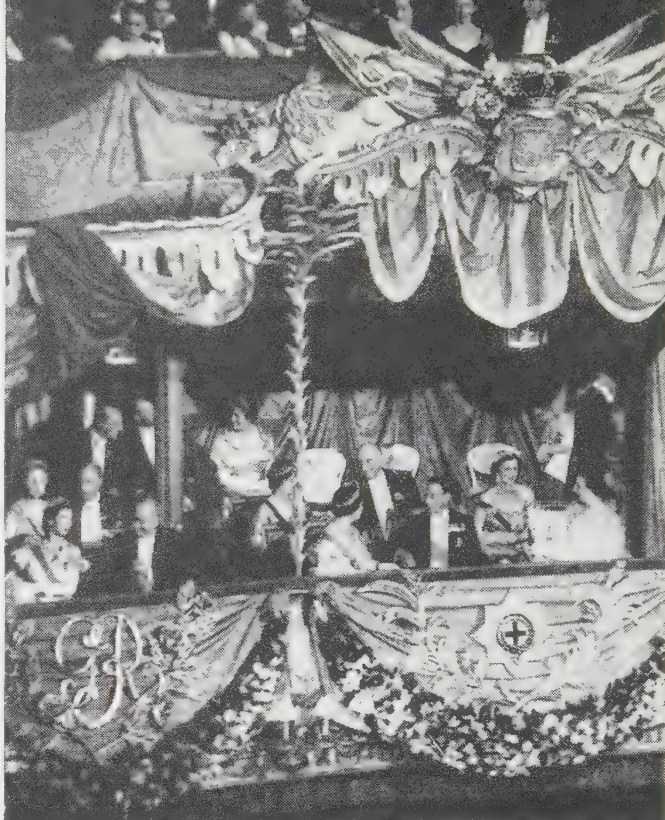
**London.** During 1950 the steady growth of the Festival of Britain buildings transformed the London landscape on the south bank of the Thames adjoining County hall. More satisfactory to the Londoner was the improved progress with repairs to war damaged buildings, public and private. The most momentous achievement in the rebuilding of war damaged buildings was the completion of the new chamber of the house of commons, retaining the architectural style and internal arrangement of its predecessor with modern improvements in acoustics, air conditioning, etc., and with the addition in the approach to it of a commemorative Churchill arch built of bomb damaged masonry from the old chamber. It was formally occupied for the first time on Oct. 26.

For an estimated postwar need of 250,000 new homes in the county, there were provided up to March 1950, 47,000 new permanent and temporary dwellings; 6,625 bombed houses had been rebuilt and 76,645 repaired.

In the port of London the work of reconstruction of war damaged piers and wharves continued and restoration of the authority's building on Tower hill began. The total tonnage of goods that arrived in and departed from the port in the year ending March 1950 was 32,597,761, being 1,000,000 tons more than the preceding year and only 2,000,000 tons less than 1939.

The winter exhibition, 1950-51, at the Royal academy opened in December with works by Hans Holbein and painters of the 16th and 17th centuries. The carpet executed by Queen Mary and given by her for sale for dollars for the exchequer was exhibited at the Victoria and Albert museum in the summer. Kenwood house was again opened to the public; Ham house, Richmond, was given to the national trust and opened to the public with its complete furnishing of the Carolean period; Syon house, Brentford, with its gardens and park, was opened to the public by the duke of Northumberland during the summer months. In the bombed area between Cripplegate and Gresham street the discovery of foundations of a Roman fort outside the previously known Roman circuit and later included in it gave a new military significance to Roman London.

An event of prime theatrical interest was the reopening in November of the Old Vic theatre in Waterloo road, with the



THE BRITISH ROYAL FAMILY entertaining Pres. and Mme. Vincent Auriol of France at a gala ballet performance in the Royal Opera house during the latter's visit to London in March 1950

Old Vic company in *Twelfth Night*.

One of the most startling events of the year was the theft in the early hours of Christmas morning of the variously named Coronation stone, Stone of Scone or Stone of Destiny, from its place beneath the coronation chair in Westminster abbey. It was suspected from the first that Scottish nationalists were responsible, and this supposition was strengthened when on Dec. 29 an anonymous petition to the king, purporting to be from those who took the stone, was handed in at a Glasgow newspaper office. A nation-wide search, led by Scotland Yard officers, failed to uncover any trace of the missing relic by the end of the year. (D. NN.)

**Lords, House of:** see PARLIAMENT, HOUSES OF.

**Los Angeles.** Los Angeles is the fourth largest city in the United States according to the 1950 census (pop. 1,957,692, April 1950, preliminary release) and largest in area (453.47 sq.mi.); the same census gave Los Angeles county a population of 4,125,164. Mayor Fletcher Bowron, re-elected to a third term in 1949, sustained his tenure in a recall election in Nov. 1950.

With nearly 15,000 new jobs and a private capital investment approaching the \$100,000,000 mark in 1950, industrial expansion of Los Angeles county topped 1949 to continue the accelerated pace of the postwar period. A total of \$98,367,250 was invested in establishment of 128 new factories and expansion of facilities at 399 existing ones. In dollar investment 1950 was Los Angeles county's fifth largest year of manufacturing growth and topped all years prior to 1942. The 1949 total was \$93,415,500.

The year was the greatest construction period in Los Angeles county history with valuation of building permits exceeding the \$1,000,000,000 mark for the first time. The 1950 volume for 45 cities and the unincorporated area of the county was \$1,053,430,853, topping 1949 by \$300,000,000 and running nearly \$175,000,000 greater than 1948's \$859,778,274—the former record. The city of Los Angeles also had a new building high for 1950



of \$407,178,693. Los Angeles was still building more housing units than any other city except New York.

Los Angeles county again in 1949 had the highest cash farm income (\$177,104,000) of any county in the United States. Despite inroads of residential and industrial development on its farmlands, Los Angeles county since 1910 had maintained its position as the country's leading agricultural area.

Los Angeles county in Nov. 1950 had 1,692,300 persons gainfully employed, according to the California state department of employment. This represented a gain of 89,450 workers over the same month in 1949.

The total tax rate for the 1950-51 fiscal year was set at \$6.5299 per \$100 of assessed valuation, with assessment based on approximately 50% of real estate market value. The \$6.5299 figure included \$1.9351 for the county, \$1.7857 for the city, \$2.3040 for schools and other amounts for special districts. Assessed valuations, higher because of greater value of property as well as many improvements, were \$2,480,144,170 for the city and \$4,918,012,455 for the county. The 1950-51 city budget was \$235,521,955, including \$90,820,058 general; \$12,697,741 for pensions; \$10,033,559 for libraries, parks and recreation; \$135,353,296 for the harbour, water and power department and airport. Affecting this total was a deductible adjustment of \$13,382,699.

(O. A. T.)

**Louisiana.** One of the west south central states of the United States, admitted to the union in 1812 as the 18th state, Louisiana is popularly known as the "Pelican state," "Creeole state" or "Bayou state." Area 48,523 sq.mi., of which 45,177 sq.mi. are land. Pop.: (1950 census) 2,683,516, or 13.5% more than in 1940. Capital, Baton Rouge (123,957). Other important cities: New Orleans (567,257), Shreveport (125,426), Lake Charles (41,202), Monroe (38,375), Alexandria (34,685), Lafayette (33,465).

**History.**—The legislature held four sessions in 1950. The first extraordinary session (March 5-16) was called in advance of the regular biennial session primarily to approve the revised statutes of 1950, prepared by the Louisiana State Law institute under authorization of the 1942 legislature. This revision, the first since 1870, was enacted to become effective on May 1, 1950.

The regular 60-day biennial session convened on May 8. In addition to the usual appropriations for all state departments and agencies for the 1950-52 biennium, a uniform state-wide system of juvenile courts, a board of alcoholic beverage control, a commission on alcoholism, a youth commission, and a civil defense agency were created; and a motor vehicle title law, and a law requiring all future state employees to subscribe an oath to support the constitution and laws of the state and the nation were enacted.

Forty-two proposed constitutional amendments were referred to the voters for approval or rejection at the November election, the most controversial of which provided for a convention to amend the constitution of 1921. After the legislature adjourned, opposition to the proposed convention developed swiftly, the chief objection being to the provisions authorizing the governor to name a large number of the delegates and making most of the state officers ex-officio delegates, which the opposition claimed would enable the political faction in power to control the convention. These protests resulted in the calling of a second extraordinary session (August 5-11), primarily to revise the method of naming the delegates, so as to overcome the objections to the original plan. However, revision of the convention proposal did not end the opposition; a new objection was raised, that it was inexpedient to hold such a convention during the national emergency. Consequently, a third extraordinary

session was held (Sept. 12) which suspended the proposal for a constitutional convention.

Of the 41 proposed constitutional amendments 32 were approved by the voters on Nov. 2, the most important of which provided "home rule" for New Orleans.

Other important political events of the year were the re-election of Mayor De Lesseps S. Morrison of New Orleans on the reform ticket and of United States Senator Russell B. Long to a full six-year term.

The United States handed down two decisions during the year directly affecting Louisiana. One deprived the state of title to the oil-producing coastal waters of the Gulf of Mexico; the other required the Louisiana State university law school, Baton Rouge, to admit properly qualified Negroes, on the ground that facilities for legal education there were superior to those provided for Negroes at the law school operated at Southern university, Scotlandville.

State officers in 1950 were: Earl K. Long, governor; William J. Dodd, lieutenant governor; Wade O. Martin, Jr., secretary of state; A. P. Tugwell, treasurer; L. B. Baynard, auditor; Boliver E. Kemp, Jr., attorney general; Shelby M. Jackson, superintendent of education; Lucile May Grace, register of land office; W. E. Anderson, commissioner of agriculture and immigration.

**Education.**—In 1950 the 793 public schools for whites enrolled 230,637 elementary and 68,955 high school pupils and employed 11,572 teachers; the 1,254 public schools for Negroes enrolled 161,770 elementary and 21,840 high school pupils and employed 5,458 teachers. The 194 private schools for whites enrolled 54,874 elementary and 10,782 high school pupils and employed 2,012 teachers; the 94 private schools for Negroes enrolled 17,668 elementary and 1,963 high school pupils and employed 438 teachers. The state maintained 14 public trade schools, and the 1950 legislature created 11 new ones. Total state appropriation for public education at all levels was more than \$88,000,000 for the 1950-51 fiscal year, an increase of \$5,000,000 over the preceding fiscal year.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Total readjustment allowances paid to Louisiana veterans of World War II up to Jan. 1, 1950, were \$73,000,000. Civilian unemployment compensation rose from \$18,000,000 in 1949 to \$21,000,000 in 1950. Total payments made by the Louisiana division of unemployment security, for all purposes, increased from \$23,000,000 in 1949 to \$25,000,000 in 1950.

Louisiana expended \$95,000,000 in 1949 and \$100,000,000 in 1950 on public welfare, though steps were taken to tighten the eligibility rules for applicants for public assistance.

Table 1.—Louisiana Public Welfare Programs, 1950

Type of assistance	Average number on rolls	Cost for year
Old age pensions . . . . .	121,010	\$68,518,850
Needy blind . . . . .	2,404	951,350
Dependent children . . . . .	113,004	18,887,350
Foster children . . . . .	1,138	629,065
Special cases . . . . .	32,211	10,581,150
Totals . . . . .	269,767	\$99,567,765

In 1950 the state maintained eight charity hospitals; three hospitals for mental patients; three tuberculosis sanitoriums; a school for white blind, a school for white deaf, and a school for Negro blind and deaf; a training school for spastic children; a training school for the feeble-minded.

The state maintained two prison farms for its 2,500 adult offenders, separate training institutes for about 200 delinquent white boys and girls, and a training institute for about 100 delinquent Negro boys. The 1950 legislature provided for the establishment of a training institute for delinquent Negro girls.

State appropriations for maintenance and expansion of its charitable and correctional institutions were about \$22,000,000 for the 1950-51 fiscal year.

**Communications.**—In 1950 Louisiana had 18,200 mi. of public highways, 14,788 mi. of which were state-maintained, 4,788 mi. paved with concrete or blacktop and the remainder gravelled. Total expenditures for highway maintenance and new construction were \$46,463,973 in 1950, compared with \$38,500,000 in 1949. During the year 70 mi. were paved with concrete and 646 mi. with blacktop, at a total cost of \$32,064,942, while \$12,514,944 were expended for maintenance and improvement of old highways. There were 4,400 mi. of railways and 4,800 mi. of navigable waterways.

About 100 land airports and 10 seaplane bases were in operation in 1950. Nearly 500,000 telephones were in service at the end of 1950.

During the same period 16,503,485 tons of domestic freight were transported through the locks connecting the Mississippi river with the Gulf Intracoastal waterway which crosses the lower section of the state.

**Banking and Finance.**—Louisiana had 35 national banks on July 1, 1950, with total deposits of \$1,172,000,000 and resources of \$1,250,000,000; and 128 state banks, with total deposits of \$520,000,000 and resources of \$557,000,000. There were 62 savings and loan associations, with total



Table II.—Foreign Commerce of Louisiana Ports in 1950

(For year ending Aug. 1, 1950)

Ports	Exports		Imports	
	Tons	Value	Tons	Value
New Orleans . . . . .	3,368,850	\$683,900,000	3,301,400	\$436,900,000
Baton Rouge . . . . .	573,850	24,700,000	658,000	4,100,000
Lake Charles . . . . .	397,000	33,100,000	35,450	1,200,000
Port Sulphur . . . . .	323,900	6,100,000	(Not a port of entry.)	
Totals . . . . .	4,663,600	\$747,800,000	3,994,850	\$442,200,000

resources of about \$210,000,000. The state budget for the 1950-51 fiscal year, including federal grants-in-aid, was about \$400,000,000, with receipts and expenditures balanced. The state bonded debt was about \$240,000,000 on July 1, 1950.

**Agriculture.**—The total value of agricultural and truck crops in 1950 was \$275,000,000, compared with \$257,600,000 in 1949; total acreage harvested was 3,100,000, compared with 3,385,000 in 1949. The total cash income from crops, livestock and poultry and their products was about \$400,000,000, about the same as in 1949; from government payments \$11,600,000, compared with \$10,300,000 in 1949.

Table III.—Leading Agricultural Products of Louisiana

Crop	1950	1949	Average 1939-48
Cotton (bales) . . . . .	430,000	650,000	536,000
Corn (bu.) . . . . .	19,918,000	18,446,000	19,208,000
Rice (bu.) . . . . .	23,313,333	23,960,000	21,960,000
Sugar cane (tons) . . . . .	5,811,000	5,388,000	5,010,000
Sweet potatoes (bu.) . . . . .	10,290,000	8,700,000	8,615,000
Irish potatoes (bu.) . . . . .	1,386,000	1,239,000	2,446,000
Oats (bu.) . . . . .	1,952,000	2,929,000	3,124,000
Hay (tons) . . . . .	441,000	446,000	406,000
Pecans (lb.) . . . . .	9,100,000	17,000,000	9,569,000
Peaches (bu.) . . . . .	189,000	265,000	302,000
Pears (bu.) . . . . .	182,000	198,000	204,000
Citrus fruits (boxes) . . . . .	340,000	360,000	295,000
Truck crops (value) . . . . .	\$12,000,000	\$11,574,000	\$12,102,000

**Manufacturing.**—About 2,400 industrial establishments, employing 150,000 workers and paying \$325,000,000 in wages and salaries, produced finished products worth \$1,300,000,000 in 1950, compared with \$1,250,000,000 in 1949.

**Forest Products, Furs, Fisheries.**—Louisiana forests produced 961,962,000 bd.ft. of lumber and 941,151 cords of pulpwood in 1949-50 fiscal year, compared with 1,329,490,337 bd.ft. and 1,000,947 cords in 1948-49 fiscal year.

The 1949-50 trapping season in Louisiana yielded about 3,000,000 pelts valued at about \$4,000,000, compared with 3,500,000 pelts valued at \$4,650,000 for the 1948-49 season.

The total catch of Louisiana commercial fisheries—fish, oysters, shrimp, crabs, and frogs—was valued at about \$28,000,000 in 1950, approximately the same as for 1949.

**Mineral Production.**—Increased demand pushed production of some Louisiana minerals beyond previous levels in 1950.

Table IV.—Principal Mineral Products of Louisiana

Mineral	1950	1949
Petroleum (bbl.) . . . . .	201,000,000	191,000,000
Natural gas (M. cu. ft.) . . . . .	745,000,000	700,000,000
Natural gasoline (bbl.) . . . . .	8,000,000	6,000,000
Sulphur (tons) . . . . .	1,210,000	990,000
Salt (tons) . . . . .	935,000	980,000
Salt brine (tons) . . . . .	1,425,856	1,601,630
Shell and gravel (tons) . . . . .	7,404,470	7,067,636
Sand (tons) . . . . .	2,100,156	2,253,546
Stone (tons) . . . . .	22,500	286,000

The total value of mineral production in 1950 was estimated at about \$625,000,000 in 1950, compared with \$600,000,000 in 1949.

FILMS OF 1950.—*New Orleans—the Gay City* (Cornell Associates). (W. P.R.)

**Lumber.** During the year 1950 the species of trees holding the leading positions in lumber production in the United States continued to be, in order of importance, southern pine, Douglas fir and ponderosa pine. These trees alone comprised about 60% of the total lumber production of the country. Other leading species in lumber production in order of importance were oak, white pine, hemlock, spruce, red gum, yellow poplar and hard maple. Species of less importance were white fir, sugar pine, western larch, Idaho white pine, cypress, western red cedar, redwood and lodgepole pine among the softwoods, and black and tupelo gum, cottonwood and aspen, beech, elm, birch, hickory, basswood, ash, black cherry, walnut, sycamore, chestnut and alder among the hardwoods.

An important feature of lumber production was the increase in production of species formerly little used or neglected. Among them were the white and red firs in Oregon, California and

Washington; western larch and lodgepole pine in the northern Rocky mountain region; aspen in Michigan and Minnesota; and cottonwood, pecan hickory, tupelo gum and black gum in the southern hardwood forests. The states east of the Great Plains produced more lumber than the Rocky mountain and the west coast states combined.

The total lumber production for 1950 was about 37,000,000,000 bd.ft., a considerable increase over the production for 1949 and other years since World War II. This high production was caused by the great demand for housing throughout the country. Of the total lumber production, approximately 27% was of hardwoods and 73% softwoods. During recent years there had been an increase in the proportion of hardwoods over softwoods. Probably the greatest percentage increase of any one species was noted by ponderosa pine which is grown and produced as lumber in 12 of the western states. It is the most widely distributed conifer in North America.

Lumber prices during 1950 reached all-time highs, exceeding the preceding highs of 1949 and the long-time highs of 1920. These price increases were largely caused by the exceedingly heavy demand for lumber for housing. High prices for lumber were also caused by rising wages, higher freight rates particularly from the west coast and the south to the great industrial and population centres of the northwest and middle west, by car shortages which were very severe in Oregon and northern California and by unfavourable weather conditions on the west coast and parts of the south which made it difficult and sometimes impossible to get saw logs out of the woods. The use of lumber for dwellings was greatly supplemented by the use of plywood and fibreboards.

Early in October lumber prices receded notably in the common grades. For example, two of the most important items in lumber construction, namely no. 2 common 2-inch dimension fell about \$15 to \$20 f.o.b. sawmill; no. 2 common boards 1×6, 1×8 and 1×10 in., which are largely used for sheathing, underflooring and roof boards, dropped in price to the same extent. These two items make up about 30% of the principal softwoods used for lumber construction, namely Douglas fir and southern pine. The high prices for softwoods brought out greatly increased production of white pine in New England, New York, Pennsylvania and the lake states. The production of redwood and cypress also showed a marked increase.

There was a sharp increase in the volume of lumber imported during the year, but exports decreased because of tariff differentials and a smaller volume of shipments under the Economic Cooperation administration. The principal species exported continued to be Douglas fir from the west coast, followed in order of importance by southern pine from the Gulf and southeastern states and ponderosa pine from the west coast states. Other species entering the export trade were white pine, hemlock, redwood, western red cedar, cypress and spruce among the softwoods. Oak was the outstanding hardwood species exported, followed in very much smaller quantities by red gum, ash, tupelo and black gum, cottonwood, hickory, birch and walnut. (N. C. B.)

**British Commonwealth and Europe.**—The devaluation of sterling in the autumn of 1949 had the effect of a general hardening of prices throughout Great Britain, Europe and the British Commonwealth. Swedish and Finnish shippers at the beginning of the year raised their prices for deals, battens and boards for first open-water shipment by £5 per standard. Though the British Timber control negotiated no substantial contracts with these two countries, shippers held their own by selling large quantities to Dutch, Belgian and other European importers. By midsummer the price of good Swedish joinery deals had risen to £55 10s. per standard; subsequently, small contracts were negotiated for England at these ruling prices.

In June a British government buying mission visited Moscow,



and contracts were signed for 100,000 to 150,000 standards of softwoods, including goods from Archangel and the Kara sea area. A considerable softwood contract with Yugoslavia, comprising 100,000 standards, was signed by the British board of trade in March at prices showing some small advances over those of 1949. France exported a large quantity of maritime pine from forests in the Landes damaged by fire in the summer of 1949. Production of softwoods was everywhere maintained. Large quantities were still being used for internal reconstruction. Canada maintained its lumber industry in full production, most notably in British Columbia; in eastern Canada hardwood and spruce mills worked at full capacity, a large portion of the production being exported to the United States. Contracts were negotiated by British Timber control with exporters both in eastern Canada and British Columbia. Stocks of imported softwood in Great Britain at the end of July stood at 175,000 standards. Perhaps for this reason the board of trade announced in Oct. 1950 that licences to private buyers to import into Great Britain would be freely granted for Sweden, Finland, Norway, France, Brazil, etc., but that for the time being government buying would continue in the dollar countries, the U.S.S.R. and its satellites and Yugoslavia.

Meanwhile, at the beginning of the year the board of trade had granted freedom to private importers to purchase and import hardwoods from all countries except the United States and Canada. For these two latter countries licences were granted to private importers on a severely restricted scale because of currency difficulties. In the spring of 1950 a contract was negotiated between a number of British importers and Yugoslavia for about 50,000,000 bd.ft. of beech and 12,000,000 bd.ft. of oak; prices averaged from 10% to 15% more than those of 1949. Czechoslovakia and Austria exported small quantities of hardwoods.

A feature of the European hardwood trade was the very large export from France, principally of oak, beech and poplar: the grand total was in excess of 75,000,000 bd.ft. The customary standing timber sales were held in the autumn, and prices paid were considerably more than in 1949. The French government

then prohibited further exports until the position had been reviewed.

There was some falling off in the demand for West African mahogany in the early months, with a consequent easing of prices; later, however, the rearmament program brought U.S. buyers in once more with resultant firmer prices. Disturbed conditions in Burma prevented the teak trade in that country from resuming its former activities, but small shipments came forward from time to time at greatly enhanced prices. Australia produced large quantities of hardwood, principally for home consumption; there was a small export to Great Britain of jarrah, karri and Tasmanian oak. A quantity of hardwoods was exported to Great Britain from South American countries, principally Brazil and Chile, largely on a barter basis which enabled both buyers and sellers to obtain more satisfactory terms. For the first time since World War II a small quantity of Japanese oak lumber was exported to Great Britain.

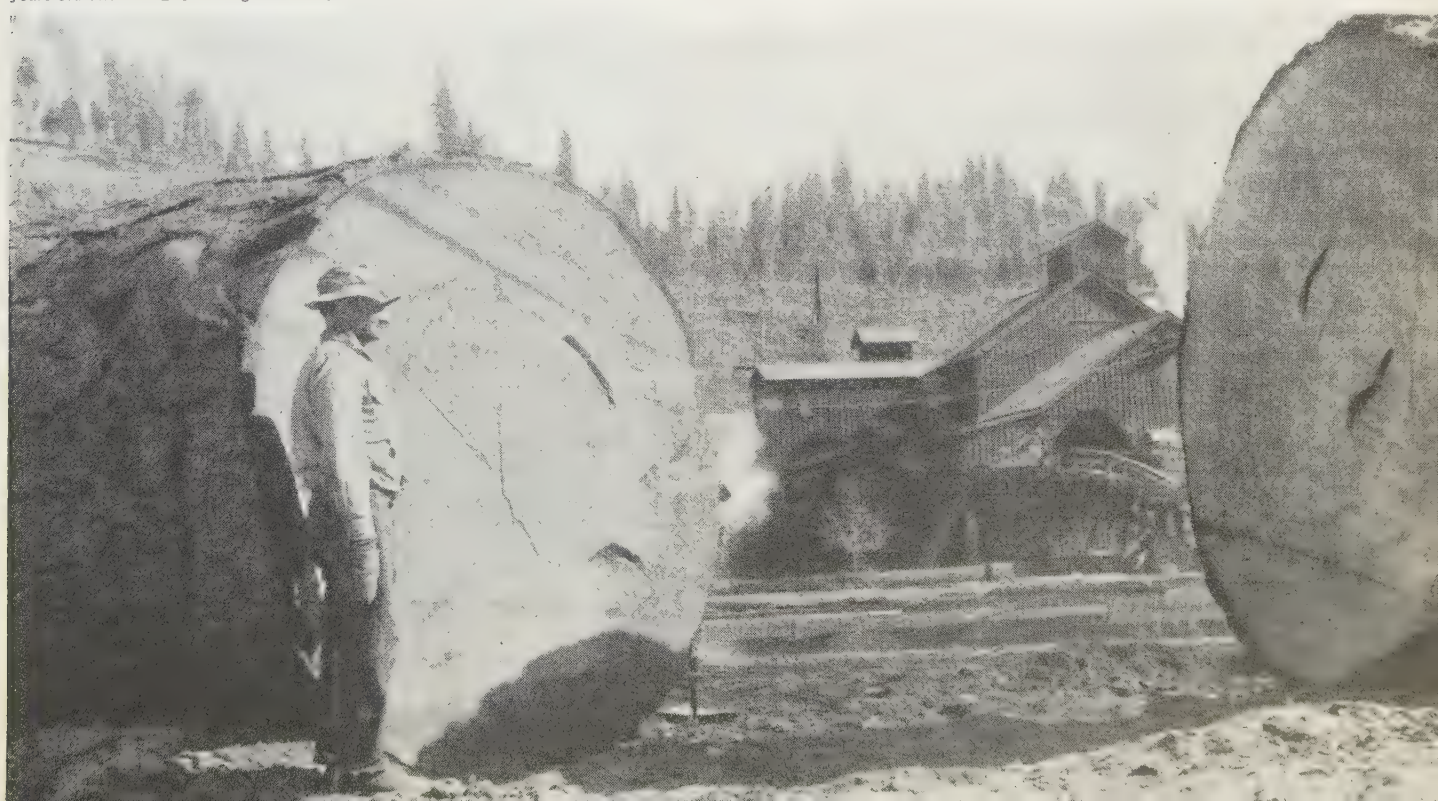
Plywood production was well maintained, with a general rise in prices mainly caused by the devaluation of currencies; the U.S.S.R., Finland and Sweden all maintained their exports. A considerable number of mills for plywood had in recent years been established in tropical Africa and were now commencing production. Mills in British Columbia and eastern Canada were in full production, as the rising home market and the large export to the U.S. and Great Britain enabled manufacturers to dispose of their products satisfactorily. (See also FORESTS.)

(B. L.)

**Lutherans.** During 1950, 42 member churches of five continents were working co-operatively and actively through the Lutheran World federation. More than one out of every ten among the 60,000,000 Lutherans in the world were refugees. Groups of refugees in central Europe, the middle east and Asia were receiving physical relief, spiritual ministry, aid in resettlement and opportunities for rebuilding. More than 80,000 had been resettled in Canada, the United States, Australia and South America.

The assistance to younger churches and orphaned missions became an international operation when missionary groups of the churches of Finland, Sweden, Norway and Denmark joined with the bodies in America to support and conduct the missions in

**PONDEROSA PINE** reported to be the largest of its kind on record, after felling by the Blagen Lumber Co. of White Pines, Calif., in 1950. The tree was 350 years old and was 229 ft. high and 100 in. in diameter





Africa, Indonesia, India, Palestine and New Guinea.

The focal point of Protestant resistance to totalitarianism was eastern Germany. There 14,000,000 to 16,000,000 Lutherans were giving an evidence of their loyalty to the Christian faith and the organized church in spite of increasing pressures and persecutions. These churches, since the change from a state church to disestablishment, had organized a thorough program of Christian education, activities for the youth groups and service to pastors.

Bishop Otto Dibelius had rallied the support of almost all the pastors of the eastern zone for this battle.

The Lutheran World federation made plans for its second quinquennial assembly in Hanover, Germany, for the summer of 1952. The theme for this assembly was to be "The Living Word in a Responsible Church" with six sections giving attention to such subjects as youth and student work, evangelism and stewardship, missions and international affairs.

The leadership of several Lutheran churches changed during 1950. Bishop Lajos Ordass, the first casualty among religious leaders in eastern Europe when he was sentenced to imprisonment in 1948, was deposed as head of his diocese by a state-pressured church court. Bishop Laszlo Dezser, a Communist, was elected to succeed Ordass. Yngve Brilioth became the primate of the church of Sweden when he was elected archbishop of Uppsala upon the retirement of Archbishop Eidem. Bishop Eivind Berggrav, who led the church struggle against nazism, stepped down as primate of the church of Norway because of ill health. Henry F. Schuh was elected president of the American Lutheran Church to succeed Emanuel Poppen. Lawrence Stavig, president of Augustana college, Sioux Falls, S.D., was elected chairman of the National Lutheran council. (See also CHURCH MEMBERSHIP.) (C. E. L.-Q.)

**Luxembourg.** An independent grand duchy of western Europe, Luxembourg is bounded south by France, northwest by Belgium and northeast by Germany. Area: 1,010 sq.mi., including the 11 sq.mi. of the uninhabited Kammerwald forest and a small village annexed on April 15, 1949, as accepted under the six-power agreement on March 26, 1949. Pop. (July 1, 1949, est.) 295,000. Language: Luxembourgian (idiomatic) and (officially) French. Religion: Roman Catholic 98%. Capital, Luxembourg (pop., Aug. 1949 est., 62,000).

Ruler, Grand Duchess Charlotte; prime minister, Pierre Dupong.

**History.**—An agreement was signed in Washington, D.C., on Jan. 27, 1950, between Luxembourg and the U.S., regulating mutual aid for common defense purposes.

The full economic union of Belgium-Luxembourg with the Netherlands which was scheduled to come into force by July 1, 1950, could not be realized at that date. Ministers of the Benelux countries met in Luxembourg on Oct. 20-21 and agreed to a system of modernization for Luxembourg-Belgian agricultural production, in order to lower costs of production; the Netherlands would gradually abolish subsidies to farmers. In spite of great efforts Dutch goods imported into Luxembourg and Belgium would still be artificially raised in price by a tax, to be divided between exporting and importing countries. The principle of proceeding by stages to complete freedom of exchange for the Benelux countries was firmly maintained. Passports were no longer required for travel between the three countries.

(See BELGIUM.)

**Education.**—Schools (1948): elementary 966, secondary 7, technical, 3.

**Finance.**—Budget (1950 est.): revenue 2,996,265,000 fr.; expenditure 3,890,992,058 fr. Monetary unit: Luxembourg franc, at par with the Belgium franc, with an exchange rate of 50.50 fr. to the U.S. dollar.

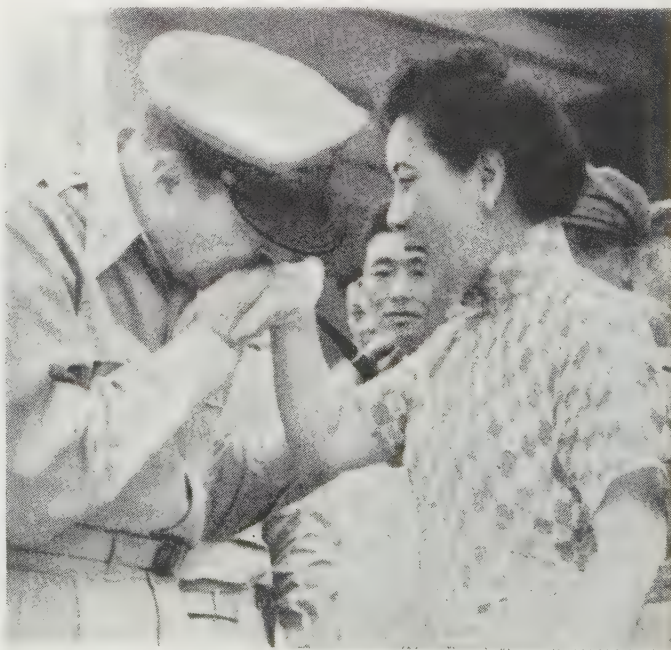
**Industry.**—Total of persons employed: (June 1950) 35,355. Production

(in metric tons, 1949): pig iron 2,372,080; steel ingots and castings 2,277,858; synthetic fertilizers 502,351. (H. R. M.L.)

**Macao:** see PORTUGUESE COLONIAL EMPIRE.

**MacArthur, Douglas** (1880— ), U.S. general, was born on Jan. 26 at Little Rock Barracks, Ark. (For his early career, see *Encyclopædia Britannica*.) After the Japanese attack on Pearl Harbor which plunged the U.S. into World War II, MacArthur led U.S. and Filipino forces in defense of the Philippines until March 17, 1942, when Pres. F. D. Roosevelt ordered him to Australia. From this point he led the combined U.S. and Allied forces in the drive that rolled the Japanese back to their home islands, and he accepted the Japanese surrender in Tokyo bay on Sept. 2, 1945. Thereafter he became supreme commander of the Allied occupying powers in Japan and supervised the reconstruction and democratization of that country.

When North Korean Communists invaded South Korea in June 1950 MacArthur was ordered to help defend South Korea with U.S. air, sea and ground forces. After the United Nations Security council had branded North Korea an aggressor, MacArthur was named commander of U.N. forces in Korea. As early as July 20 he announced that the first phase of the campaign had ended and so had the North Koreans' chance for victory. On July 31-Aug. 1 he conferred with Chinese Nationalist Gen. Chiang Kai-shek on plans to defend Formosa in case of a Chinese Communist attack, but MacArthur declined Chiang's offer of troops for use in Korea. Pres. Harry S. Truman and his top advisers conferred with MacArthur on Wake Island on Oct. 14 (U.S. time) and the president announced "complete unanimity" of views on pacifying, unifying and reconstructing Korea. MacArthur on Nov. 6 notified the United Nations that his forces had come in contact with Chinese Communist forces, and termed their intervention "one of the most offensive acts of international lawlessness of historic record." On Nov. 24 he announced that a new attack being launched should, if successful, end the war; but on Nov. 28 he told the U.N. that his forces were up against an "entirely new war," implying that he needed instructions on how to deal with the Chinese Communists within their



GEN. DOUGLAS MacARTHUR greeting Mme. Chiang Kai-shek in Formosa, after conferring with Gen. Chiang Kai-shek and Chinese nationalist leaders, July 31-Aug. 1, 1950, regarding defense plans for Formosa in the event of a Chinese Communist invasion



"privileged sanctuary" behind the Korean-Manchurian border. On Dec. 11 he announced that the U.N. forces withdrawing ahead of the Chinese Reds were "relatively secure," and his field commanders in later statements implied that U.N. forces could remain in Korea indefinitely. However, MacArthur repeatedly during the Korean campaign had stressed that U.S. forces were bearing the brunt of the war, and asked for more ground troops from the other U.N. members.

**McCarthy, Joseph R.** (1909— ), U.S. senator, was born Nov. 14 in Grand Chute, Wis. After graduating from Marquette university, Milwaukee, Wis., in 1935 he practised law until 1939 when he was elected circuit judge. He was then 30 years of age, the youngest man in Wisconsin's history to hold such a post. From 1942 to 1945 he served overseas with the U.S. marines. During this time his friends put up his name for nomination to the U.S. senate, and though he received 100,000 votes, he ran second. In 1945 he was re-elected circuit judge. In 1946 he defeated Sen. Robert La Follette for the Republican nomination to the U.S. senate and in the subsequent November balloting was elected for a six-year term ending Jan. 3, 1953.

In the senate McCarthy was especially known as an investigator of communism in high places in government. His tenacious tactics and frequently sweeping accusations won for him many enemies, though he held a large popular following as well. The word "McCarthyism" became synonymous with the attitude he showed toward those suspected of Communist sympathies. He was especially dogged in his attacks on the state department and on Secretary of State Dean G. Acheson, for what he called the protection of those accused of "sabotaging" U.S. efforts to contain the U.S.S.R.

**McCloy, John Jay** (1895— ), U.S. lawyer, banker and government official, was born on March 31 in Philadelphia, Pa. He was educated at Amherst college, Amherst, Mass., and Harvard university and served in World War I and in the occupation forces in Germany after that war. He later practised law in New York city, specializing in corporation law and foreign litigation. In Oct. 1940 he was appointed expert consultant to the secretary of war, and in April 1941, assistant secretary of war. He became president of the International Bank for Reconstruction and Development in Feb. 1947, and on May 18, 1949, he was appointed first civilian U.S. high commissioner for occupied Germany.

He also acted as chief Economic Cooperation administration representative for Germany and U.S. representative on the three-power Allied council.

On April 4, 1950, he declared that west Europe must take west Germany into full partnership to thwart soviet designs on Germany, but on May 22 he said there would be "no startling changes" in Allied occupation policy. On Sept. 5 he conferred with Pres. Harry S. Truman and Secretary of State Dean G. Acheson, and said the Germans should be enabled to defend their country, if attacked.

On Dec. 27 he said he had been instructed to press for an agreement that would permit use of German troops to defend Germany "as a matter of urgency."

**Macedonia:** *see* BULGARIA; GREECE; YUGOSLAVIA.

**McGrath, James Howard** (1903— ), U.S. attorney general, was born on Nov. 2 in Woonsocket, R.I. He was graduated from Providence college, Providence, R.I., in 1926 and received a law degree from Boston (Mass.) university in 1929. He was governor of Rhode Island

from 1940 to 1945. Appointed U.S. solicitor general in 1945, he served until the next year, when he became U.S. senator from Rhode Island. From Oct. 1947 to Aug. 1949 he was chairman of the Democratic national committee. On Aug. 24, 1949, he was sworn in as attorney general of the U.S.

In 1950 McGrath figured prominently in government moves against Communists in the U.S. and against interstate crime. During a conference on organized crime in February, civic officials among the delegates estimated that a nationally organized crime "syndicate" grossed \$15,000,000,000 a year. On April 17, testifying in favour of a bill to ban interstate transmission of gambling news, McGrath said he knew of no national syndicate headed by a gambling "czar."

In March, McGrath had spoken against the release of the government's loyalty files to the senate committee investigating communism in the U.S., on the grounds that innocent persons might be injured. He later declared that the Federal Bureau of Investigation had adequate knowledge of all important Communists in the U.S., and criticized Sen. Joseph R. McCarthy of Wisconsin for the latter's charges of communism in government offices, declaring McCarthy's "witch hunts and frantic name-calling" endangered American liberties.

**Machinery, Farm:** *see* AGRICULTURE.

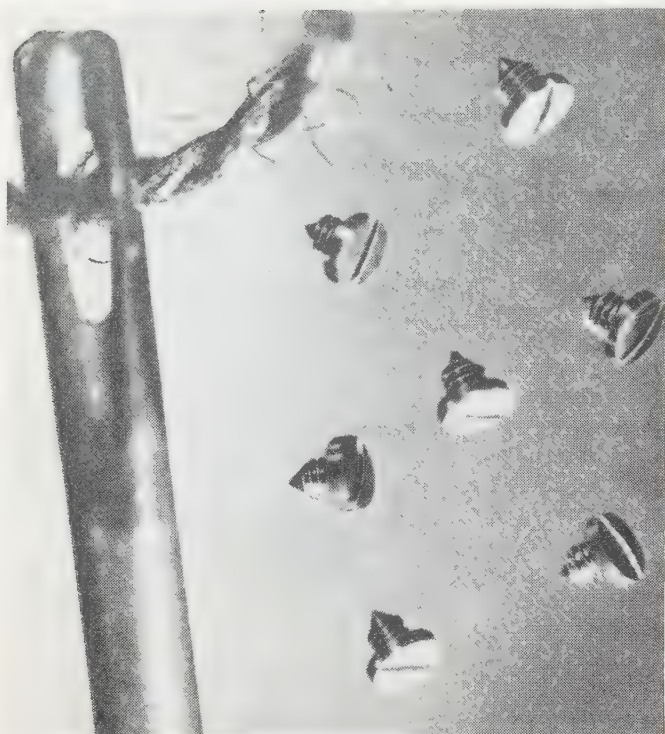
**Machinery and Machine Tools.** The machine tool industry of the United States soared in 1950 to the greatest heights since World War II. New orders exceeded \$700,000,000, or more than three times the amount of the previous year. Automobile makers gave the biggest impetus to machine tool operations. They had the largest retooling program in history, mostly for new "V" engines. Their expenditures ran to \$200,000,000, or about twice that of the best previous year, in the 1930s. It was not until late in the year that defense orders began to pour into builders' offices. It was estimated at the end of the year that total defense tooling would require more than \$1,000,000,000 worth of machine tools, mostly for aircraft and tank manufacturing projects. That figure included British buying.

Soon after the National Production authority was created in 1950, its machinery division began allotting defense orders for essential materials to defense contractors. These materials included machine tools. By the end of the year, however, the ratio of defense orders (carrying priorities) to total machine tool bookings hardly exceeded 15%. In anticipation of war mobilization, so-called "phantom orders" for machine tools were placed with machine tool builders in 1948. These were paper orders for specified quantities of machines. They could be activated overnight by telegram from Washington. Preparations were under way at the end of 1950 to put these orders (totalling \$800,000,000) on a live basis as the U.S. rearmament program expanded.

Great strides were made technically during 1950. Much of the progress came as a result of work on machining problems in the aircraft industry. A report was made public on the relationship of a metal's microstructure to its machinability. It showed how the optimum rate for machining a given material could be predicted if the material's microstructure and the processing of the material prior to machining was known. This report resulted from a study made by the Ford Motor company at the request of the U.S. air force. Various phases of the study were eventually taken over by the Massachusetts Institute of Technology, the Curtiss-Wright corporation and Metcut Research Associates. Cast irons, steels and high-temperature alloys were the materials studied.

High-speed machining gained new converts during the year. Milling at very high feeds revealed that neither work nor tool





**SMALLEST PRECISION SCREW** being mass-produced in 1950, as developed by the Elgin National Watch Co. of Illinois for use in adjusting military timing instruments. The screws, shown here beside a sewing needle for comparative size, were completely threaded and slotted

heated excessively. It was found that the horsepower needed for milling dropped as the speed for machining increased. One New England company discovered that it got better tool life by face milling cast iron at 500 to 700 f.p.m. than at 300 f.p.m. But when very high speeds were used, from 1,500 f.p.m. up, tool life decreased as speed increased. Tools and techniques were developed for climb-hobbing of cast-iron gears at 450 r.p.m. with 0.060-in. feed, and S.A.E. 4.135 gears at speeds up to 702 r.p.m. with 0.100-in. feed, in each case using carbide hobs 4 in. in diameter. These speeds approximated 460 and 725 f.p.m.

Speeds of machining lines and of special transfer or shuttle machines had been limited by permissible drilling speeds—just as in automatic lathes and screw machines. Several machinery builders were working on high-speed drilling machines for cast iron, using special heavy-duty carbide drills. One maker reached a feed of 1 in. per second (almost punching) with a ½-in. diameter carbide drill.

Ease of operation, flexibility of control and adaptability to job work as well as to mass production was featured in new machines during 1950. Mechanical shift levers at front and side of a vertical boring mill were eliminated, for instance, in favour of a pendant station and solenoid that activated a hydraulic-shift mechanism. A universal grinder was equipped with wheel base, headstock and work table which could be swivelled, and thus could be operated from front or rear. A lapping machine was offered which could load and unload small parts continuously and automatically. A right-angle chucking lathe was developed for facing, turning and boring thin-walled work of large diameter and short length, displacing cumbersome straight-line lathes for this class of work.

The U.S. air force set up at Adrian, Mich., a manufacturing methods pilot plant to which industry could bring its extrusion and forging problems. Hydraulic forging was done at this plant simply by pressing the metal billet between two dies with such force that it assumed the desired shape with one stroke. A 19-ft. tapered wing spar cap, for example, could be made with a forging press with only 64 lb. of material (compared with 207 lb.

used by the conventional method). Only 2 lb. then must be removed by machining, in five man-hours.

FILMS OF 1950.—*What Are Machines* (Bailey Films, Inc.). (B.Fy.)

**Madagascar.** The fourth largest island of the world, situated off the southeast coast of Africa, Madagascar is a French overseas territory. Its area and est. 1948 population (including smaller dependencies and the Comoro archipelago 849 sq.mi.; pop. 141,800) were 229,438 sq.mi. and 4,301,800 persons. The Malagasy tribes are many, the most important being the Hova (24% of the total), whose language is understood over a large part of the island; in 1948 there were 41,505 French including 15,638 from metropolitan France; Hindus, Chinese and Arabs constitute small racial minorities in Madagascar. Religion: Madagascar, Christianized to some extent but mainly pagan; Comoro archipelago, Moslem. Chief towns (pop., 1948 est.): Antananarivo, or Tananarive (cap. 171,052); Tamatave (28,194); Majunga (27,181); Diégo-Suarez (21,287). High commissioner, governor general: Robert Barges.

**History.**—The six Malagasy condemned to death on Oct. 4, 1948, for conspiracy, whose penalties were commuted to deportation for life to Mohéli (Comoros), were permitted on Oct. 2, 1950, to transfer to Calvi (Corsica). Native nationalism, although apparently quiescent, was none the less distinctly alive and was quickened by the continuous activity of the Communist party which operated particularly under cover of trade unions. It disputed the efficacy of the proposed reforms of the local assemblies, demanded faster evolution toward the status of associated state and protested against projects for European immigration. Robert Barges, the governor, directed his efforts on the one hand to the introduction of a road system and on the other to the exploitation of the Sakoa coal mines.

**Finance.**—Budget (1949 actual) balanced at 4,412,900,000 fr. C. F. A. Franc C. F. A. (Colonies Françaises d'Afrique) = 2 metropolitan francs. Franc = .2856 cents U.S. (free rate) in Nov. 1950.

**Foreign Trade.**—(1949) Imports 11,789,400,000 fr. C. F. A.; exports 7,369,500,000 fr. C. F. A.

**Transport and Communications.**—Railways (1948): 859 km. Roads (1948): 26,618 km. Motor vehicles licensed (1948): 6,087; commercial 3,990. Ships entered (1949, all ports): 5,590; cargo (metric tons 1948): unloaded 439,800, loaded 244,900. Air transport (1950, six months): aircraft landed, including internal flights, 24,069 (as against 18,927 during the corresponding period of 1949). Telephone subscribers (1949): 5,072.

**Agriculture.**—Main crops (metric tons, 1949): rice 750,400; maize 61,100; cassava 897,300; sweet potatoes 240,700; taros 129,000; potatoes 55,700; bananas 155,000; sugar cane 298,200; coffee 29,300. Live-stock (1949): cattle 5,646,000; pigs 415,700; sheep 297,800; goats 237,600; horses 2,700; mules 7,000.

**Mineral Production.**—(Metric tons, 1949): graphite 9,140; mica 939; corundum 6.8; optical quartz 6.2. Precious stones (kilograms): 445.514 including garnets 418,011 and beryls 27,061. Gold 51.7 kg. (C. A. J.)

**Magazines and Periodicals:** see NEWSPAPERS AND MAGAZINES.

**Magnesium:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Maine.** The extreme northeastern state of the United States, Maine was admitted as the 23rd state in 1820, and is popularly known as the "Pine Tree state." Land area 31,040 sq.mi.; water area 2,175 sq.mi.; population (1950 U.S. census) 913,744, an increase of 7.9% over 1940. The population of the principal cities (1950 census, preliminary figures) was: Portland 76,936; Lewiston 41,142; Auburn 23,078; Bangor 31,473; South Portland 21,732; Augusta (cap.) 20,900; Biddeford 20,785.

**History.**—Gov. Frederick G. Payne (Rep.) was re-elected in 1950 for a second, two-year term to start in Jan. 1951, with a strongly Republican state legislature. Five amendments to the state constitution were approved by the voters. Also re-elected on Sept. 11 were Maine's three Republican representatives to Washington: Robert Hale, Charles Nelson and Frank Fellows.

A governor's tax committee headed by Pres. Charles F. Phill-



ips of Bates college, Lewiston, reported that more state revenues were needed and that the state should abandon the property tax in favour of local government. It suggested that the 1951 legislature enact sales or income taxation, or both. The Canadian-United States commission of inquiry studying the proposed Passamaquoddy bay tidal power project reported that a thorough engineering study would be needed to determine whether the proposal would be economically and technically practicable.

The chief officers of Maine during 1950 were: governor, Frederick G. Payne; secretary of state, Harold I. Goss; attorney general, Ralph W. Farris; treasurer, Frank S. Carpenter; auditor, Fred M. Berry; commissioner of education, Harland A. Ladd.

**Education.**—The net enrolment in the public schools for 1948-49 was 162,821 compared with 160,191 for 1947-48 and 157,456 for 1946-47. In 1948-49 there were 6,211 teaching positions, 6,117 in 1947-48 and 6,022 in 1946-47. The state maintained 1,679 urban and rural schools in 1948-49, of which 676 were one-room buildings. The total expenditure for general support of schools (1948-49) was \$22,224,848; the cost per pupil in average daily attendance (147,856 pupils) was \$155.46 for the school year. The state also maintained the University of Maine, Orono, and five teacher training institutions.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—As of Nov. 30, 1950, there was a balance in the Maine employment security fund for unemployment benefits of \$37,143,182 compared with \$39,717,477 a year earlier. For the first 11 months of 1950 benefit payments were \$8,518,283, covering 48,300 persons, as compared with \$10,165,385, covering 55,800 persons in the same period of 1949. Total benefits paid in 1949 were a record \$11,392,398, compared with \$5,482,189 in 1948. The state expended for health, welfare and charities for the fiscal years ending June 30, 1950, and June 30, 1949, \$15,155,290 and \$12,967,966, respectively. Thirteen state institutions (correctional, insane hospitals, sanatoria) for the fiscal year 1950 had a total inmate population of 5,347; the total expended for the fiscal years 1950 and 1949 was \$4,550,030 and \$4,957,454, respectively.

**Communications.**—Highways of the state (1950) were: state highways, 3,147 mi.; state-aid highways, 7,721 mi.; local highways, 10,796 mi.; total highways, 21,844 mi. In the year ended June 30, 1950, the state expended for highway purposes, exclusive of debt and interest charges, \$20,376,606, compared with \$19,531,007 for 1949.

Steam railway mileage (1947) was 2,709 mi. Maine had 38 licensed commercial airports in 1950, of which 20 had paved runways. The New England Telephone and Telegraph company reported 208,288 telephones in service as of Dec. 1, 1950. Not including trailers and tractors there were 253,483 motor vehicle registrations for 1949, with 276,875 estimated for 1950.

**Banking and Finance.**—During 1950 the Maine banking department supervised 32 savings banks, 30 trust companies, 30 building and loan and savings and loan associations, 2 industrial banks, 8 credit unions and 18 specially chartered loan companies. The following figures are for June 30, 1950: deposits of savings banks \$238,776,000, total assets \$273,640,000; trust company deposits \$228,186,000, total assets \$250,756,000; building and loan and savings and loan associations, total assets \$35,334,000. There were 33 national banks in the state, with deposits as of June 30, 1950, of \$219,080,000 and total assets of \$244,082,000. Total banking resources in Maine stood at an all-time high as of June 30, 1950, of \$815,511,237.

State receipts, expenditures and bonded debt for the fiscal year ending June 30, 1950, were, respectively: \$61,210,062, \$61,811,434, \$8,517,500. For the year ending June 30, 1949, they were, respectively: \$58,156,895, \$58,063,521, \$10,221,500.

**Agriculture.**—Gross farm income was estimated to have fallen one-fourth in 1948 and 1949, and it dropped again in 1950. The Maine potato allotment was cut 15% below 1949, and at the same time the support price was cut from \$2.10 per hundredweight on the 1949 crop to \$1.70 on the 1950 crop.

Table I.—Leading Agricultural Products of Maine

Crop	1950	1949	1939-48 average
Corn, bu. . . . .	455,000	462,000	509,000
Oats, bu. . . . .	4,802,000	3,990,000	3,274,000
Barley, bu. . . . .	210,000	155,000	113,000
Buckwheat, bu. . . . .	132,000	168,000	116,000
Hay, tons . . . . .	788,000	834,000	858,000
Potatoes, bu. . . . .	61,750,000	70,215,000	56,252,000
Apples, bu. . . . .	1,391,000	1,006,000	768,000
Beans (dry), 100-lb. bags . . . . .	45,000	57,000	70,000

**Fisheries.**—During the first nine months of 1950, landings of fish at Maine ports amounted to 298,993,554 lb. valued at \$11,234,038, compared with 200,758,483 lb. valued at \$10,774,945 for the corresponding period of 1949. Total landings for 1949 were 292,203,570 lb., valued at \$14,998,040 to the fishermen.

**Manufacturing.**—There were 1,409 industrial firms in Maine in 1949, with production valued at \$844,176,289 and 113,144 employees, of whom 74,756 were men and 38,388 were women.

**Mineral Production.**—The principal mineral products (1948) in order of value were cement, stone, clay, sand and gravel, feldspar. Other products included slate, lime, mica, peat and semiprecious stones.

Maine ranked 45th among the states in value of mineral production in 1948, with .07% of the value for the U.S.

FILMS OF 1950.—*Maine Harbor Town* (United World Films Inc.).

Table II.—Principal Industries of Maine, 1949

Type of industry	Value of product	Employees	Wages
Textile-mill products . . . . .	\$209,189,592	26,161	\$62,386,409
Paper and allied products . . . . .	206,365,332	16,486	48,221,111
Leather and leather products . . . . .	113,769,717	18,307	33,163,322
Food and kindred products . . . . .	105,050,191	20,370	18,734,475
Lumber and wood products . . . . .	62,754,983	11,295	19,734,453
Machinery (except electrical) . . . . .	49,503,355	5,423	16,581,592
Transportation equipment . . . . .	26,812,778	6,244	23,889,694
Fabricated metal products . . . . .	18,211,161	1,522	3,793,857
Chemicals and allied products . . . . .	13,772,310	684	1,436,799
Printing and publishing . . . . .	10,775,774	1,721	4,414,701
Apparel and other fabricated textile products . . . . .	8,947,975	1,759	2,510,285
Stone, clay and glass products . . . . .	6,629,883	1,111	2,617,437
Furniture and fixtures . . . . .	4,045,978	737	1,378,388
Primary metal industries . . . . .	3,729,571	496	1,085,089
Miscellaneous manufacturing industries . . . . .	3,255,653	575	711,814
Not elsewhere classified . . . . .	800,141	180	220,486
Optical and ophthalmic goods . . . . .	561,895	73	176,623
Total . . . . .	\$844,176,289	113,144	\$241,056,535

Table III.—Value of Principal Mineral Products of Maine

	1948	1947
Cement . . . . .	\$2,754,568	\$1,970,186
Clay products . . . . .	416,000	286,000
Feldspar (crude) . . . . .	130,486	97,565
Sand and gravel . . . . .	286,765	1,241,377
Stone . . . . .	2,021,035	1,557,978
Miscellaneous . . . . .	2,843,678	823,138
Total (eliminating duplication) . . . . .	\$8,482,000	\$6,049,000

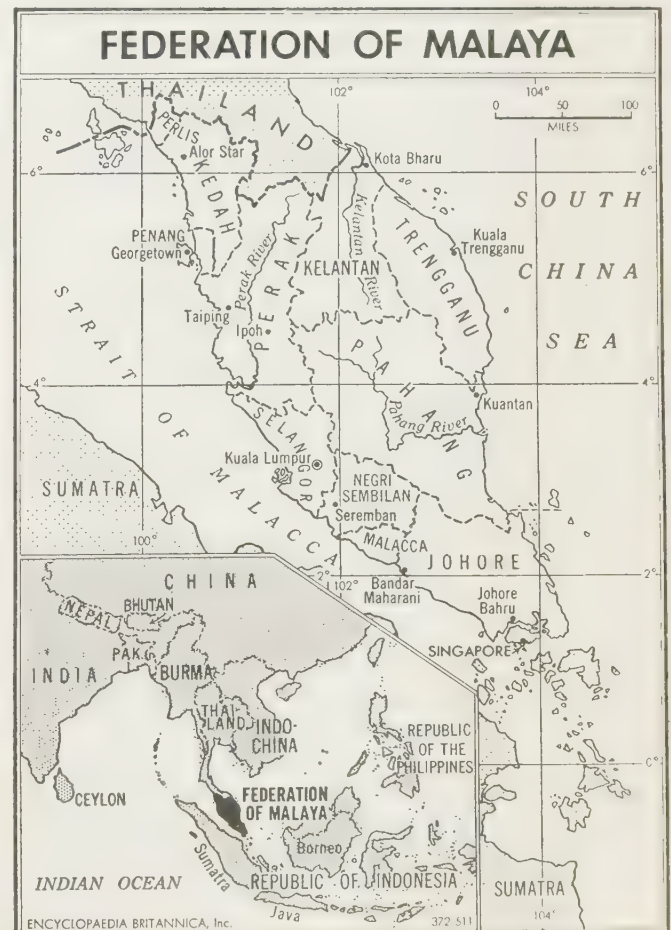
(E. F. D.)

Maize: see CORN.

Malaria: see CHILD WELFARE.

## Malaya (Federation of) and Singapore.

The Federation of Malaya is a British dependency consisting of the settlements of Penang and Malacca and the protected states of Johore, Kedah, Kelantan, Negri Sembilan, Pahang, Perak, Perlis, Selangor and Trengganu. Area: 50,680 sq.mi. Pop.: (mid-1949 est.) 5,091,000. Singapore is a British colony comprising





the island of that name and the Cocos-Keeling Islands and Christmas Island. Area: 282 sq.mi. Pop.: (mid-1949 est.) 989,000. High commissioner for the federation: Sir Henry Gurney; governor of Singapore: Sir Franklin Gimson; commissioner-general for the United Kingdom in southeast Asia (who exercises general supervisory authority): Malcolm Macdonald.

**History.**—The struggle in the federation against the Communist terrorists operating from the jungle, about 95% of whom were Chinese, continued inconclusively in 1950. Up to the end of October 1,487 terrorists had been killed and 600 wounded; 530 suspects had been arrested of whom 130 had been sentenced to death and 136 imprisoned. On the other side, 494 regular, special and auxiliary police, mostly Malay, had been killed and 541 wounded; 1,180 civilians had been killed (including 788 Chinese and 53 Europeans) and 700 wounded; 343 civilians were missing.

On June 7 Lieut. Gen. Sir Harold Briggs, the newly appointed director of operations, whose task was to co-ordinate military, police and administrative measures against the terrorists, put into operation what became known as the Briggs plan. Its chief feature was an attempt to cut the jungle terrorists off from the supplies they had been obtaining from the population. In particular the resettlement and regrouping of scattered Chinese "squatter" cultivators, who had been an easy pray for terrorist raiding parties, went forward rapidly with co-operation and financial support from the Malayan Chinese association. Of approximately 25,000 "squatter" families involved, about 14,000 had by October been resettled within reach of police protection. But there remained rubber small holders, pineapple growers and oil-palm cultivators many of whom were widely scattered and, therefore, potential sources of supply for the terrorists. About 22,000 troops, British, Gurkha and Malay, with air support, were deployed against the terrorists as well as 130,000 regular and auxiliary police and special constables.

During 1950, especially after the outbreak of the war in Korea, and mainly as a result of United States stockpiling, the price of rubber rose steeply from 50 Malayan cents a pound in January to Malayan \$2.35 a pound in November. Despite terrorist activity against the rubber estates, the average monthly rubber production in Malaya (569,988 tons for January-October) was higher than in 1949.

A notable feature of the foreign trade of the federation and Singapore was the favourable balance of trade with the U.S., Malayan \$317,000,000 in 1949 and Malayan \$306,000,000 in January-June 1950, which provided an outstanding contribution to the U.S. dollar resources of the sterling area.

In Singapore in 1950 the illegal underground Communist organizations such as the General Labour union, the Singapore Students Anti-British league and the Malayan Communist party carried on an active propaganda campaign supported by sabotage, arms raids and occasional terrorist murders. Of more than 40 arson attempts, 20 were successful. A bomb-throwing attempt was made on the life of the governor, Sir Franklin Gimson, on April 28. The Chinese newspaper *Nan Chian Jit Pao*, which had Communist sympathies, was closed down on Sept. 21. The Singapore Chinese High school and the Nanyang Girls' school were closed after the police discovered illegal Communist pamphlets in them on June 3, but they were reopened on Aug. 14 subject to strict control by the Singapore education department.

Litigation started in May over the custody of a Dutch girl, then aged 13, who had been living as a Moslem in a Malay village, caused much feeling among Moslems. The girl, Bertha Hertogh, had been cared for and brought to Malaya by a Malay woman after her parents were interned by the Japanese in Java. While the case was pending she was married by Moslem rites to a Malay schoolteacher. On Dec. 2 the high court awarded custody to the

Dutch parents and declared the Moslem marriage null. From then a campaign of protest mounted until on Dec. 11, when the court of appeal heard an application for a stay of execution of the previous judgment, serious rioting broke out. This continued through Dec. 12 when the court refused the application and the girl and her mother left by air for the Netherlands. By the time the rioting was quelled on the evening of Dec. 13 at least 14 people, including 6 Europeans, had been killed, and 144 injured. The governor announced that a commission of inquiry would be appointed and that an immediate inquiry, to make recommendations affecting the police, would be conducted by D. W. MacIntosh, commissioner of police, Hong Kong.

**Finance and Trade.**—Currency: Malayan dollar, linked with sterling (Malayan dollar=32.67 cents U.S.). Budgets (1950 est.): (federation) revenue Malayan \$330,859,022, expenditure Malayan \$303,951,292; (Singapore) revenue Malayan \$102,810,944, expenditure Malayan \$93,078,128. Foreign trade (1949, trade between Singapore and the federation excluded): (federation) imports Malayan \$535,111,956, exports Malayan \$624,001,844; (Singapore) imports Malayan \$1,305,078,002, exports Malayan \$1,054,930,894. Principal exports: rubber, tin, coconut oil, copra, palm oil, canned pineapples and spices. (D. A. SN.)

**Malik, Jacob A.** (1906– ), soviet diplomat, was born at Kharkov, Ukraine. After graduating from the Soviet Institute of Foreign Affairs, he was appointed assistant chief of the press section at the people's commissariat of foreign affairs in 1937. In 1939 he was sent as counsellor of the soviet embassy in Tokyo, Japan, where he became ambassador on May 20, 1942. From Jan. 1946 he was political adviser to Gen. Kuzma N. Derevyanko on the Allied Council for Japan, but on Aug. 24, 1946, was appointed deputy minister of foreign affairs in charge of the far eastern department. In May 1948 he succeeded Andrei A. Gromyko as a chief soviet representative to the United Nations. On Aug. 1, 1950, after a seven-month's absence from the Security council in protest at the presence of the Chinese nationalist delegate, Malik returned to the council and was chairman during that month.

**Malta.** This British colony consists of a group of Mediterranean islands about 58 mi. S. of Sicily; only two, Malta and Gozo, are of importance. Area: Malta 94.9 sq.mi., Gozo 25.9 sq.mi. Pop. (Malta and Gozo, 1948 census): 305,991, of whom 27,680 are on Gozo. Principal towns: Valletta (cap., 18,666), Sliema (24,294), Hamrun (17,124), Birkirkara (16,070). Governor (1950), Sir Gerald Creasy; prime minister, Paul Boffa. Enrico Mizzi (from Sept. 26) and G. Borg Olivier (from Dec. 20).

**History.**—Sir George Schuster, who had been appointed to look into the long-term problems of the island's economy, went to Malta in April 1950. In May he advised the government of Malta that the island could not hope at that time to pay for the maintenance of its essential services, and shortly afterward the British government agreed in principle to provide a grant of £1,500,000 from colonial development funds over the next five years to strengthen the economic foundations of the island and to make good arrears of necessary capital expenditure. In August it was announced that \$2,300,000 of Marshall aid funds would be made available to meet almost half the cost of a new electric power plant. In June Boffa's government was defeated in the legislative assembly. At the resultant general election Mizzi's Nationalist party won 12 seats, Boffa's Labour group 11, Malta Labour party 11, Constitutionals 4, Democratic Action party 1, Independent 1. Mizzi assumed office as prime minister with a minority government on Sept. 26. When the new assembly opened on Oct. 16 the speech from the throne contained a warning that the deficit for the current year would probably rise from £187,000 to £475,000 and that reserves would dwindle to £900,000. Continued efforts to foster emigration resulted in a total of 5,178 persons leaving by Aug. 31, as compared



with 5,318 during the whole of 1949, but 4,811 babies were born in the eight months and the population was only reduced by 367.

Prime Minister Mizzi died on Dec. 20, 1950; he was succeeded by G. Borg Olivier.

**Finance and Trade.**—Currency: pound sterling. Budget (1949-50 est.): revenue £5,380,962; expenditure £5,586,683. Foreign trade (1949): imports £15,311,753; exports, incl. re-exports, £1,037,501. (K. G. B.)

**Manchuria:** see CHINA.

**Mandated Pacific Islands:** see TRUST TERRITORIES.

**Mandates:** see TRUST TERRITORIES.

**Manganese.** Although manganese production is reported in more than 40 countries, the 8 listed in Table I account for about 85%-90% of the world total, according to the data of the U.S. bureau of mines.

Table I.—World Production of Manganese Ore

	(In thousands of short tons)					
	1943	1944	1945	1946	1947	1948
Brazil . . . . .	303.8	162.0	269.7	164.4	156.7	155.7
Chile . . . . .	125.8	48.5	8.2	22.6	21.4	26.0
Cuba . . . . .	343.0	284.3	218.5	144.2	55.5	32.0
Gold Coast . . . .	589.0	528.6	675.9	857.2	560.7	705.6
India . . . . .	666.8	414.7	235.5	283.5	505.2	523.4
South Africa . . . .	241.5	117.8	126.2	262.1	317.7	304.7
U.S.S.R. . . . .	?	508 ?	2,480 ?	1,870 ?	1,980 ?	?
United States . . . .	205.2	247.6	182.3	143.6	131.6	126.1
Total . . . . .	4,440	3,140	4,670	4,050	4,300	4,550

**United States.**—The more important features of the manganese industry in the United States are shown in Table II.

Table II.—Data of Manganese Industry in the U.S.

	(In thousands of short tons)					
	1944	1945	1946	1947	1948	1949
Mine shipments . . .	247.6	182.3	143.6	131.6	131.1	126.1
Metallurgical ore . .	241.2	174.3	134.4	125.4	119.8	110.9
Battery ore . . . . .	6.2	8.0	8.3	6.2	10.8	15.0
Imports, general . . .	1,157.9	1,461.9	1,749.2	1,541.8	1,256.6	1,544.5
Imports for consumption . .	1,315.7	1,311.3	1,514.5	1,298.0	1,473.5	1,423.8
Brazil . . . . .	197.4	242.3	86.0	157.8	160.5	201.6
Chile . . . . .	6.0	91.3	143.5	42.1	10.3	14.7
Cuba . . . . .	467.1	293.6	158.7	57.1	32.8	60.8
Gold Coast . . . . .	160.0	208.7	279.7	217.3	217.8	281.8
India . . . . .	346.8	210.5	321.3	284.5	314.8	357.2
South Africa . . . . .	41.4	62.0	243.7	192.9	283.4	275.6
U.S.S.R. . . . .	—	151.3	241.9	289.0	384.1	151.0
Consumption . . . . .	1,593.1	1,485.9	1,136.7	1,419.1	1,538.4	1,360.0

\*Nine months.

The domestic output declined by about half after 1944, and was close to 130,000 tons a year from 1947 to 1949. In 1950 there was some improvement, with 109,800 tons in the first three quarters. In 1949 and in most of 1950 consumption was low, but imports were kept high, providing significant amounts to add to stocks. Imports from the U.S.S.R. had almost ceased, but there were compensating increases from India, the Union of South Africa and Gold Coast. (G. A. Ro.)

**Manitoba.** Central province of Canada and geographic centre of North America, Manitoba was established as a province on July 15, 1870; area: 246,512 sq.mi. (26,789 sq.mi. water); pop. (1946 census): 726,923, of which 389,592 were rural; (1950 est.): 795,000. Capital: Winnipeg (229,045). Other cities are: St. Boniface (21,613); Brandon (17,551); Portage la Prairie (7,620); and Flin Flon (municipal district) 7,595.

**History.**—The government of Douglas Lloyd Campbell, elected on Nov. 10, 1949, lost its coalition character through the resignation from the cabinet of E. F. Willis, and the decision of the Conservative party of Oct. 27, 1950. Two members of the party stayed with the government while the party became the official opposition in the legislative meetings of November. This special session was called to deal with the financial adjustments made necessary by the Red river flood disaster of April and May 1950. A public subscription received responses from Great Britain, the United States and Canada sufficient to alleviate the personal losses of citizens of farms, villages and greater

Winnipeg. In 1950 the legislature elected as its speaker Nicholas V. Bachynsky, the first Ukrainian to hold such an office of British parliamentary record. Col. A. C. Delaney was appointed civil defense co-ordinator for Manitoba. Legislative committees were studying revisions of the Election act, the Government Liquor Control act and the Workmen's Compensation act.

**Education.**—Students in the public schools for the school year 1948-49 totalled 110,787 of which 12,144 were in the secondary grades. A public library advisory board of representative citizens was created to advise the government upon policy. A new curriculum for public schools was being introduced to provide courses for academic, industrial, home economics, agricultural and commercial standing.

**Public Health and Welfare.**—Under the Manitoba Health plan there were, in 1950, 13 health units and 2 regional diagnostic units (Dauphin, Selkirk); there were no new hospital beds in 1950.

**Communications.**—Six radio stations continued broadcasting in Manitoba. The Canadian National and Canadian Pacific railways were the principal railways operating, with western headquarters in Winnipeg. The former operated the Hudson's Bay railway to Churchill on Hudson bay. With the Midland and Greater Winnipeg Water district in addition, there were approximately 4,900 mi. of track in Manitoba exclusive of yard miles and sidings. The Stevenson air field in the Winnipeg district was the centre for national and international services. The Manitoba government telephone wire mileage totalled 434,358 in 1950 with 137,238 subscribers in operation of which 94,052 were in the greater Winnipeg area. Plans were laid for the expansion of automatic service to subscribers outside this urban region.

**Finance.**—At March 31, 1950, the net debt of the province was \$48,409,386 with a self-sustaining debt (largely government enterprises) of \$55,565,922. Programs of expansion of telephone, rural electrification and power sites were increasing the total of the latter debt. Costs of the Red river flood damage were met from consolidated revenue and no taxation changes were made.

**Agriculture.**—Rain and snow at harvesting seriously depreciated the quality of an above-average production in 1950. Field crops were valued at approximately \$163,500,000 and total gross agricultural production was estimated at \$265,000,000, to be later supplemented by accumulated payments for recent crops by the Canadian Wheat board. The beet sugar production processed reached a record of about 150,000 tons. The fishing industry at Hudson bay proved successful and was expanded. A wild rice industry located at Lac du Bonnet on the Winnipeg river was established during the year.

**Fishing and Fur.**—Commercial fishermen numbered 5,313 in the period 1949-50, catching 29,502,600 lb. valued at \$2,820,559 (market value \$4,800,387).

Fur trappers totalled 7,377, of whom 2,332 operated on established registered trap lines; the wild catch was valued at \$3,170,470. Furs valued at \$1,334,570 were produced on 624 fur farms.

**Manufacturing.**—In 1949 the gross value of manufacturing totalled \$525,000,000, approximately 43,000 persons being employed with pay rolls totalling about \$87,000,000; 47 new industries were established in 1949 with a trend toward provincial decentralization in evidence.

**Mineral Production.**—In 1949 mineral production was valued at \$24,135,331 of which metals represented \$17,118,136. Copper, gold, zinc, cement and gypsum lead in production. (J. L. J.)

**Mao Tse-tung** (1893— ), chairman of the Chinese Communist party and chairman of the Chinese People's Republic, was born in Shao Shan, Hunan province, and educated in Changsha. He participated in 1921 in the founding of the Chinese Communist party in Shanghai. In 1931 he became political commissar of the 4th Red army, and in Jan. 1934 at the second All-China Soviet congress he became unchallenged leader of the Chinese Communists. By then Chiang Kai-shek's "annihilation campaigns" had come close to eliminating Communists in central China, but Mao led his forces into havens in northwest China on the "long march" of 1934-35.

From 1937 to 1943 he generally supervised forces combating the invading Japanese, under an uneasy truce with Chiang, and after the Japanese surrender in 1945 he supervised the forces that progressively drove Chiang's nationalists back until by the autumn of 1949 the Communists launched their new People's government.

Early in 1950 Mao spent nine weeks in Moscow conferring on a 30-year friendship and mutual defense treaty, whose terms were announced Feb. 14. Mao on June 24 said his army's demobilization would not alter plans to "liberate" Tibet and Formosa, and the Tibetan invasion subsequently began. In December there were persistent rumours that Mao had again visited Moscow, and that a joint Chinese-Korean-Russian headquarters had been set up in Manchuria to conduct the offensive in Korea. (See also CHINA.)



**Maple Sugar:** see SUGAR.

**Maps:** see CARTOGRAPHY; GEOGRAPHY.

**Margarine:** see VEGETABLE OILS AND ANIMAL FATS.

**Mariana Islands:** see MARSHALL, CAROLINE AND MARIANA ISLANDS; TRUST TERRITORIES.

**Marine Biology.** One of the outstanding scientific achievements in marine exploration during 1950 was completed jointly by the Scripps Institute of Oceanography, La Jolla, Calif., and the Electronics laboratory of the U.S. navy. Two laboratory ships, 30 scientists and 85 crew members completed a three-month, 29,000-mi. study of the ocean bottom of the Pacific from Cape Mendocino, Calif., to Wake, Kwajalein and some of the other coral islands lying south and west of Hawaii.

In addition to studying the topographical configuration of the so-called "sunken continent" of the Pacific, the expedition gathered much physical and biological data which were considered to be significant additions to existing knowledge of this vast area. Earthquake reflection techniques were used to reveal mud and rock structures of the ocean bottom. Biologically, the mud samples dredged yielded bacteria which must have been dormant for perhaps millions of years in nature's largest "deep freeze"; when put under special culture media, the organisms became animated and grew with strength and vigour. They may be the oldest living things in the world. The atolls Bikini and Kwajalein, built by minute sea corals, were reported to be larger than the pyramids of Egypt. From the mile-deep summits of a continuous mountain range system 50 mi. wide and extending more than 1,100 mi. in length were dredged clam and snail shells and sea urchin casts, as well as specimens of mile-deep sea corals. Since the latter organisms grow normally only within 100 ft. of the sea surface, it was postulated that these recovered specimens were buried be-

neath the waves about 40,000,000 years ago. Many specimens of odd tropical deep-sea fishes, some hatchet-shaped and others with lantern-studded forms, were netted. Squid were taken in some localities.

Using a Fathometer originally designed for navigation purposes by the U.S. coast and geodetic survey, a worker from the Institute of Fisheries secured profiles of Pamlico sound of North Carolina wherein transects showed the distribution of the oyster beds of the region. The actual location of each bed was subsequently verified by conventional oyster dredgings. Thus it was concluded that such a technique could be profitably used in bed location in waters not previously commercially discovered or utilized.

In an attempt to hybridize the Japanese oyster (*Ostrea gigas*) with the native Atlantic coast form (*Ostrea virginica*), a worker at the Milford laboratory of the U.S. fish and wildlife service concluded that although hybrid larvae could be successfully produced in genetic crosses in either direction they were short-lived and all such crosses resulted in the death of almost all the larvae by the tenth day. Nonhybrid controls of each species, however, matured successfully. *O. virginica* metamorphosed in 19–25 days while *O. gigas* metamorphosed somewhat slower, requiring 26–27 days. Thus any attempt to introduce the Japanese oyster would probably not seriously affect the native oyster of the Atlantic coast.

A worker at the University of Miami Marine station, studying the growth rate of oysters in the Florida waters, concluded that in five weeks oysters attained a length of one inch, which was the equivalent of a whole year's growth in northern waters. A length of four inches was attained in 31 weeks in Florida, which would normally take four years in northern waters. Such studies would seem to be of great economic value to the commercial oyster industries.

Workers at the Bermuda Biological station found evidence that approximately 20% of the experimentally tagged spiny lobsters *Panulirus argus*, when displaced from their natural habitats and taken to various distances (some as far as 2 mi. away), returned. The results of these experiments were interpreted to mean that these marine forms exhibit a "homing instinct," and that their behaviour patterns not only are of scientific interest but have a bearing upon the species commercially.

The National Institute of Oceanography of Great Britain sponsored a ten-month expedition to the antarctic seas for the purpose of whale tagging and in search of specimens of *Latimeria*, a species of fish speculated to represent a group which dates back about 50,000,000 years.

A worker at the Marine laboratory at Miami determined by a series of experimental runs that several species of *Sargassum*, which can be harvested in unlimited amounts from Florida and other Atlantic waters, contained algin in variable but commercially profitable amounts. The limits of variability of the dry products varied from 9% to 17% in sample runs. Certain species of *Laminaria*, however, were found to be more productive of algin, the limit varying from 12% to 27%.

Records of the recovery of several rare fish were reported from the fisheries branch (department of agriculture) of Dublin, Ire. The more important included the globefish (*Lagocephalus lagocephalus*), the triggerfish (*Balistes caprisus*), the boarfish (*Capros aper*), the rare *Luvarus imperialis*, the long-finned tuna (*Orcynus germon*) and Ray's bream (*Brama raii*).

From the report of the National Museum of Wales there was recorded the recovery of a rare specimen of the globefish (*Lagocephalus lagocephalus*) and a rare specimen of the filefish, or triggerfish (*Balistes caprisus*).

A new species of sand eel was described by a worker at the Marine Biological laboratory at Plymouth, Eng. It was tentatively



LAUNCHING A DREDGE from the navy tender U.S.S. "Mulberry" off the California coast, during a 1950 geological survey of the continental shelf. One of the factors being investigated was the distribution of submarine life in relation to temperature and depth



given the name of *Ammodytes Sp. IV.*, the name referring to the distinguishing dark colour of its snout.

Marine and oceanographic problems were reviewed by scientists in two symposia during the year, one at Miami university, Miami, Fla., on Nov. 6, having to do with basic oceanographic and biological problems, and another at the Bermuda Biological station dealing with underseas research. (See also NATIONAL GEOGRAPHIC SOCIETY; OCEANOGRAPHY; ZOOLOGY.)

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**FILMS OF 1950.**—*Eyes under Water, Robbers under Water* (Almanac Films, Inc.); *Killers of the Deep* (Cornell Associates); *Life Cycle of the Sockeye Salmon* (Paul Hoefer Productions); *Life in an Aquarium* (Young America Films, Inc.); *Life in a Pond* (Coronet Instructional Films). (F. M. B.)

**Marine Corps.** The United States marine corps, established Nov. 10, 1775, by resolution of the Continental Congress, has been an integral part of the United States naval establishment since 1798. It is headed by a four-star general, who serves a four-year term as commandant by appointment of the president. The 19th commandant, Gen. C. B. Cates, assumed office Jan. 1, 1948.

The air, ground and sea missions of the marine corps during 1950 were mainly those set forth in the National Security act of 1947 as amended: (1) to provide land combat and service forces and such aviation as may be organic therein, organized, trained and equipped to provide fleet marine forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases, and for the conduct of such land operations as may be essential to the prosecution of a naval campaign; (2) to develop, in co-ordination with the army and air force, those phases of amphibious operations which pertain to the tactics, technique and equipment employed by landing forces; (3) to provide detachments and organizations for service on armed vessels of the navy; (4) to provide security detachments for the protection of naval property at naval stations and bases; and (5) to perform such other duties as the president may direct provided that such additional duties shall not detract from or interfere with the operations for which the marine corps is primarily organized.

The fleet marine forces, composed of two divisions at reduced strength and two air wings at reduced strength, in 1950 continued their amphibious operations in Alaska, and on both coasts of the United States. They trained marine reservists and conducted demonstrations for the army Command and General Staff school, Ft. Leavenworth, Kan., and for the U.S. Naval and Military academies, while undergoing further reductions dictated by budgetary requirements. Thus on June 30, 1950, total strength of the marine corps was 74,279, including 7,254 officers and 67,025 enlisted men.

As a result of the war in Korea, the marine corps called for volunteers and began expanding in July. Organized ground reserves were mobilized in a period of 43 days. Certain air reserve squadrons were mobilized, and volunteer reserves began to be called up.

Meanwhile, the 1st provisional marine brigade—a balanced air-ground team of the 5th marine regimental combat team and marine aircraft group 33—went into action in Korea on Aug. 7, 1950.

These units were absorbed by the 1st marine division and 1st marine aircraft wing for the amphibious assault at Inchon on Sept. 15, 1950.

(C. B. Cs.)

**Marketing:** see BUSINESS REVIEW.

**Marriage and Divorce.** Throughout early 1950 marriage and divorce rates declined slightly in most countries. Part of the decline resulted from the rising cost of living; another factor was the unprecedented number of marriages and divorces among younger people immediately after World War II. The spurt in marriages in some countries during the second half of the year probably reflected the threat of another war.

From statistics for several countries it seemed evident that fully two-thirds of children affected by divorce were under age ten years.

**United States.**—With a marriage rate estimated at 11.2 per 1,000 population, a provisional total of 1,660,000 marriages was expected for 1950—an increase of nearly 5% over the preliminary total of 1,585,440 marriages for 1949 but a decrease of more than 8% from the final total of 1,811,155 marriages for 1948. The number of divorces including annulments probably would not exceed 380,000—decreases respectively of 2% and 7% from the 386,000 divorces of 1949 and 408,000 in 1948.

Table 1.—Divorces and Annulments by Duration of Marriage for Specified States; 1948\*

Duration of marriage before decree	Number of annulments and divorces	Duration of marriage before decree	Number of annulments and divorces
Under 1 yr.	5,614	14 yr.	1,677+
1 yr.	7,116	15 yr.	1,406+
2 yr.	8,042	16 yr.	1,256+
3 yr.	5,998	17 yr.	1,204+
4 yr.	5,034	18 yr.	1,143+
5 yr.	4,973	19 yr.	1,117+
6 yr.	4,432+		
7 yr.	3,757+	20-24 yr.	4,332§
8 yr.	3,151+	25-29 yr.	2,677§
9 yr.	2,628+	30-34 yr.	1,330§
10 yr.	2,463+	35-39 yr.	591§
11 yr.	2,316+	40 yr. and over	339§
12 yr.	2,131+	Not stated	612
13 yr.	1,870+		
		Total	77,209

\*Adapted from Table 5, "Divorce and Annulment Statistics: Specified States, 1948," *Vital Statistics—Special Reports* (Aug. 7, 1950), U.S. Public Health Service. (Specified states: Connecticut, Florida, Iowa, Maryland, Massachusetts, Mississippi, New Hampshire, Oregon, South Dakota, Tennessee, Virginia, Wisconsin and Wyoming.)

†Includes estimates for Wyoming based on state total for period 6-9 yr.

‡Includes estimates for Virginia and Wyoming based on state totals for periods 10-14 yr. and 15-19 yr. respectively.

§Includes estimates for Wyoming based on state total for 20 yr. and over.

Among the findings from various studies were that, as of 1948, 20% of persons currently divorced and 18% of those married but with spouse absent had been married before, compared to 13% of the widowed, or those with spouses, who had been married more than once; that about three-fourths of divorced persons remarried within five years, usually with other divorced persons; that only 2% of U.S. college students were taking courses in preparation for marriage; that 60% of all women in *Who's Who in America* had been married at least once and 14% more than once; that one-fourth to one-third of prewar marriages were expected to terminate in divorce; that, as late as 1949, approximately 2,156,000 married couples were living in hotels, rooming houses or with relatives; that, as of April 1949, there were 2,191,000 widowed and 842,000 divorced males who had not remarried, compared with 6,582,000 widowed and 1,233,000 divorced females; that the divorce rate of couples with children was increasing more rapidly than for those without children; that 6% of men and 3% of women college students fa-



miliar with the Kinsey report reported that their conduct and behaviour had been influenced by the findings.

Table II.—Divorces and Annulments by Cause for Specified States, 1948\*

Cause (ground)	Number of decrees	Cause (ground)	Number of decrees
Cruelty . . . . .	22,660	Neglect . . . . .	275
Desertion . . . . .	20,022	Separation . . . . .	217
Extreme cruelty . . . . .	12,985	Illegal marriage . . . . .	124
Habitual intemperance . . . . .	2,142	Fraudulent contract . . . . .	63
Adultery . . . . .	1,800	Impotence . . . . .	46
Nonsupport . . . . .	1,125	Insanity . . . . .	32
Indignities . . . . .	822	Two or more causes . . . . .	171
Ungovernable temper . . . . .	651	Other causes . . . . .	386
Previous marriage . . . . .	378	Not stated . . . . .	1,912
Conviction of crime . . . . .	356		

Total . . . . . 66,167

\*Adapted with consolidations where possible, from Table 3, "Divorces and Annulments, by Cause: Specified States, 1948," *Vital Statistics—Special Reports* (Aug. 7, 1950), U.S. Public Health Service. (Specified states: Connecticut, Florida, Iowa, Mississippi, Montana, New Hampshire, Oregon, South Dakota, Tennessee, Vermont, Virginia, Wisconsin and Wyoming.)

**Great Britain.**—British schoolmasters at a conference of their national association adopted a resolution stating their "conviction that education in sex is the natural and normal duty and the responsibility of the parents and should not be delegated to the teacher." In the field of socialized medicine, an increase of 32% in "physical incapacity" was noted among younger women and 41% among older women compared to 8% and 9% respectively for younger and older men. The British registrar-general reported about 42,402 illegitimate births during 1948 and approximately 61,050 births within eight and one-half months after the parents' wedding date, indicating premarital conception. Together these constituted about one-eighth of all births. Studies of 2,665 British women (mostly married) who went to hospitals for care after abortions (usually self-induced) revealed that 75% had undergone a previous abortion. The Royal College of Obstetricians and Gynaecologists after an investigation of birth-control practices found that, of every three couples who marry, one uses contraception from the wedding, and a second within five years.

A special committee of the home office proposed that parliament, in addition to present support, should provide other funds to the National Marriage Guidance council, the Catholic Marriage Advisory council and the Family Welfare association if they would unite in a plan of special training for marriage counsellors. On the request of the war office, the National Marriage Guidance council continued its four-day courses on "successful marriage and family life" for men and women in the armed forces.

**Canada.**—The divorce rate continued to decline except in Nova Scotia and Quebec; the highest rate was in British Columbia, with approximately twice the dominion average. Parliament refused to broaden the divorce laws; the only ground for divorce remained adultery except in Nova Scotia where cruelty was also recognized. As in Quebec, Newfoundland citizens might petition the federal government for a divorce granted only on the approval of parliament. A sweeping bill was passed by parliament banning obscene literature and children's comic books depicting crime.

**Other Countries.**—With revised laws permitting anyone over 35 years of age to adopt a child, the number of adoptions was increasing in Belgium; the divorce rate was steadily rising with grounds largely confined to cruelty and adultery. In Finland nearly a dozen marriage guidance clinics were being maintained by the Finnish Population association with more than half the clients coming only for contraceptive information. The Family Allowance administration in France was lending to large families up to 80% of the cost for labour-saving machinery in the home. A surplus of 3,000,000 women was reported in Germany. In a survey of patterns of sexual behaviour in Frankfurt, 89% of males and 70% of females stated that they had engaged in premarital

sex relations, and about 23% of husbands and 10% of wives admitted extramarital relations.

By decree of the Holy Synod of the Orthodox Church in Greece, its members were prohibited from marrying foreigners except with special permission of the ministry of public order. From the Netherlands came a report that 13% of Roman Catholics contracted mixed marriages from which only one-third of the children were reared as Catholics. In Italy, where the birth rate continued to decline, the senate approved a new law intended to halt easy marriage annulments and passed a bill to outlaw prostitution. Rota, the Vatican tribunal passing on the validity of marriages, reported that during 1936-49 it had granted 479 requests to nullify marriages and had rejected 686 cases. Poland's new family law, effective Oct. 1, adopted the principle of community property and equal rights to children born in or out of wedlock and provided that divorce "is not admissible if small children would suffer as a result." Nearly 30,000 women were receiving basic training as homemakers in Sweden's more than 300 homemaking schools.

Representing many different Christian denominations, the World Ecumenical institute held a conference in Switzerland on problems of the family; Zurich reported a divorce rate of 900 per 100,000 couples with the rate for mixed religious marriages approximately twice that of marriages involving similar religions.

In China the Communist government outlawed plural wives, concubines, child marriages and betrothals and interference with the right of a widow to remarry, and further provided that marriage and divorce could be legalized by mutual consent with both contracting parties held responsible for the welfare of any children. Israel reported a shortage of 20,000 females aged 15-34 years. In Japan, rates of marriage, birth and divorce continued to be high; because of the spread of abortions, plans were under way to provide contraceptive information to the destitute classes. More than 31,000 parent-teacher associations were reported as well as the founding of a national institute of genetics at Mishima. In Egypt, the rector of the University of Al-Azhar, Moslem university in Cairo, declared that contraception was not contrary to the doctrines of Islam. (See also BIRTH STATISTICS; LAW.)

**BIBLIOGRAPHY.**—Periodicals: American Institute of Family Relations, *Family Life* (1950); National Marriage Guidance Council, *Marriage Guidance* (London, 1950); United States Public Health Service, *Monthly Vital Statistics Bulletin* (1950); *Vital Statistics—Special Reports* (1950) and *Quarterly Marriage Report* (1950); Metropolitan Life Insurance Company, *Statistical Bulletin* (1950). (C. R. A.)

**Marshall, George Catlett** (1880— ), U.S. secretary of defense, was born at Uniontown, Pa., on Dec. 31. He studied at the Virginia Military institute, Lexington, Va., and was commissioned a second lieutenant in 1901. He advanced through the grades to general of the army in 1944. He was made chief of staff Sept. 1, 1939, the day Germany's invasion of Poland launched World War II, and he supervised the U.S. army effort throughout the war.

Marshall resigned as chief of staff in Nov. 1945. Later that month he was appointed ambassador to China, where he spent 13 months in a futile effort to mediate the Chinese civil war. On Jan. 7, 1947, Pres. Harry S. Truman announced Marshall's appointment as secretary of state to succeed James F. Byrnes. Several months later, Marshall proposed a plan for the reconstruction of Europe with U.S. aid. This proposal, commonly called the Marshall plan, was translated into the European Recovery program enacted into law in April 1948. It played a significant part in the economic rehabilitation of western Europe, particularly France, Great Britain and Italy.

Marshall resigned from the cabinet in Jan. 1949 and in September was named president of the American Red Cross. A year later President Truman appointed him secretary of defense.



Special legislation was passed by congress to permit Marshall to take the post, since the National Security Act of 1947 prohibited an officer who had seen active duty within the preceding ten years from becoming defense secretary. His appointment was confirmed Sept. 20, 1950, and he was sworn in Sept. 21. Marshall urged the passage of a universal military training law, stating that the war in Korea had demonstrated the danger to the U.S. of its lack of a reserve of trained manpower.

## Marshall, Caroline and Mariana Islands.

The Marshall, Caroline and Mariana Islands, stretching from about 1° to 20° N. lat. and from 130° to 170° E. long., constitute, with the exception of Guam in the Marianas, the Trust Territory of the Pacific Islands. The territory contains 96 distinct island units of which 64 are inhabited, with a combined land area of about 687 sq.mi. Truk, in the centre of the territory, is 4,931 mi. W. of San Francisco and 1,832 mi. E. of Yokohama. The total resident population on June 30, 1950, was 54,843; three-fifths of the population live on the six principal island units: Saipan, the Palaus, Yap, Truk, Ponape and Majuro.

**History and Government.**—The U.S. occupied many of the islands during World War II and received a trusteeship over the territory from the United Nations in 1947. The territory is under the administration of the U.S. navy; the high commissioner is the commander in chief of U.S. naval forces in the Pacific. Admiral A. W. Radford was appointed high commissioner in April 1949. The territory is divided for administrative purposes into five administrative districts: Saipan, Palau, Truk, Ponape and Marshall Islands. Although plans existed for creating a territorial legislature, by the end of 1950 one had not been established and each district continued to have some sort of body advisory to the district civil administrator. There are 116 municipalities in the territory; municipal officers, who are natives, are elected by the people in some municipalities and are hereditary officials in others.

**Education.**—On March 31, 1950, there were 140 public schools with 275 teachers and 7,562 pupils and 14 mission schools with 63 teachers and 1,439 pupils.

**Finance.**—During fiscal year 1951 it was estimated that receipts would total \$310,000, and that U.S. appropriated funds totalling \$1,014,000 would be available. Total expenditures were estimated at \$1,324,000.

**Industry and Trade.**—The only important commercial resources are copra and phosphate rock; 9,909 short tons of copra were produced during the fiscal year ending June 30, 1950. During the same period 148,215 short tons of phosphate rock were mined. The territory's total exports in the fiscal year ending June 30, 1950 amounted to \$1,643,000, of which copra represented 48% and phosphate rock 40%; imports of all commodities totalled \$1,348,000. (See also GUAM; TRUST TERRITORIES.)

**BIBLIOGRAPHY.**—United Nations Trusteeship Council, *Report of U.N. Visiting Mission to Trust Territories in the Pacific on the Trust Territory of the Pacific Islands* (Aug. 15, 1950).

**FILMS OF 1950.**—*The Pacific* (Encyclopædia Britannica Films Inc.). (S. Nr.)

**Marshall Plan:** see EUROPEAN RECOVERY PROGRAM.

**Martinique.** The status of this former French island colony situated in the Lesser Antilles was changed in 1946 to that of an overseas *département*. Area: 427 sq.mi. Pop.: (1949 est.) 268,000. The inhabitants are mainly coloured (Negro or mixed), speak a French patois and are Roman Catholic. The capital is Fort-de-France (pop., 1946 census, 66,006). Prefect: Christian Laignet.

**History.**—The sugar quota from 1950 production reserved for export was fixed at 36,000 metric tons out of 42,000 tons produced, that is, double the figure for the previous year. This increase was caused not by a large harvest but by the decline in rum-distilling which resulted from export difficulties. From February the island received flour stocks from France and no longer from the United States. An airport was opened at Lamentin on May 15, though it had been feared that work might be inter-

rupted by lack of credit. There was a great drive to develop tourism to Martinique. In June the 10th session of the Caribbean commission was held at Fort-de-France.

**Finance.**—Budget: (1949 actual) balanced at 944,200,000 fr.; (1950 est.) balanced at 1,385,600,000 fr. Monetary unit: metropolitan franc, with an exchange rate (1950) of U.S. \$1=350 francs.

**Foreign Trade.**—(1949) Imports 8,533,200,000 fr.; exports 5,105,000,000 fr.

**Transport and Communications.**—Ships entered (1949) 681. Cargo unloaded 151,700 metric tons; loaded 103,200 metric tons.

**Agriculture.**—Main products (1950): sugar cane 509,800 metric tons; sugar 37,100 metric tons; rum 120,192 hl. (C. A. J.)

**Maryland.** One of the original states of the United States, long known as the "Old Line state," and, in later years, as the "Free state." Maryland is bounded on the north by Pennsylvania and Delaware, on the east by Delaware and the Atlantic ocean and on the south and west by Virginia and West Virginia. The total area is 10,577 sq.mi., of which 690 sq.mi are water. Population in 1950 was 2,343,001, according to the official census determination. This was an increase of 28.6% from the 1940 population. Annapolis (pop. 1950, 15,016) is the capital. Other cities in the state, with 1950 census preliminary population figures, are Baltimore (940,205), Cumberland (37,632), Hagerstown (36,232), Frederick (18,092) and Salisbury (15,109).

**History.**—On a referendum vote in Nov. 1950 the Ober law, which prohibited certain subversive activities, was approved. This law, passed in 1949, had been held invalid by the lower court, but the court of appeals had reversed this decision and had held it valid.

The following officers were elected at the Nov. 1950 election: Theodore R. McKeldin (Rep.), governor; J. Millard Tawes (Dem.), comptroller; Hall Hammond (Dem.), attorney general; John Marshall Butler (Rep.), U.S. senator. U.S. congressmen elected were: Edward T. Miller (Rep.); Gen. James P. S. Devereux (Rep.); Edward A. Garmatz (Dem.); George H. Fallon (Dem.); Lansdale G. Sasscer (Dem.); and J. Glenn Beall (Rep.).

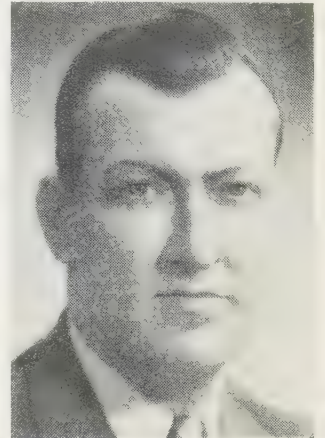
A revised child-labour law was enacted at the 1950 session of the general assembly. There was a one-day special session on July 27, 1950, to provide for absentee voting for members of the armed forces; and a one-day special session on Nov. 10, 1950, to exempt all purchases up to 50 cents and all foods and meals from the retail sales tax.

**Education.**—In 1949-50 there were 868 public elementary and occupational schools in the state (including Baltimore city), with a total enrolment of 230,868 and a teaching staff of 6,524. There were 225 secondary and vocational schools, with an enrolment of 114,092 and a teaching staff of 4,989. In the elementary schools approximately one student in four was a Negro and in the higher schools approximately one in six was a Negro. The enrolment in Catholic schools for the entire state was 54,893 white and 2,516 Negro students. The enrolment in non-Catholic private schools was 12,246 white and 166 Negro students. Thomas G. Pullen, Jr., was state superintendent of schools.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—As of June 30, 1950, old-age assistance was being given to 12,107 persons, with a total cost for the fiscal year ended June 30, 1950, of \$5,173,637; public assistance was being given to 488 needy blind persons, with a total cost of \$233,293 for the fiscal year; aid to dependent children was being given to 6,492 families, with a total cost of \$5,878,526 for the fiscal year. Unemployment compensation benefits paid for the benefit year ending March 31, 1950, were \$31,319,231 as compared with \$12,967,372 in the preceding year.

As of June 30, 1950, there were 492 white and 344 Negro inmates in the four training schools for juvenile delinquents.

As of Dec. 1, 1950, there were 1,508 white inmates and 2,445 Negro



THEODORE R. MCKELDIN, Republican, elected governor of Maryland, Nov. 7, 1950



inmates, or a total of 3,953 inmates, in the four state penal institutions; of these, 50 were white females and 91 Negro females.

**Communications.**—The state roads commission expended \$57,481,518 for the fiscal year ended June 30, 1950. The total road mileage in the state highway system was 4,606, in the county system 11,958 and in the municipalities 1,161. In 1950 there were 1,320 line mi. and 2,800 track mi. of steam railroads and 41.4 line mi. and 52 track mi. of electric interurban railways. As of Nov. 3, 1950, there were 642,617 telephone instruments in service in the state, of which 302,829 were in the city of Baltimore. There were 2,428,000 mi. of wire mileage, of which 1,362,700 mi. were in underground cable.

**Banking and Finance.**—As of June 30, 1950, state banks and trust companies had deposits of \$862,889,000 and total resources of \$944,159,000; mutual savings banks had deposits of \$406,028,000 and total resources of \$455,884,000. There were 61 national banks in the state with deposits of \$705,274,000 and resources of \$764,410,000. The total resources of all state and national banks were \$2,164,453,000. As of Dec. 31, 1949, 362 savings and loan and building and loan associations were computed to have assets of \$316,041,000.

State appropriations for the year ended June 30, 1950, were \$140,262,792 and expenditures were \$135,303,490. State appropriations for the year ending June 30, 1951, were \$144,453,649. The total bonded indebtedness of the state as of June 30, 1950, was \$32,846,000 and there was a general fund surplus of \$7,448,391.

**Agriculture.**—During the first ten months of 1950, Maryland farmers received an estimated \$70,460,000 from the marketing of principal farm crops, as compared with \$72,174,000 for the similar period of 1949. Livestock and livestock products brought a total of \$130,219,000, during the first ten months of 1950, as compared with \$135,704,000 in 1949. Total cash receipts from farm marketings in the first ten months of 1950 amounted to \$200,679,000, compared with \$207,878,000 for the first ten months of 1949.

Table I.—Leading Agricultural Products of Maryland

	1950	1949	Average 1939-48
Barley, bu. . . . .	2,759,000	2,822,000	2,120,000
Corn, bu. . . . .	18,920,000	18,354,000	16,520,000
Oats, bu. . . . .	1,870,000	1,584,000	1,174,000
Wheat, bu. . . . .	6,086,000	6,878,000	6,817,000
Hay, all, tons . . . . .	644,000	650,000	583,000
Potatoes, Irish, bu. . . . .	1,664,000	1,587,000	1,957,000
Tobacco, lb. . . . .	40,000,000	41,250,000	32,121,000
Tomatoes, market, bu. . . . .	940,000	900,000	1,087,000
Tomatoes, processing, tons . . . . .	225,700	165,300	228,500
Potatoes, sweet, bu. . . . .	1,360,000	1,350,000	1,369,000
Cantaloupes, crates . . . . .	301,000	450,000	479,000
Sweet corn, processing, tons . . . . .	69,500	90,500	80,400
Lima beans, market, bu. . . . .	75,000	99,000	103,000
Lima beans, processing, tons . . . . .	3,720	5,440	1,850
Snap beans, early, market, bu. . . . .	272,000	378,000	343,000
Snap beans, late, bu. . . . .	75,000	133,000	84,000
Snap beans, processing, tons . . . . .	16,500	15,700	15,000
Apples, bu. . . . .	1,352,000	1,251,000	1,526,000
Peaches, bu. . . . .	563,000	714,000	544,000
Strawberries, crates . . . . .	180,000	202,000	244,000

**Manufacturing.**—The Maryland employment security board estimated the number of manufacturing establishments as of June 30, 1950, to be 3,130, employing 224,870 persons, as compared with 218,967 as of June 30, 1949, and the nonmanufacturing establishments (covered by unemployment compensation) at 34,855, employing 346,530 persons, as compared with 320,676 as of June 30, 1949.

The total pay roll for the three months ended June 30, 1950, was: manufacturing, \$167,923,198; nonmanufacturing, \$210,987,727; making total quarterly pay rolls for the 13-week period \$378,910,925, as compared with \$351,606,283 for the similar period of 1949.

**Mineral Production.**—Production in Maryland during 1948 and 1949 is given in Table II.

Table II.—Mineral Production in Maryland

	1948		1949	
	Short tons†	Value	Short tons	Value
Clays (except for cement) . . . . .	520,535	\$ 920,431	586,453	\$ 922,822
Coal . . . . .	1,661,164	8,733,674	668,332	3,505,099
Lime (open market) . . . . .	69,032	654,635	64,299	617,696
Sand and gravel . . . . .	5,833,559	6,158,041	4,776,815†	6,028,791†
Stone* . . . . .	1,874,270	3,115,196	1,789,830*	3,036,410*
Other minerals . . . . .	—	5,420,343	—	6,350,471
Total . . . . .	—	25,002,000	—	20,461,000
Clays sold or used for cement . . . . .	69,329	51,997	67,194	50,396
Coke . . . . .	2,147,787	—	2,039,957	—
Iron, pig . . . . .	2,805,936	—	2,931,596	—

\*Except limestone for cement and lime and certain stone in 1947 and 1949 included with "other minerals."

†Commercial. Value of noncommercial included with "other minerals."

(H. E. F.)

**Massachusetts.** A north Atlantic state of the U.S., Massachusetts was admitted to the union on Feb. 6, 1788. It is popularly known as the "Bay state." Area: 8,257 sq.mi., including 350 sq.mi. of water; population (U.S. census 1950) 4,690,514. This was a gain of 8.7% over 1940. The capital is Boston (pop. 1950 census, preliminary figures, 790,863); other important cities are: Worcester (201,885); Springfield (162,601); Cambridge (120,676); Fall River (111,759); New Bedford (109,033); Somerville (102,254); Lynn (99,521); Lowell (96,523).

**History.**—State officials elected for the biennium 1951-52 were: governor, Paul A. Dever; lieutenant governor, Charles F. Jeff Sullivan; secretary of State, Edward J. Cronin; treasurer, John E. Hurley; attorney general, Francis E. Kelley; auditor, Thomas J. Buckley.

The Massachusetts legislature is called the General Court of the Commonwealth of Massachusetts. It holds sessions annually, and adjourned its 157th session on Aug. 19, 1950, the second longest in history. The grand total of appropriations for the fiscal year 1951 was \$394,000,000, an increase of \$35,000,000 over the previous year. Included in the appropriation were bond issues of \$100,000,000 for highway construction, making a total of \$200,000,000 for this purpose in two years.

A new law gave to the state's department of public works power to take by eminent domain, land adjacent to new limited-access highways in order that automobile service stations, restaurants and comfort stations might be erected under the management of the department. The law also provided that the income derived from this operation should be added to the highway fund.

The Massachusetts Commission Against Discrimination replaced the Massachusetts Fair Employment Practice commission. All of the previous powers of the commission were retained, and in addition the commission was empowered to undertake the prevention of any segregation or discrimination on account of religion, colour or race in public resorts, accommodations, hotels or housing projects.

Picketing or parading in or near any courthouse with the intention of impeding the administration of justice was prohibited by a new law. Another law granted to uniformed members of the state police the right to organize but not to strike.

Cities and towns were empowered to provide money for conveying pupils in school buses whether the children were attending any public or any private school, and particularly including schools conducted by any religious denomination. Another law prevented cities or towns from enacting ordinances or bylaws prohibiting the use of land for any church or religious purpose.

The state constitution was amended by the people in the November election. The first amendment provided that in the event of the death of the governor-elect, the lieutenant governor-elect should become governor. The succession in office then should be to the secretary of state, the attorney general, treasurer and auditor. The second amendment provided for an increase in the number of signatures required for placing an initiative petition on the ballot; a third amendment decreased the age for old-age assistance to 63 years, and increased the minimum allotment to \$75 a month. A fourth amendment, providing for a state lottery, was not adopted. It was intended that the income from such a lottery would be used to finance the additional expense of the expanded program of old-age assistance. It would therefore be necessary to raise approximately \$54,000,000 in additional funds each year to finance the old-age benefits.

**Education.**—In 1950 there were 1,764 public elementary schools with 372,091 pupils; 111 junior high schools with 73,465 pupils; 311 senior high schools with 126,198 pupils. The public schools of the state employed a total of 24,123 full-time teachers at an average salary of \$3,112.72. The total expenditure for public schools for support and outlay was \$120,641,218.36. John J. Desmond, Jr., was the state commissioner of education.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—During 1950 old-age assistance was extended to an average monthly number of 101,103 persons at an estimated annual cost of \$79,631,982; an average monthly number of 13,415 families received assistance for the care of 32,365 dependent children (estimated cost \$18,258,092); general relief was extended to an average monthly number of 24,130 persons (estimated cost \$17,005,203).

For the year ending July 1, 1951, the commonwealth appropriated \$5,588,416 to maintain correctional institutions, including the state prison (596 inmates), prison colony (900 inmates), reformatory for



men (760), reformatory for women (269, including babies under two years) and state farm (2,52, including the criminally insane).

**Banking and Finance.**—Revenue receipts of the commonwealth for the fiscal year ending June 30, 1950, were \$274,091,863.40, including the sale of bonds of \$24,100,000; expenditures for state government amounted to \$289,916,757.32. This figure, however, does not include \$88,733,073.51 which was a tax distribution to cities and towns. The direct gross debt was \$141,462,300, less a sinking fund of \$5,835,774.82, for a net debt of \$135,726,525.18.

The assessed valuation of the state as of Jan. 1, 1949, was \$7,098,378,246. The estimated valuation on Jan. 1, 1950, was \$7,224,566,817.

As of June 30, 1950, bank deposits in savings banks amounted to \$3,330,066,079; total assets of commercial departments of trust companies, \$1,056,482,000; bank deposits of savings departments of trust companies, \$264,404,000; total assets of credit unions, \$72,951,105; total assets of co-operative banks, \$616,153,496.

**Agriculture.**—Preliminary figures for cash receipts from the marketing of farm products in 1949 totalled \$182,674,000. This included total crop cash receipts of \$65,477,000 and total livestock products of \$117,197,000.

Table I.—Principal Agricultural Products of Massachusetts

Crops	1950	1949	Average 1939-48
Corn, all bu. . . . .	1,520,000	1,517,000	1,693,000
Cranberries, bbl. . . . .	620,000	520,000	465,000
Apples, bu. . . . .	3,825,000	3,842,000	2,473,000
Hay, tons . . . . .	590,000	561,000	580,000
Potatoes, bu. . . . .	2,815,000	2,850,000	3,163,000
Tobacco, lb. . . . .	13,225,000	13,735,000	9,981,000
Onions, (50 lb. bags) . . . . .	432,000	441,000	—
Oats, bu . . . . .	231,000	248,000	201,000
Asparagus, (30 lb. crates) . . . . .	101,000	112,000	—

**Manufacturing.**—In 1950 there were 2,005 labour unions in Massachusetts. The total membership as of Jan. 15, 1950, was 566,389 (419,785 males and 146,604 females).

Table II.—Estimated Value of Principal Products Manufactured in Massachusetts

Products	Estimated Value, 1950
Electrical machinery, apparatus and supplies . . . . .	\$450,000,000
Woollen and worsted goods . . . . .	440,000,000
Boots and shoes, other than rubber . . . . .	356,000,000
Clothing, men's and women's, including work clothing . . . . .	321,000,000
Cotton goods . . . . .	229,000,000
Leather: tanned, curried and finished . . . . .	194,000,000
Foundry and machine-shop products . . . . .	188,000,000
Printing and publishing, book and job and newspapers . . . . .	165,000,000
Rubber goods, including rubber tires and inner tubes . . . . .	163,000,000
Bread and other bakery products . . . . .	162,000,000
Paper and wood pulp . . . . .	142,000,000
Boot and shoe, cut stock and findings . . . . .	120,000,000
All other industries . . . . .	3,428,000,000
Total value . . . . .	\$6,358,000,000

**Mineral Production.**—During 1948 mineral production had a total value of \$13,844,000, of which the chief items were: lime \$1,302,251, clay products \$1,364,000, sand and gravel \$4,418,132 and stone \$6,592,952 (exclusive of crushed sandstone). (D. A. Dy.)

## Mathematics.

The outstanding event of 1950 in the mathematical world was the International Congress of Mathematics, held from Aug. 30 to Sept. 6 at Cambridge, Mass., with Harvard university as the principal host. This was the third such congress held in North America; the first was in 1893 at Chicago in connection with the World's Columbian exposition, the second in 1924 at Toronto, Can. The 1950 congress had been postponed from 1940 because of World War II. It was the largest assemblage of mathematicians in history. The attendance was more than 2,300, with about 300 representatives and delegates from more than 40 foreign countries, in addition to those from 15 American academies and learned societies. The U.S.S.R. Academy of Science sent its best wishes for the success of the congress, but said it could not be represented.

O. Veblen, of the Institute for Advanced Study, Princeton, N.J., was president of the congress; J. Hadamard, of the Collège de France, Paris, was honorary president. The president at the Toronto congress had been J. C. Fields, who willed funds for two gold medals and substantial honorariums to be awarded at subsequent international congresses to each of the two most promising younger mathematicians for their work. These historical details are recalled because they had interesting echoes at the 1950 congress.

In 1896 Hadamard and C. de la Valle Poussin (Belgian) independently and almost simultaneously had proved the so-called

prime number theorem, using advanced mathematical analysis. How many prime numbers are there, in the long run, not exceeding a prescribed limit, say  $x$ ? The theorem states that, asymptotically, there are  $x/\log x$ , where the log is the natural logarithm; as  $x$  increases indefinitely, the implied approximation becomes uniformly sharper. A remarkable feature of this theorem was the manner of its derivation: analysis, the mathematics of continuity, was applied to the natural primes, which are a discrete set. The relevant analysis was not elementary, in that it employed the theory of functions of a complex variable, and experts in the analytic theory of numbers had long doubted whether an elementary proof was possible. Such a proof was given, most unexpectedly, by A. Selberg (Norwegian, age 33, at the Institute for Advanced Study). For this he was awarded one of the Fields medals.

The precise sense in which the proof is elementary is too technical for explanation here.

The other Fields medal went to L. Schwartz (French, age 35, of Nancy) for his development of a new branch of analysis which he called the theory of distributions. A distribution is a generalization of the classical concept of a function. The new theory had many applications to potential theory, spectral theory, partial differential equations and other departments of both pure and applied analysis. A detailed account, of which the first part appeared toward the end of 1950, was being published in French.

The congress as a whole gave an encouraging picture of mathematics at the half-century mark. There were formal addresses by 22 invited speakers, and more than 400 short communications on algebra and the theory of numbers, analysis, geometry and topology, probability, actuarial science, economics, mathematical physics, applied mathematics, logic and the philosophy of mathematics, history and the teaching of mathematics.

Among the conferences and symposia before and after the congress that on computing machines was of special interest. Although these machines were developed largely for military purposes, they had contributed notably to peaceful pursuits, from the theory of numbers to mathematical physics. Without mechanical aids some of the computations involved would have been humanly impossible. To mention only one instance, M. Mersenne's conjecture on primes of the form  $2^p - 1$ , where  $p$  is prime, had been tested out to  $p = 409$ , far beyond what a human computer could do in a lifetime. (For the nature of the conjecture, see the latest edition of W. W. R. Ball's *Mathematical Recreations & Essays*.)

Upon publication of the voluminous *Proceedings* of the congress, it would be possible to estimate the rate of progress of mathematics since the Chicago congress of 1893, and since the Toronto congress of 1924. In the meantime, a conservative appraisal credited 1950 with an unprecedented activity in all departments of mathematics and its applications, and also with the creation and development of subjects (such as modern topology, abstract spaces and functional analysis) not even mentioned in the *Proceedings* of the 1893 congress. There had also been a significant advance, since the 1924 congress, in the attack on difficult problems in applied mathematics and mathematical physics. Powerful methods unknown in 1924 were being developed, instigated partly by military necessity, to bring these practical problems within human capacity.

The next congress was scheduled for 1954, at Amsterdam, the Netherlands.

(See also STANDARDS, NATIONAL BUREAU OF.)

FILMS OF 1950.—*Arithmetic for Beginners* (Bailey Films, Inc.); *Decimal Fractions, How to Add Fractions, How to Divide Fractions, How to Multiply Fractions, How to Subtract Fractions, Introduction to Fractions, Percentage* (Johnson Hunt Productions); *Language of Mathematics* (Coronet Instructional Films). (E. T. B.)



**Matthews, Francis Patrick** (1887– ), U.S. government official, was born on March 15 at Albion, Neb., received his law degree in 1913 from Creighton university, Omaha, Neb., practised law and engaged in business. He was active in Democratic party work, and from 1933 to 1949 was counsel for the Reconstruction Finance corporation in Nebraska and Wyoming. On May 13, 1949, Pres. Harry S. Truman nominated him as secretary of the navy. Early in 1950 Matthews was under congressional fire over the ouster of Adm. Louis E. Denfeld as chief of naval operations, which came at the climax of interservice disputes over unification. On Jan. 30 the senate armed services committee accepted Matthews' explanation that the difference was one of policy that made harmony impossible. However, on March 1, 23 of the 32-member house armed services committee denounced the Denfeld ouster as reprisal for the latter's congressional testimony on the navy's role in unification. On Aug. 25 Matthews in a speech at Boston, Mass., declared that the U.S. should "pay any price" for world peace, "even the price of instituting a war to compel co-operation for peace." The White House and state department promptly disclaimed responsibility for any preventive war ideas.

**Maurice and Laura Falk Foundation, The:** see SOCIETIES AND ASSOCIATIONS.

**Mauritania:** see FRENCH UNION; FRENCH WEST AFRICA.

**Mauritius.** British colony and dependencies in the Indian ocean; the dependencies, of which the largest are Rodriguez and Diego Garcia, comprise a large number of islands. Areas and populations: Mauritius 720 sq.mi., (1949 est.) 447,503; Rodriguez 42 sq.mi., (1944 census) 11,885; Diego Garcia (1944) 501; other dependencies (1944) 1,077. Governor (1950), Sir Hilary Blood.

**History.**—The malaria eradication campaign was continued during 1950 with very successful results, the spraying with DDT of buildings in all the chief malarial areas being carried out during the rainy season. Surveys for the season up to April 1950 showed a reduction of 80.5% in the number of notified cases of malaria as compared with 1948, and a reduction of 99% in the number of mosquitoes found in the sprayed areas. On Aug. 25 the municipality of Port Louis celebrated its centenary and was granted a new elective constitution. As a result of negotiations held in London early in the year between the minister of food and the sugar-producing countries of the British Commonwealth, Mauritius now had a guaranteed market for most of its output until 1957. The 1950 crop was 409,764 tons in spite of the fact that workers in more than half the mills went on strike in the middle of the harvest.

**Finance and Trade.**—Currency: rupee, valued at 21 cents U.S. Budget (1950–51 est.): revenue Rs. 54,683,152; expenditure Rs. 52,617,370. Foreign trade (1949): imports Rs. 153,221,654; exports, incl. re-exports, Rs. 170,229,668. (K. G. B.)

**Meat.** U.S. total production of meats increased moderately in 1950, being estimated at 22,420,000,000 lb. compared with 21,710,000,000 lb. in 1949; the average in 1937–41 was only 17,674,000,000 lb. A still higher production of 23,370,000,000 lb. was forecast for 1951. The total civilian meat supply per capita in 1950 was estimated at 145 lb., about 1 lb. more than the previous year. Per capita consumption of beef was estimated at 63.1 lb., veal consumption was 8.2 lb. and pork consumption per capita was estimated at 69.9 lb. The spring pig crop of 1950 was 59,997,000 head, compared with 58,426,000 head a year before, the increase being in line with the record feed supply; the fall crop of 1950 was estimated at 40,657,000 head against 37,175,000 head in 1949; the spring crop of 1951 was preliminarily

### U.S. Meat Production

(In millions of pounds, dressed weight)

	1951*	1950	1949	1948	1947	Average 1937-41
Beef . . . . .	9,800	9,580	9,448	9,079	10,429	7,196
Veal . . . . .	1,300	1,293	1,322	1,412	1,599	1,022
Lamb and mutton .	570	608	607	750	802	884
Pork . . . . .	11,700	10,939	10,333	10,205	10,601	8,573
Total . . . . .	23,370	22,420	21,710	21,446	23,431	17,675

\*Forecast by U.S. Department of Agriculture.

forecast at 63,500,000 head, or 6% higher than in 1950.

Lamb and mutton meat production continued near the low level of 1949 (607,000,000 lb.) or 3.9 lb. per capita, compared with an average consumption prewar of about 6.8 lb. The 1950 lamb crop of 18,431,000 head was 2% less than in 1949 and the smallest on record. Lamb feeding in the fall of 1950 was the smallest in years, and prospects for 1951 were still lower, forecast at 570,000,000 lb.

U.S. exports of meats, estimated at 94,000,000 lb. (carcass weight) during 1949–50, were slightly larger than the 75,000,000 lb. in the preceding year, but very small compared with 1,376,000,000 lb. in 1945–46 and slightly lower than the 123,000,000 lb. average prewar. Near the end of 1950 storage stocks of meat and meat products amounted to more than 400,000,000 lb., nearly 10% higher than 1949 or normal.

Prices of meat animals in 1950 followed divergent trends. In general they strengthened after the Korean war began and the retail prices of some cuts went to record high levels. Hog prices declined in much the usual seasonal fashion but the lowest levels were \$2 or more higher than in 1949. Prices to farmers ranged from a low of \$15.10 per hundredweight in January to a high of \$21.60 per hundredweight in August, dropping to about \$17 late in the year. Price supports for hogs were abandoned (perhaps temporarily) in March by administrative decision. Beef cattle prices, at a high but not record level, showed less than usual fluctuation during the year; and the spread between feeder cattle and fat cattle was much narrower than in most years. Prices to farmers rose from an average of \$19.40 per hundredweight in January to more than \$25 per hundredweight late in the year. Feeder calves were reported as selling in excess of \$40 per hundredweight and the grand champion steer of the International Live Stock show sold for a record \$12 per pound. Lamb prices held at high levels during most of the year, reaching a top average to producers of about \$26 per hundredweight late in the year and in general were higher than in 1949.

Because of the number and heavy weight of hogs, the production of lard in 1950 was forecast at 2,800,000,000 lb., as compared with 2,646,000,000 lb. in 1949 and a prewar average of 2,091,000,000 lb. Exports of lard amounted to 382,300,000 lb. in the period Jan. to Aug. 1950, as compared with 475,800,000 lb. during the same period of 1949. Prices for much of the year were higher than in 1949 but well below the nearly 20 cents per pound of 1948. Storage stocks in December of 51,710,000 lb. were above the 37,792,000 lb. of the previous year.

Poultry meat, both chicken and turkey, was produced and consumed in larger amounts in 1950, averaging 3% more for chicken and 22% more for turkey than 1949, the volume for the latter being 192% of the prewar average (1935–39 = 100). Commercial broiler production of 540,000,000 head was 10% higher than in 1949; an increase of 10%–15% over the 1950 level was forecast for 1951. Prices of broilers in the chief producing area late in the year were 22 cents–23 cents per pound to farmers as compared with 18 cents per pound a year earlier and 29 cents in March 1950; the 1948 peak price was about 40 cents per pound. Turkey prices were no longer supported by a government purchase program.

Fish was consumed in approximately the same amount as in the year before. Prices were higher, particularly in regard to some



canned types. A record storage level was reached.

Federal grade standards for steer, heifer and cow carcasses were revised effective Dec. 29, combining the recent beef grades of "prime" and "choice" under the name "prime," renaming the recent "good" grade as "choice" and setting up a new grade "good" consisting of beef from the higher quality young cattle recently graded "commercial." Beef from older cattle would continue to be graded "commercial."

World meat supplies, particularly pork, increased substantially during 1950, partly because of the continued improvement in western Europe. It was estimated that world output in 1950, also 1951, would exceed the 68,300,000,000 lb. of 1949 which was slightly in excess of prewar. Meat production in Canada increased about 6% as compared with the previous year and exports increased about 25%, larger pork supplies more than making up a beef deficit. Marketings were expected to be lower in 1951. The effects of the earlier drought situation in the Argentine continued to be noticeable; exports were suspended in July and consequently the United Kingdom cut its low meat ration by one-third, effective Jan. 1951. Tariffs on Canadian cattle exported to the U.S. were to be approximately doubled at the beginning of 1951.

(See also AGRICULTURAL RESEARCH ADMINISTRATION; FOOD SUPPLY OF THE WORLD; LIVESTOCK; VETERINARY MEDICINE.)

(J. K. R.)

## Medical Rehabilitation of the Disabled.

Mobilization both in the United States and Great Britain brought a great interest in the medical rehabilitation of the disabled in 1950. In both nations, interest centred around increased utilization of physically handicapped workers in industry and the establishment of rehabilitation facilities which could prepare such workers for employment. As the result of manpower shortages since World War II, Great Britain had far greater utilization of impaired workers in industry, but in the United States industrial activity, coupled with the withdrawal of workers from the labour force for military service, made it apparent early in the mobilization program that the greatest untapped reservoir of manpower in the United States was its 11,500,000 workers beyond the age of 65 and the 4,000,000 to 6,000,000 persons with severe physical disabilities. The primary problem retarding the development of rehabilitation services for these groups was the shortage of trained personnel, which was made even more acute by the needs of the military services.

In the United States, the White House Conference on Children and Youth in December, discussions on universal military service and the high proportion of draftees rejected for military service because of physical disability focused attention on the need for better case finding and rehabilitation programs for youth.

In both nations, the major development during the year in direct services was in the field of cerebral palsy. As compared with only a few facilities five years earlier in the United States, in 1950 the number of centres offering services to the cerebral palsied had increased to more than 200, and medical specialists trained in cerebral palsy were available in all but four states. There were similar, although not such rapid, developments in Great Britain.

A number of new specialized facilities for medical rehabilitation of the disabled were opened in both nations. Chief among these in the United States was the movement of the Institute of Physical Medicine and Rehabilitation of the New York university-Bellevue Medical centre into its new \$2,000,000 quarters, where its research, training and treatment programs would be greatly expanded. In Great Britain, emphasis was placed on the provision of more facilities for sheltered work both in the shop



TRAINING SCHOOL of the International Refugee organization, showing a refugee who lost both legs during World War II learning the weaver's trade in 1950. His artificial limbs were also provided by the I.R.O.

and the community.

Medical rehabilitation of the disabled became a more accepted part of both medical education and medical care in both countries. Added emphasis was placed upon rehabilitation in medical education at the undergraduate, graduate and postgraduate levels, and new departments of rehabilitation were started in both large and small community hospitals.

Outstanding in its effect upon rehabilitation was the treatment of burns with ACTH. With this treatment, patients are almost immediately pain-free, and rehabilitation can be started early. This had special significance in view of the possibilities of atomic attack.

In the United States, the primary federal legislation was the increase from \$7,500,000 to \$15,000,000 a year in the funds available to the children's bureau for services to crippled children. The senate also passed legislation providing for an extension of the federal-state vocational rehabilitation program, but no action was taken by the house.

There were also increased international activities in the field of rehabilitation and services to the handicapped. In December, the general assembly of the United Nations voted to establish a co-ordinated program for the social rehabilitation of the disabled within the United Nations to co-ordinate the international exchange of information, fellowships and consultation services. Three major international conferences were held. In March the representatives of 21 nations met at an international conference of experts on the education of handicapped children in Geneva, Switz., and representatives of nine nations met in regional conference on rehabilitation in Jamshedpur, India, in December. In August the International Association for Logopedics and Phoniatrics held its first postwar meeting in Amsterdam, Neth. The International Society for the Welfare of Cripples, a voluntary organization composed of national voluntary groups concerned with services to the handicapped, established



permanent headquarters in New York. During the year, a World Federation for Physical Therapy was formed, and plans were made for a similar organization of physicians concerned with rehabilitation and physical medicine. (See also VOCATIONAL REHABILITATION, OFFICE OF.)

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**Medicine.** Of primary interest in the field of medicine during 1950 was the continued development and application of new remedies, including new antibiotics, antihistaminics, anticoagulants and drugs specifically affecting various portions of the nervous system. The United States was free from severe epidemics except for a continuous high rate for infantile paralysis. The hormone substance derived from the pituitary gland called ACTH and the hormone of the adrenal gland, cortisone, had many new applications with continued evidence of their startling effects on the human body. (See ARTHRITIS; ENDOCRINOLOGY.)

**Internal Medicine.**—Most interesting was the evidence that people with hardening of the arteries have in their blood certain giant fatty molecules and that diets high in cholesterol over a long period of time may be partly responsible for arteriosclerosis.

The suggestion was made that conditions affecting prospective mothers previous to the birth of the child in which insufficient oxygen reaches the brain of the foetus may be responsible for the birth of mentally retarded children. More evidence developed that virus infections of the mother during the first three months of pregnancy may be largely responsible for the birth of children with defective eyes, ears, hearts and brains.

Research on the common cold tended to disprove the concept that the taking of antihistaminic drugs would prevent or shorten the duration of the common cold, although many industrial physicians still insisted that the first symptoms of the cold are due to sensitivity or allergy and that antihistaminics if given early may be effective in aborting the cold.

Soviet doctors treated peptic ulcer by a technique called the long sleep method in which patients were kept under barbituric acid derivatives for several weeks. In the United States peptic ulcer continued to be a leading cause of disability, and was treated mostly by such drugs as banthine, which shuts off the stimulus from the sympathetic nervous system, and by surgical procedures for removal of portions of the stomach. Ordinary medical treatment involved also the giving of antacid substances in tablets and the elimination from the diet of substances tending to increase acidity.

Radioactive isotopes were used to study the functions of various organs and to aid in the diagnosis of tumours of the brain. Radioactive iodine was used for accurate measurement of basal metabolism. Radioactive phosphorus was given in polycythaemia with an excess of red cells in the blood and in leukemia with an excess of white cells. Radioactive tracers were also used to study the formation of the teeth and the causes of dental decay.

Anticoagulant drugs including dicumarol and heparin proved to be efficient in controlling thrombotic conditions including coronary thrombosis. Two new anticoagulant drugs called "Pari-tol" and "Tromexan" were being studied.

Studies on antibiotic drugs produced a new antibiotic called terramycin which was found to be as efficient as aureomycin for a variety of conditions, especially in pneumonia and amoebic dysentery. Chloromycetin or chloroamphenicol was found to be useful in atypical pneumonia and also the most efficient antibiotic in combating typhus fever, undulant fever and diseases

caused, like typhus, by rickettsia.

A new drug for convulsive disorders was produced called phenurone, which with tridione and dilantin and the barbituric acid derivatives achieved greater progress in handling such cases than anything previously developed. A new substance capable of digesting dead tissues in wounds and infections called "tryp-tar," derived from the pancreas, received extended study.

Progress against infantile paralysis was marked by the establishment of the existence of three different types of virus, the introduction of blood tests which, it was believed, might permit earlier diagnosis, the proof that immunization is possible and that the gamma globulin such as is used in measles is useful. However, evidence also showed that there are hundreds of cases of people infected for every one paralyzed and that the disease is exceedingly widespread so that immunity created by a mild attack serves to protect better than artificial inoculation. A virus like that of poliomyelitis called Cocksackie virus can produce a nonparalytic disease that is similar to poliomyelitis and is related to the epidemics of pleurodynia or Bornholm disease.

**Surgery.**—New operative procedures on the heart included the cutting of the constricted valves, and the use of plastic procedures on blood vessels which might provide new circulation to the heart when its blood vessels are blocked, as in coronary thrombosis.

Some surgeons claimed successful transplant of the human kidney but the majority of physicians considered the demonstration not proved.

Surgeons were studying the effects of ACTH and cortisone on wound healing, and claimed greater success in skin grafting when ACTH was given.

Surgeons discontinued direct application of sulfonamide drugs or antibiotics to wounds. A surgical procedure for implanting pituitary gland material showed that arthritis could be treated by this method.

Surveys of prefrontal lobotomy and topectomy showed a fairly large percentage of mental patients susceptible to improvement by this operative procedure on the brain. A new surgical procedure was developed for reconstructing the chest in the cases of children born with funnel chest.

**New Drugs.**—New modifications of sulfonamides were gantrisin and tibione, the latter claimed as useful in tuberculosis. New antibiotics included terramycin and an improved penicillin which was less sensitizing than those previously available. Terramycin was so named because it was developed from a fungus derived from earth. A substance called khellin which was isolated from the seeds of a plant called *Ammi visnaga* was found effective in dilating the coronary blood vessels. A drug called priscoline acts on the sympathetic nervous system to dilate blood vessels and was used in Buerger's disease and in some instances of diabetes to improve circulation. Primaquine was a drug used for treating malaria; when used with quinine it was the most effective of all treatments for this condition. Tromexan acts essentially like dicumarol or heparin in preventing clotting of the blood. Banthine acts to prevent transmission of stimuli from the sympathetic nervous system and was used particularly in the treatment of peptic ulcer and in cases of excessive sweating.

Tablets containing chlorophyll were said to be effective in preventing body odours but the proof awaited further confirmation. ACTH and cortisone were being successfully used in cases of rheumatoid arthritis, rheumatic fever, lupus erythematosus, severe asthma and other allergies, some cases of mental depression, periarteritis nodosa, gout and inflammation of the walls of the arteries in the brain; they were also used for alcoholism, narcotic addiction and a variety of other disturbances related to the connective tissue mechanism of the body. New derivatives





**BLOOD-BANK LABORATORY** in the St. Antoine hospital, Paris, where only the blood donors' arms reached in through holes in the partitions while doctors and nurses quickly tapped the veins. Donors, attended by nurses, lay on cots outside the specially equipped room

of morphine called "pethadine" and "methadone" were introduced as substitutes for this narcotic.

A report from the Veterans' administration indicated that the combination of streptomycin and paraminosalicylic acid was most effective in tuberculosis. Vitamin B<sub>12</sub> was found more effective than any other drug in the treatment of pernicious anaemia. Among the new antibiotic drugs were netropsin and thiolutin. Netropsin showed great promise as an insecticide and thiolutin had specific effects against fungi.

**Psychology and Psychiatry.**—Electroshock treatments many times daily for certain patients produced a condition called "annihilation" which apparently could relieve depression but also produced loss of memory. A drug called malononitrile affected psychic functions in disorders of the mind and was recommended in cases where electric shock was not possible.

Certain headaches are apparently allergic and accompanied by release of histamine in the brain tissues. In such cases diminished salt intake and antihistaminic drugs were found helpful.

Widespread studies with psychological methods indicated more and more instances of physical conditions related to mental difficulties. Thus obesity is often related to emotional immaturity. Mental problems were found associated with the production of glaucoma, a condition of increased pressure in the eye resulting in blindness. Specialists in psychosomatic medicine indicated the following list of diseases as those most likely to be related to mental conflicts: paroxysmal congestion of the nose with discharge of mucus, asthma, ulcers of the stomach and intestines, ulcerative colitis, high blood pressure, excessive action of the thyroid, migraine, chronic arthritis, certain skin diseases and painful menstruation. (M. Fr.)

**Great Britain.**—The controlled trial of BCG (Bacillus-Calmette Guérin) vaccination against tuberculosis begun in England in the winter of 1949 by the ministry of health proceeded successfully, and during 1950 about 15,000 people were vaccinated. The importance of diphtheria as a major public-health problem continued to decline while that of poliomyelitis increased. The decline of diphtheria was a result of the ministry of health's campaign for diphtheria immunization. Poliomyelitis was a serious menace for the fourth year in succession, and it appeared that the statistics for 1950 might nearly reach those

of the peak year of 1947 when there were 7,800 notifications and 715 deaths.

An epidemic of measles occurred though not such as to occasion alarm. Interesting observations were made on the occurrence of some rare infections in England. Q fever is an acute febrile disease first described in Queensland in 1937. It is caused by a microorganism *Rickettsia burneti* and it appears to be caught from animals, either by drinking infected milk or by inhaling contaminated dust. Sporadic cases appeared in the south of England from Kent to Devon. Toxoplasmosis is a disease caused by a protozoan parasite. When a woman is affected her offspring may show congenital abnormalities. It had been recognized in many countries since 1939 but only six cases were reported in Great Britain prior to 1950, when a further 13 cases were reported. Canicola fever was another disease that was probably more general than was thought. Six cases in Bristol were reported in addition to the six previously known in Britain. The disease is caused by a protozoan parasite, *Leptospira canicola*, which is common among dogs, and there was evidence that up to 40% of dogs in Britain are infected at some time in their life. Finally in this group of seldom-recognized disorders is undulant fever, a milk-borne disease akin to Malta fever. Sir Weldon Dalrymple Champneys, in a painstaking study of almost 1,000 cases, showed that this was far more prevalent in England than had been suspected.

In the treatment of parkinsonism Artane, Benadryl, Lysivan and Phenergan attracted attention. Further evidence that ascorbic acid can have a druglike action as well as a true vitamin effect was shown by the healing effect of large doses on corneal ulcers. Ion-exchange resins were used with promising results in cardiac oedema and might be valuable in hypertension and other diseases. Tetraethyl-ammonium bromide was shown to relieve pain in rheumatoid arthritis. Sucaryl, a new sweetening agent, was introduced for diabetics. Pentaquine was a new remedy for vivax malaria. Sir Stanford Cade reported he had found that vitamin B<sub>12</sub> alleviated cases of cancer. (See also ALIMENTARY SYSTEM, DISORDERS OF; ALLERGY; ANAESTHESIOLOGY; BACTERIOLOGY; BIOCHEMISTRY; BIRTH CONTROL; CANCER; CHEMISTRY; CHEMOTHERAPY; DEAFNESS; DENTISTRY; DERMATOLOGY; EAR, NOSE AND THROAT, DISEASES OF; ENDOCRINOLOGY; EPIDEMICS; EYE, DISEASES OF; GYNAECOLOGY AND OBSTETRICS; HEART AND HEART DISEASES; HOSPITALS; INDUSTRIAL HEALTH; INFANTILE PARALYSIS; MEDICAL REHABILITATION OF THE DISABLED; NARCOTICS AND NARCOTIC TRAFFIC; NERVOUS SYSTEM; NUTRITION, EXPERI-



MENTAL; PHYSIOLOGY; PLAGUE, BUBONIC AND PNEUMONIC; PNEUMONIA; PSYCHIATRY; PSYCHOSOMATIC MEDICINE; PUBLIC HEALTH ENGINEERING; PUBLIC HEALTH SERVICES; SURGERY; TUBERCULOSIS; VENEREAL DISEASES; VETERINARY MEDICINE; VITAMINS; X-RAY AND RADIOLOGY.)

FILMS OF 1950.—*Your Friend, the Doctor* (Coronet Instructional Films). (W. P. K.)

**Mental Health:** see FEDERAL SECURITY AGENCY; NERVOUS SYSTEM; PSYCHIATRY; PSYCHOSOMATIC MEDICINE.

**Menzies, Robert Gordon** (1894– ), Australian prime minister, was born at Jeparit, Victoria, Dec. 20. He was educated in the state schools of Victoria, at Grenville college, Ballarat, and at Wesley college, Melbourne. In May 1918 he was called to the Victoria bar and high court of Australia, and 11 years later became a K.C. In 1928 he was elected to the Victoria legislative council and in the following year to the Victoria legislative assembly. He was minister without portfolio, 1928–29, and attorney general, minister for railways, and deputy prime minister of Victoria, 1932–34. In the latter year he was elected to the federal house of representatives for Kooyong, and from 1935 to 1939 was attorney general and minister for industry. He resigned in March 1939, but retained the portfolio of co-ordination of defense.

He first became prime minister on April 26, 1939, as leader of the United Australia (later Liberal) party. He resigned on Aug. 29, 1941, after the Labour party refused to join a coalition government. He succeeded J. B. Chifley as prime minister at the head of a coalition government of the Liberal and Country parties on Dec. 19, 1949. At the end of April 1950 Menzies introduced into parliament the Communist Party Dissolution bill. On July 9 he left Australia to visit Great Britain, the United States, Canada and New Zealand. In the United States he conferred with the president and with members of the cabinet, and on Aug. 1 addressed both houses of congress. He was in Ottawa for talks with Canadian ministers from Aug. 7–10, before flying to Tokyo to see Gen. Douglas MacArthur and visit Australian troops in Japan. He broadcast a report of his tour on Aug. 28.

**Merchant Marine:** see SHIPPING, MERCHANT MARINE.

**Mercury:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Mesons:** see PHYSICS.

**Metallurgy.** A few of the more important metallurgical developments during 1950 are summarized in the following paragraphs.

**Aluminum.**—A new electrochemical process gave the metal a thin hard surface with a wear resistance comparable to case-hardened steel.

**Cobalt.**—A new smelter was built in Canada, and another was planned at the Blackbird mine in Idaho.

**Copper.**—Modification of the design of a blast furnace for melting scrap tripled the tonnage handled, cut coke consumption by two-thirds and reduced operating difficulties.

**Indium.**—New solders carrying from 10% to 50% of indium showed greatly improved resistance to strong alkalis.

**Iron.**—Briquetting was being tried as a substitute for sintering blast furnace flue dust and iron ore fines.

The turbo-hearth was a new process combining the principles of the open-hearth furnace and the side-blown Bessemer converter.

Newly developed methods of improving the capacity of iron blast furnaces were evaluated as follows: (1) increasing blast volume up to 25% adds 20% to capacity; (2) increasing top pressure by 60% adds 15%; (3) increasing the oxygen content of the blast by 25% adds 17%. Combinations of the three are ap-

proximately additive: 1+2, 36%; 1+3, 40%; 2+3, 35%; 1+2+3, 58%.

Cast iron treated with a nickel-magnesium alloy becomes ductile when annealed, because of spheroidizing the graphite, resulting in physical properties comparable to steel.

**Magnesium.**—This metal found new applications in the textile industry, its light weight making it desirable for loom components where weight is a factor.

**Titanium.**—Considerable progress was made in the commercial production of titanium metal in forgings, bar, sheet, strip and wire, but the price was still too high for extended application. Ingots up to 500 lb. had been made, and larger ones were anticipated.

**Alloys.**—An alloy of eight metals (cobalt, nickel, molybdenum, chromium, manganese, iron, beryllium and carbon) was being used as a substitute for osmiridium in pen points. It was non-corrosive, nonmagnetic, resistant to crystallization changes, and had a tensile strength of 368,000 lb. per square inch.

A noneutectic alloy of tin and bismuth, with negligible shrinkage and a melting range of 281°–338° F. was found especially suitable for precision casting.

**Hot Machining.**—Interesting and worthwhile results were being obtained in an experimental development of methods for machining metals at temperatures as high as 1,500° F., the temperature being maintained by high-frequency induction heating.

**Testing.**—Radioactive cobalt-60 was coming into use as a substitute for radium in radiographic work. The same gamma-ray equivalent, with a half life of 5.3 years, could be purchased for the price of two to four months' rental of a radium capsule.

Ultrasonic methods were developed for detecting segregation and mechanical defects in high-speed tool steels.

**Welding.**—Difficulties in soldering on metal surfaces plated with passivated zinc were overcome by a special method of resistance welding. (G. A. Ro.)

**Metal Prices and Production:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Meteorology.** The 30th anniversary meeting of the American Meteorological society was held in St. Louis, Mo., during the first week of Jan. 1950. A symposium on atmospheric pollution opened the meeting and disclosed lively interest among engineers and scientists. In recent years contamination of the air by smoke and other waste products of industry had aroused the concern of health experts and civic authorities. Large sums had been expended to control factory effluents which cause smog and endanger the health and welfare of the community. The numerous cases of illness and the deaths which had occurred among residents in the vicinity of Donora, Pa., during Oct. 1948 as a result of several days of badly polluted air, had focused attention on research in this field. The problem was especially important because of its close bearing on the disposal of effluents from atomic energy plants. It involved knowledge of how smoke and exhaust gases are diffused from factory stacks under various meteorological conditions, and its solution required measurements and analysis of data concerning the frequency and distribution of winds from the various sectors in different layers both near and high above the ground. The problem called also for knowledge of the more erudite aspects of the subject, such as the theory of diffusion by turbulent eddies, their transfer coefficients, and eddy diffusivity profiles in the lower layers of the atmosphere. The technical papers on these subjects and discussions incident thereto pointed to practical steps a municipality might take to protect its citizens from the injurious effects of industrial waste products.



Developments in the science of the weather, of popular as well as professional interest, were reported in technical papers on short-range weather forecasting and on meteorological instruments, among them the weather radar. For the research specialist the symposiums in the American Meteorological society (A.M.S.) program at St. Louis offered papers on the vertical distribution of ozone up to heights of 50 mi., on exchange of radiant energy between earth and sky and on the dynamics of the tornado. The practical conclusion from these scientific sessions was that the anticipated improvement in accuracy and range of weather forecasts had not yet been attained although impressive progress was reported in extending the network of weather observations over much of the globe and in exploring the upper air by using rawinsondes, rockets, radar and other devices. Increased knowledge had added to the complexity of the variables which the weather forecaster had to take into account.

This conclusion did not mean that techniques of weather forecasting showed no progress. On the contrary, weather forecasts in 1950 offered detailed information of clouds, visibility, winds aloft and other elements about which little could be said a decade earlier, but forecasting had not yet been reduced to exact scientific treatment.

The foremost meteorological honour of the year, the Meisinger award, went jointly to Jule G. Charney and Arnt Eliassen for their work in dynamic meteorology and numerical prediction of weather. For his work in study of meteorological conditions conducive to ice formation on aircraft, William Lewis was given the annual Losey award in Jan. 1950 by the Institute of Aeronautical Sciences.

**Applied Meteorology.**—Artificial nucleation of clouds, the technical term for the seeding of clouds with dry ice or silver iodide to produce rain, had not yet passed beyond the experimental stages, although many commercial rainmakers and their agricultural clients in western and southwestern United States were confident that the water supply in their localities had been materially increased by rainfall precipitated by seeding the clouds. But in every case where there had been impartial investigation it was found that atmospheric conditions were favourable for rain without artificial nucleation. Many meteorologists believed that treatment of clouds with dry ice or silver iodide might tip the balance in favour of rain in certain cases of conditional stability of air and cloud masses, but they felt that such cases were infrequent and probably not of great economic significance. They believed that most of the rain reported to have been produced artificially had more likely been caused by natural meteorological conditions. This conclusion was also supported by results of official experiments in Canada and Australia where only minor quantities of rain had been observed as a result of cloud seeding. In addition, a fact sheet issued by the U.S. department of defense summarized the findings of Project "Cirrus" in a statement to the effect that research in rainmaking had not yet determined how much rain could be induced artificially or whether the amount would be of economic significance.

Over the Catskill, N.Y., watershed, experiments in cloud seeding were designed to alleviate the shortage of water in New York city. In general, the results were inconclusive; rainfall may or may not have been increased in one or two instances. In most instances the attempts to increase the rainfall in the New York experiments were said to have been quite obviously unsuccessful. Unquestioned, however, was the fact that supercooled cloud droplets could readily be converted by seeding into ice crystals which might collect and fall as raindrops, but the amount to reach the ground from such source appeared to be small. The practical possibilities of commercial rainmaking in general were



APPROACHING TORNADO photographed at a distance of 11 mi. from Coldwater, Kan., in May 1950

still undetermined.

Basic research in cloud physics to obtain more exact values of the quantities that enter into the natural formation of clouds and rain was continued by Ross Gunn of the U.S. weather bureau, with laboratory facilities and devices unique in meteorological studies. His work included measurements and recomputation of the size, distribution, electrical charge, rate of fall and other characteristics of precipitation droplets in free air. The results were published as rapidly as they were completed in order to make them available without delay for use of other investigators in theoretical and applied meteorology. The more theoretical work had appeared in the *Journal of Meteorology* of the A.M.S., the *Journal of Geophysical Research* and the *Physical Review*; the tabulated results and practical conclusions appeared in the *Bulletin* of the A.M.S.

In applied meteorology for agriculture, attention had turned to micrometeorology and microclimatology. Among the published papers during 1950 were studies both in America and in England of the effects on the growth and maturity of the potato crops caused by variations in temperature and other weather elements within very short distances above the ground or just below the surface. Students of climate continued to find much of practical interest in the work of the Laboratory of Applied Climatology of The Johns Hopkins university, Baltimore, Md. Many attended classes at the field station of the laboratory in New Jersey where the quality and quantity of peas, beans and other vegetable crops were much improved through careful adaptation of planting, harvesting and processing to the particular local



Table I.—Monthly and Annual Mean Temperature and Departure in °F in U.S. Cities

Cities, 1950	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year	Anom- aly*
Albuquerque, N.M.	38	45	48	59	66	76	77	76	68	66	44	42	59	+4
Atlanta, Ga.	56	51	50	59	73	78	78	76	71	66	52	41	63	-1
Boston, Mass.	36	28	34	47	56	69	74	71	62	56	42	36	51	-2
Brownsville, Tex.	69	69	68	76	82	83	85	84	84	78	68	63	76	+2
Buffalo, N.Y.	35	25	28	40	57	65	69	69	61	55	39	27	49	+1
Charleston, S.C.	61	57	56	63	74	80	79	79	74	68	58	45	66	normal
Chicago, Ill.	29	26	33	42	61	69	72	70	65	59	40	20	49	-1
Columbus, O.	40	34	38	46	64	68	71	68	65	60	38	20	48	normal
Des Moines, Ia.	20	24	31	44	61	69	71	68	65	60	30	8	36	-3
Duluth, Minn.	4	15	19	31	46	58	62	58	55	46	30	8	36	+3
El Paso, Tex.	49	53	58	66	72	83	80	81	74	71	52	50	65	normal
Miami, Fla.	73	69	70	70	77	82	81	82	81	79	73	65	75	normal
Nashville, Tenn.	49	44	47	55	71	76	76	74	70	65	49	34	59	normal
New Orleans, La.	67	62	61	66	76	81	81	82	79	71	62	52	70	+1
Portland, Ore.	29	42	46	51	57	62	70	69	65	52	46	46	53	+1
Phoenix, Ariz.	51	60	63	73	76	85	91	90	82	78	60	59	72	-1
Salt Lake City, Utah.	27	36	41	49	54	66	74	74	63	58	41	35	51	normal
San Diego, Calif.	52	56	58	61	61	64	70	68	68	67	60	60	62	+1
Spokane, Wash.	9	30	36	44	52	61	69	70	62	47	38	34	46	-2
St. Louis, Mo.	38	37	41	51	67	74	75	72	67	64	45	29	55	+2
Washington, D.C.	48	39	42	53	65	74	76	76	67	61	48	36	57	+2

\*Difference between the average temperature for the year 1950 and the normal average annual temperature.

Table II.—Monthly and Annual Rain or Snow and Departure from Normal, in U.S. Cities

(Data in inches of rainfall)

Cities, 1950	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total 1950	Anom- aly*
Albuquerque, N.M.	T	0.4	T	0.3	T	0.3	2.0	0.1	1.0	T	0.1	0	4.2	-4.0
Atlanta, Ga.	2.1	3.0	4.0	1.5	3.7	4.1	7.4	5.5	3.6	2.6	1.0	2.9	41.4	-6.1
Boston, Mass.	3.9	3.8	3.0	2.4	1.6	1.1	1.5	3.1	0.9	2.0	6.1	3.4	32.8	-6.1
Brownsville, Tex.	0.2	0.7	2.0	0.4	1.2	7.6	0.1	0.5	2.8	2.2	0.8	0	18.5	-8.1
Buffalo, N.Y.	5.0	4.3	3.2	2.5	2.2	2.0	3.1	4.1	2.0	2.4	4.9	1.8	37.5	+4.7
Charleston, S.C.	0.6	0.3	5.1	0.9	3.2	3.5	1.4	6.5	5.9	2.9	1.8	3.6	48.3	+2.8
Chicago, Ill.	3.8	3.4	2.0	4.7	1.8	8.9	6.8	1.8	2.0	1.3	1.9	2.7	41.2	+8.3
Columbus, O.	6.9	3.2	1.3	3.8	1.2	2.3	4.7	3.2	2.1	2.1	4.8	3.1	38.7	+4.6
Des Moines, Ia.	1.2	1.8	0.8	1.6	5.6	4.8	2.9	2.1	0.4	0.8	4.0	0.3	26.3	-4.4
Duluth, Minn.	2.2	0.5	1.9	3.0	6.5	3.5	4.1	3.2	1.4	3.9	1.4	3.7	35.3	+8.8
El Paso, Tex.	0.3	0.3	T	T	0.1	0.1	3.6	0.2	1.3	1.0	0	0	6.9	-1.5
Miami, Fla.	0.5	1.4	0.5	2.2	1.4	3.8	8.0	8.7	3.9	12.0	0.5	1.2	44.1	-13.7
Nashville, Tenn.	14	7.8	3.8	1.6	4.1	4.7	7.8	6.7	3.6	1.7	6.6	2.2	64.5	+19.7
New Orleans, La.	2.1	1.4	5.0	6.7	2.8	6.0	7.2	4.3	1.0	1.2	1.8	6.1	45.6	-14.1
Phoenix, Ariz.	0.3	1.0	0.3	T	T	0.1	0.8	0.4	0.5	0	0.1	0.1	3.6	-4.0
Portland, Ore.	12	6.1	5.7	2.3	0.7	2.5	0.5	0.7	0.1	7.0	7.7	6.9	52.2	+11.6
Salt Lake City, Utah.	1.8	1.2	1.0	1.3	2.2	0.2	1.1	0.1	1.7	0.6	1.9	0.5	13.6	-2.2
San Diego, Calif.	3.3	1.6	1.0	0.3	0.1	T	0.1	0	T	T	1.2	0.1	7.7	-2.4
Spokane, Wash.	4.1	1.9	3.8	0.4	0.7	2.9	0.6	0.4	0.1	4.1	1.0	2.2	22.2	-7.6
St. Louis, Mo.	8.1	3.3	3.5	4.0	3.1	3.3	1.3	3.7	2.6	1.5	3.5	0.6	38.5	+1.8
Washington, D.C.	1.7	2.7	4.1	1.9	6.0	3.4	4.2	5.3	7.3	3.3	2.9	3.7	46.4	+4.2

T denotes a trace of precipitation, less than 0.01 in.

\*1950 excess or deficiency from normal average rainfall.

Table III.—Clear Sky, During Daytime, in U.S. Cities\*

Cities, 1950	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average	Anom- aly†
Albuquerque, N.M.	48	52	54	62	62	70	40	66	57	75	77	74	61	-10%
Atlanta, Ga.	19	51	38	53	37	41	30	48	43	59	66	48	44	-5%
Boston, Mass.	22	33	42	29	33	42	40	41	28	52	53	48	39	-10%
Brownsville, Tex.	33	32	35	27	42	50	53	63	61	69	65	54	49	-5%
Buffalo, N.Y.	18	18	27	24	35	38	43	46	32	42	44	29	33	-10%
Charleston, S.C.	39	53	40	61	41	44	30	51	33	43	64	60	46	-10%
Chicago, Ill.	24	29	28	19	36	46	43	43	37	50	57	42	40	-5%
Columbus, O.	18	22	30	25	27	38	40	42	30	44	56	35	34	-10%
Des Moines, Ia.	32	42	28	25	37	55	36	40	45	63	60	49	43	-5%
Duluth, Minn.	18	51	40	23	36	37	38	44	39	37	45	40	37	-10%
El Paso, Tex.	52	62	55	65	58	65	37	74	62	75	83	72	63	normal
Miami, Fla.	60	61	54	60	55	51	45	41	47	40	64	66	54	+5%
Nashville, Tenn.	15	30	35	42	27	42	30	37	31	55	62	42	37	-10%
New Orleans, La.	25	46	45	44	39	43	32	56	52	72	58	49	47	normal
Phoenix, Ariz.	57	57	58	77	80	86	50	83	75	79	90	78	73	normal
Portland, Ore.	10	17	9	20	30	21	60	54	50	8	37	27	29	-10%
Salt Lake City, Utah	18	42	25	43	50	73	63	72	48	61	68	48	50	-5%
San Diego, Calif.	35	48	48	38	39	49	48	57	57	75	77	67	53	normal
Spokane, Wash.	21	18	15	24	36	31	74	62	72	18	47	27	37	-10%
St. Louis, Mo.	23	35	32	39	30	46	33	37	35	55	63	48	40	-10%
Washington, D.C.	30	32	42	31	30	50	30	40	30	40	55	40	38	-10%

\*This table gives the per cent of time between sunrise and sunset during which the sky was clear.

†The difference between the average for the year 1950 and the normal annual average.

environment of weather and climate. Credit for this progress in applied climatology went to C. W. Thornthwaite, director of the laboratory.

**Research.**—The most detailed and co-ordinated flight and ground measurements ever undertaken in the mechanism of the thunderstorm were made by the air force, the weather bureau and co-operating agencies in prolonged tests during 1947 and 1948. The results, completed after laborious and painstaking analysis by a research team under the direction of H. R. Byers, head of the department of meteorology of The University of Chicago, were published by the government printing office in a volume entitled *The Thunderstorm* issued in April 1950. The voluminous data collected during the numerous measurements and observations made from aircraft during flights through thunderstorms were open to further research and analysis. Subsequent studies were to be undertaken and published by Roscoe C. Braham, lead-

ing analyst of the project. Among other conclusions, Braham estimated that less than 10% of the moisture involved in a thunderstorm development reached the ground as rain during the shower.

At one time hurricanes caused greater loss of life and damage to property in the United States than any other type of storm, but in recent years the hurricane warning service had provided advance reports of the approach of these storms and as a result losses and damage had been greatly reduced. In late years the greatest losses by storm had come from tornadoes, largely because the time and place of their occurrence were difficult to predict. Although the destructive force of the tornado is too great for ordinary buildings to withstand, loss of life could usually be averted if it were possible to foretell when and where the storm would strike. In addition to the tornado research reported in the January meeting of the A.M.S. in St. Louis, there were published during 1950 the preliminary results of studies showing a relationship between occurrence of tornadoes and a hydraulic jump phenomenon, a mechanism discovered earlier in other fields of hydrodynamics. The theory as applied to formation of tornadoes held sufficient promise to justify plans for a denser network of observing stations in the tornado belt of the midwest during the 1951 season in order to measure the atmospheric pressure jump by use of special microbarographs. It was hoped that these and other measurements would lead to

more accurate methods for predicting where tornadoes were likely to form whenever the synoptic weather situation indicated tornado-breeding conditions.

The discovery that there exists at high levels in the atmosphere a so-called "jet stream" of strong winds with rather sharp but varying geographical limits had increased the importance of upper air soundings. These soundings measured the strength of the stream from day to day and determined its altitude and location. Knowledge of its variations was essential to flight planning for high-altitude aircraft, especially for jet plane operations. This requirement necessitated the development of better equipment for sounding the upper air, and special plastic balloons were produced to carry radiosondes higher into the atmosphere. One of the handicaps had been the limitations of the radiosonde itself.

To expedite the design of improved devices for high-altitude



soundings several meteorological services, among them the weather bureaus of Finland, France, Switzerland, the United Kingdom and the United States, sent about 50 aerological sounding experts and representative radiosonde equipment to Payerne, Switz., in May 1950 for simultaneous comparative tests. Hundreds of soundings were made over a period of a few weeks. An analysis of the results gave an indication of the defects of the several types of radiosondes but failed to show an immediate solution to existing errors in the measurement of pressure, temperature, humidity and wind in the upper air.

**Synoptic Meteorology.**—Increased accuracy and broader coverage in observations of the upper air throughout the world were regarded by meteorological authorities in 1950 as the key to progress in synoptic meteorology and weather forecasting. This view was supported not only by the practical requirements of air navigation but also by the theoretical approach of researchers in dynamic meteorology who were associated with the project to develop techniques for weather prediction by a numerical process with the aid of the electronic computer. The network of observation stations established in the tropics during World War II had advanced the understanding of tropical meteorology. Meteorologists recommended that new observation stations be established in the arctic and over the oceans where, up to 1950, soundings had been too widely separated geographically and too infrequent to fill the gaps in knowledge of the circulation of the atmosphere and its characteristics which determine the formation, movement and disappearance of storms.

Some progress in the establishment of new stations could be reported by the end of 1950. Through the joint efforts of Canada and the United States an upper-air sounding station began operation in April 1950 at Alert, Ellesmere Island, only 400 mi. from the north pole. This was the most northerly meteorological station in the western hemisphere.

Two new aerological stations were also established by the weather bureau in remote places in the Hawaiian Islands in accordance with provisions passed by the 81st congress.

One of the most striking examples of the role of upper-air analysis in explaining the synoptic weather picture was seen in a study of the developments in the destructive storm which struck Ohio, Pennsylvania, New York and West Virginia in Nov. 1950. The heavy snows, extreme temperatures and gale winds caused by this storm in different parts of eastern United States broke all previous seasonal records in many localities during the five-day period from Nov. 24 to 29. More than 34 in. of snow fell on Parkersburg, W.Va. At Cleveland, O., Youngstown, O., and Pittsburgh, Pa., the average depth exceeded 20 in. Strong winds piled up snowdrifts and blocked the streets and highways in Ohio, western Pennsylvania and parts of Indiana and West Virginia. Rail traffic was interrupted by the snow and unseasonable cold. In many localities it exceeded in intensity the famous storm of 1913 in which 200 lives were lost and damage to Great Lakes shipping amounted to more than \$2,000,000. The property losses in the Nov. 1950 storm were heavy, but fortunately the loss of life was small. In the metropolitan area of New York city and nearby parts of Connecticut and New Jersey the winds attained velocities of 80 m.p.h. or more, causing high tides and the flooding of coastal areas. Preliminary summaries of storm damage in the eastern states indicated greater property losses from the 1950 storm than from the severe hurricanes of 1938 and 1944.

The November storm brought in cold air from the far north and carried temperatures to new lows for that time of year in Alabama, northern Florida, Georgia, Tennessee and the Carolinas. In Asheville, N.C., the temperature dropped to  $-5^{\circ}\text{F.}$ , which was  $9^{\circ}$  below the lowest temperature during any November since 1903.

Preceding the formation of this storm and related to it, a centre of low barometric pressure (LOW) reported over North

Dakota on Nov. 22 had reached Lake Superior by 1:30 A.M., E.S.T., Nov. 23. The wind flow following the LOW pulled in a large mass of cold air from the Mackenzie basin, in northern Canada, with temperatures of 10 to 20 degrees below zero in Montana and Manitoba. The cold front in the van of this polar air mass reached the Appalachian mountains in Kentucky, Tennessee and West Virginia early the following day. The centre of the preceding LOW had stagnated just northeast of Lake Superior and was decreasing in intensity. This synoptic distribution of pressure, temperature and wind and the associated air masses were conducive to formation of a wave disturbance on the front where it extended along the southern Appalachians. This disturbance, which developed rapidly and hastened formation of the destructive storm of Nov. 25–26, first appeared on the surface weather map at 7:30 A.M. E.S.T., on Nov. 24. At this stage it formed a small LOW over western North Carolina. During the subsequent 12 hours this barometric depression became the dominant feature on the weather map, cutting off the LOW north of the Great Lakes and completely obscuring it within the next 24 hours.

For the hidden causes of these developments it is necessary to study the wind flow and temperature distribution at altitudes of 10,000 to 20,000 ft. The 500-millibar constant pressure chart for the night of Nov. 23–24 showed at altitudes between 17,500 and 20,000 ft. a well-defined LOW corresponding to the dying surface LOW over Lake Superior. Prior to Nov. 23 the temperature field aloft surrounding the upper level LOW had been rather uniform. This signified little inflow of air masses with contrasting temperatures in the upper levels. Late at night on Nov. 23 the circumstances began to change when colder air appeared at high levels southwest of the LOW and moved rapidly through the southern and eastern sectors of the LOW accompanied by an elongation southward of the upper level depression. Temperatures aloft over Georgia and Tennessee turned  $10^{\circ}$ – $20^{\circ}\text{F.}$  colder, but over Minnesota temperatures aloft rose rapidly with strong winds from the north at about 15,000 ft. above the surface. These winds spread over the south central states during Nov. 24 and added to elongation of the upper level LOW and rapid movement of its centre southeastward where it served to intensify the surface LOW then forming over North Carolina. During the forenoon of Nov. 25 the pressure and wind fields over the upper Ohio valley changed, and the occlusion from the original LOW over Lake Superior became the warm front for a new LOW which developed over western Pennsylvania that afternoon, taking over the central role in intensification of the disturbance. At the same time a reinforcement of the high pressure and cold air mass over the Canadian maritime provinces and Labrador contributed to the intensification of the new LOW over western Pennsylvania. It not only prevented the LOW from taking the normal eastward course of movement but actually forced it westward into Ohio where it remained for more than 24 hours to produce the record-breaking snowfall for that time of year and the centre of the destructive storm of Nov. 25–26. The high pressure over the northeast was primarily responsible for the gale winds in the southern New England states, New York and New Jersey. The pressure gradient became unexpectedly steep and the winds more or less unprecedented for the type of LOW which remained centred over Ohio.

Although the several upper level charts of pressure, temperature and wind did not reveal all of the causes leading to the development of this storm, they provided explanations for its broad features which were missing on the surface weather map alone. At the close of 1950 three-dimensional weather analysis, despite its fragmentary aspects, was still the best available approach to greater accuracy in weather forecasting.

**Anomalies in the Weather of 1950.**—In most of the region south of the Ohio river and east of the Mississippi river January



Table IV.—Monthly Mean Temperature in °F. in Cities of the World, 1950

Cities	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>North America</b>												
Bermuda . . . . .	65	63	63	65	68	73	78	81	78	70	71	67
Havana . . . . .	72	72	75	73	78	80	80	80	79	78	73	73
Juneau . . . . .	8	24	33	38	43	56	55	56	50	41	39	21
New York . . . . .	42	33	37	48	59	69	75	73	65	60	47	40
San Francisco . . . . .	47	52	53	56	55	57	58	60	62	62	50	51
Vancouver . . . . .	21	38	42	38	51	60	63	64	59	49	47	37
Winnipeg . . . . .	-15	2	13	29	50	59	65	62	56	45	30	5
<b>South America</b>												
Buenos Aires . . . . .	74	71	69	64	57	52	50	54	54	60	69	73
Rio de Janeiro . . . . .	78	79	78	76	74	73	70	72	72	73	72	75
<b>Europe</b>												
Athens . . . . .	36	51	54	62	68	78	84	82	77	65	60	53
Berlin . . . . .	31	37	41	47	61	67	67	64	57	48	45	38
London . . . . .	41	44	47	45	54	64	63	63	58	51	43	41
Paris . . . . .	37	45	47	49	59	66	69	65	58	51	43	41
Rome . . . . .	44	48	53	55	66	74	81	78	70	61	53	50
<b>Africa</b>												
Cairo . . . . .	55	56	63	74	75	80	84	83	80	74	66	62
Cape Town . . . . .	69	68	70	68	60	60	53	57	56	62	65	68
<b>Asia</b>												
Calcutta . . . . .	69	73	81	89	87	87	84	84	85	81	73	67
Tokyo . . . . .	41	41	46	57	67	71	80	79	75	60	50	43
<b>Australia</b>												
Melbourne . . . . .	65	67	64	59	54	48	50	52	56	59	61	62
<b>Pacific</b>												
Honolulu . . . . .	72	78	73	73	75	76	77	78	79	78	74	73

Table V.—Monthly Rainfall, in Inches, in Cities of the World, 1950

Cities	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>North America</b>												
Bermuda . . . . .	0.4	2.8	5.1	2.0	2.0	2.4	3.0	3.9	9.1	6.0	5.1	2.0
Havana . . . . .	0.4	1.6	0.7	0.4	1.6	3.5	4.7	11.4	10.6	8.3	1.6	1.6
Juneau . . . . .	0.8	2.4	1.2	2.0	3.5	1.1	7.1	5.1	7.5	2.8	9.1	2.4
New York . . . . .	2.4	4.3	3.9	2.0	2.4	1.6	4.7	5.1	1.6	1.2	1.2	2.0
San Francisco . . . . .	7.5	2.4	1.6	0.8	0.4	0.1	0.1	0.1	0.1	2.8	1.2	2.8
Vancouver . . . . .	5.5	7.9	6.7	0.8	1.2	2.0	1.6	2.4	1.2	7.1	6.7	6.7
Winnipeg . . . . .	2.0	0.8	0.4	1.6	2.0	3.1	2.0	1.6	3.1	0.8	1.2	1.6
<b>South America</b>												
Buenos Aires . . . . .	0.4	2.0	6.7	3.1	4.7	0.8	3.5	0.8	2.8	3.1	3.6	4.3
Rio de Janeiro . . . . .	9.1	7.1	3.5	9.4	5.9	1.0	0.4	1.2	1.6	3.5	2.4	5.5
<b>Europe</b>												
Athens . . . . .	0.8	0.4	3.6	0.8	0.8	0	0	0.1	1.6	0.4	2.0	0.8
Berlin . . . . .	2.0	3.0	1.4	3.5	3.1	1.2	3.9	4.0	1.6	1.2	1.6	4.5
London . . . . .	0.8	3.1	0.8	2.4	1.6	1.6	3.1	2.0	2.4	0	2.0	1.2
Paris . . . . .	0.8	2.8	0.8	2.8	3.5	1.2	3.5	2.0	4.0	0.4	2.4	0.8
Rome . . . . .	3.5	2.8	0.8	7.1	0.6	0.8	0	2.4	2.0	2.0	5.0	1.1
<b>Africa</b>												
Cairo . . . . .	0.4	0.2	0.1	0.1	0.1	0	0	0	0	0	T	1.2
Cape Town . . . . .	0.4	0	2.0	4.3	1.6	6.0	7.9	0.8	2.8	2.0	0.5	0.4
<b>Asia</b>												
Calcutta . . . . .	0	0.2	0.2	2.0	3.9	15.2	11.4	7.5	9.1	6.3	0	0
Tokyo . . . . .	3.5	3.1	2.8	5.9	4.3	14.6	9.8	11.8	2.8	8.7	6.7	3.5
<b>Australia</b>												
Melbourne . . . . .	0.4	4.3	3.5	1.6	2.4	0.8	1.6	1.2	3.1	3.1	5.5	1.2
<b>Pacific</b>												
Honolulu . . . . .	12.0	10.0	1.2	3.9	0.4	0.4	0.4	1.6	6.0	0.8	1.2	1.6

T denotes a trace of precipitation, less than 0.01 in.

was warmer than in any previous year for more than half a century. Even in the north and northeast all-time January records for high temperatures were broken, for example, 72° at Ann Arbor, Mich., on Jan. 25 and 78° at Lewes, Del., the next day. A station in Maryland reported 83° that day. In the northwest, however, extreme cold and heavy snow were the features of the month. At Newport, Wash., the thermometer fell to -41° on Jan. 30, and temperatures went down to -51° in Minnesota and North Dakota. The most severe weather of the winter in northwestern United States occurred during the first week of February. In eastern Oregon and Washington thermometers read almost 35° below normal. The following week, however, temperatures rose to levels above normal almost everywhere in the United States, and unusually warm weather in the south caused premature budding of fruit trees. During the last half of February the anomalous features of January were reversed, and air masses from the far north which had penetrated only the west and mid-west in preceding weeks crossed the Appalachians and engulfed the eastern states, sending temperatures there below normal. In the west, thermometer readings were higher than normal.

For the three months of winter as a whole temperatures were below normal from central Washington eastward to North Dakota with seasonal averages as much as 10° F. colder than usual. This was a large departure from normal. In contrast, Florida

enjoyed its warmest winter season since weather bureau records began there more than 60 years earlier. Most of the southeastern quarter of the country had winter temperatures averaging 3° to 6° warmer than usual. Precipitation was much above normal in the Ohio and central Mississippi valleys but moderately subnormal in many other parts of the country. The number of snow, sleet and ice storms during January and February was somewhat smaller than usual. The month of March brought the coldest weather of the winter to many places east of the Mississippi. In New York state and the New England states extreme lows of -34° were reported. Wind and snow combined to produce blizzard conditions in central New York, and a two-day snowstorm left an average of 24 in. on the ground in Syracuse and vicinity with drifts up to 15 ft. in depth in some spots. Generally over the nation spring floods resulting from rain and melting snow occurred in many of the smaller tributaries but in most regions flooding was not as serious as usual during the season. In the north central states April brought new snowfall and in many places precipitation was two or three times the usual amount. This contributed to floods in the Red river valley of the North and its tributaries in

North Dakota exceeding any ever previously experienced. The conditions there were similar to those which caused prolonged and disastrous flooding in Winnipeg, Can., during the spring thaw. Flood stages continued during May in many of the streams of Minnesota and North Dakota and caused the heaviest flood damage ever suffered in those sections. In the northern third of the U.S. the spring of 1950 was one of the coolest on record while in parts of the southwest and in southern Florida it was the driest in 50 years or more.

In June U.S. weather as a whole was almost as close to normal as weather ever is. Local storms and floods were less numerous than usual but severe thunderstorms and floods nevertheless caused heavy losses; for example, in West Virginia a cloudburst with a 14-in. rain produced flash floods resulting in the loss of 31 lives and \$10,000,000 in property damage. July was cooler than normal except in states west of the Rockies and in New England. In Kansas it was the coolest July ever recorded. Mild summer weather extended through August and gave the lowest nation-wide average of temperature for the month in more than 60 years. The departure of -2.6° F., while not phenomenal, went with the subnormal temperatures of preceding months to mark the summer of 1950 as relatively cool. Rainfall in general was above normal, especially in central portions of the midwest.

In September and October the hurricane season brought two



severe tropical cyclones to Florida with wind gusts to 125 m.p.h., and 20 in. of rain in the Cedar Key locality where one of the hurricanes apparently circled the area on Sept. 5. During the last week of September smoke from forest fires in Alberta, Can., was carried eastward by winds at 10,000 to 25,000-ft. altitude and spread over most of the eastern states, obscuring the sun at times. The smoke eventually crossed the Atlantic and reached northwestern Europe. The cool weather of September was replaced by relatively warm weather for October, in some parts of the southwest the warmest and driest October ever recorded. West of the Rockies most of November and December were also warmer than usual, but the eastern two-thirds of the country experienced cooler weather than usual with temperatures much below normal in the central states. Record-breaking cold waves covered the plains states and penetrated to the gulf. The year closed with the freezing isotherm close to the coast from Galveston, Tex., to Mobile, Ala. This signified that most of the southern states already had severe winter weather. (See also DISASTERS; FLOODS and FLOOD CONTROL.)

FILMS OF 1950.—*Everybody Talks About It* (Teaching Film Custodians, Inc.); *Thunder and Lightning* (Young America Films, Inc.) (F. W. R.R.)

**Methodist Church.** A thorough-going survey and analysis of the organizational structure of the Methodist Church, ordered by the 1948 general conference, made great progress during 1950 in gathering and classifying material on which to base recommendations looking toward the elimination of overlapping agencies and greater efficiency and economy of operation. The survey commission utilized the services of a firm of industrial engineers.

Six episcopal areas, aided by the commission on public information, established public relations offices. The commission also began a series of seminars to aid church leaders in their press relations.

The Woman's Division of Christian Service employed an official observer to the United Nations whose duties included conducting study seminars on the grounds for visiting delegations of women, as well as keeping the 1,576,047 members of local societies informed on international affairs. The Methodist world peace commission and board of education co-operated in these and similar study seminars at Washington, D.C., and at Lake Success, N.Y., for youth groups and ministers. Other projects in the public interest by the church women were a National Citizens Roll Call (to develop informed and registered voters) and the compilation of state laws touching upon race and colour.

The 1950 enrolment (218,677) of the 122 colleges and universities in the United States related to the Methodist Church was more than double the figure of 1940. Religious work on 160 other campuses was conducted in student centres known as Wesley foundations. A postwar project in higher education for the benefit of students from outside the United States continued, and 140 students studied on fellowships in U.S. colleges in 1950; the total number that had received aid was 550.

In 1950, the centennial year of Methodism's entry into the field of institutional care for the aged, the denomination's 189 hospitals and homes ministered to 1,177,000 persons. Free service was rendered to the value of \$5,500,000. Assets of these philanthropic institutions were \$192,000,000.

The Methodist Church conducted work in 38 countries during the year with missionaries serving in 31 countries and financial assistance given 7 others. The largest number of missionaries to be accepted during the decade began either their service or final specialized training preparatory to going to their fields. For foreign service 225 were accepted and 32 for service in the U.S. and possessions.

The Korean war resulted in the loss of most of the vigorous

intellectual leaders of the Methodist Church of that country. All but six missionaries were evacuated, but no word about the six had been received by the end of the year. Hospital and college buildings were severely damaged.

Of more than 300 missionaries in China, all had left by late December except 65. Withdrawals were hastened by the intense anti-American feeling that developed near the end of the year rather than by anti-Christian feelings. The two bishops who were Chinese had taken over the administration of the areas of their two U.S. colleagues.

The woman's division opened work in Liberia during the year, and also dedicated a well-equipped hospital in Nome, Alaska, to serve Eskimos. U.S. Methodists turned over control of their Puerto Rican mission to nationals. In February Raymond L. Archer, a mission board secretary in New York, was elected bishop of the Singapore area by the Southeastern Asia Central conference.

The Methodist publishing house set up an organization of 130 scholars, working under the editorship of George A. Buttrick, to produce a 12-volume *Interpreter's Bible*. The year's business of the house again grossed a new high, \$13,500,000. The sum of \$400,000 was appropriated to aid retired ministers.

Plans were consummated for four significant national and international gatherings of Methodists for 1951: July 21-24 at Sioux City, Ia., National Town and Country conference (quadrennial); Aug. 27-31 at Purdue university, West Lafayette, Ind., National Convention of Methodist Youth (quadrennial); Aug. 28-Sept. 7 at Oxford, Eng., Ecumenical Methodist conference (normally decennial); Oct. 12-14 at Chicago, Ill., the first National Conference on Family Life. The quadrennial general conference, the supreme law and policy making body of the denomination, was to be held April 23, 1952, in San Francisco, Calif.

The membership of the 40,158 churches at the end of 1950 was 8,935,647. This did not include 734,455 preparatory members or about 850,000 members of the Methodist Church in countries outside the United States. The increase in membership over 1949 was 140,078.

Contributions for all purposes totalled \$244,676,674, an increase of \$15,379,563. Benevolences, as distinguished from local church and general administrative expenses, were \$38,508,675.

More than 2,000 new church schools were opened, bringing the total to 37,912. These schools were administered and taught by 492,170 officers and teachers.

The total value of churches, parsonages and other parish property increased by \$74,351,207 to \$1,337,190,116. Church extension officials reported 1950 as the top year in building of new churches.

Other Methodist bodies in the United States include the African Methodist Episcopal Zion, the African Methodist Episcopal, the Colored Methodist Episcopal, the Wesleyan Methodist, the Free Methodist Church of North America and the Primitive Methodist churches. Methodism is also organized independently in Great Britain, where it originated, in Australasia, New Zealand, South Africa, Korea, Brazil and Mexico. (See also CHURCH MEMBERSHIP.) (R. Sv.)

**Mexico.** A federal republic of Middle America lying between the United States of America on the north and Guatemala and British Honduras on the south, Mexico has an area of 760,373 sq.mi.; pop. (preliminary report, census 1950): 25,367,802. Capital: Mexico City. Chief cities (preliminary report, census 1950): Federal District, including Mexico City (2,527,328); Monterrey (339,634); Guadalajara (337,000); Puebla (229,976); San Luis Potosí (156,324); Mérida (155,899); Culiacán (144,550); Mexicali (141,189); León (140,000); Torreón (132,101); Ciudad Juárez (128,782); Veracruz (123,368); Mata-





ODD-SHAPED STONE STRUCTURES for grain storage at Zacatecas, Mex., a landmark along the Mexican link of the Pan-American highway. The 2,178-mi. link was opened officially on May 21, 1950, making automobile travel possible from border to border

moros (118,215); Aguascalientes (117,409); Toluca (115,422); Chihuahua (110,779); Morelia (103,516); Tampico (99,441); Saltillo (96,709); Pachuca (89,237). Language: Spanish, with an estimated 6.29% (1940) speaking Indian tongues only. Religion: Predominantly Roman Catholic. President, 1950: Miguel Alemán.

**History.**—Numerous developments and events combined to make 1950 a significant year in Mexican history. The republic enjoyed great material prosperity, traceable to many factors including (1) more balanced trade resulting from stabilization of the peso in June, 1949; (2) a record cotton yield; (3) exceptional growth in industry, and (4) an estimated \$150,000,000 income from tourism. Mexico's 1951 budget hit an all-time peak of \$360,000,000, with largest sums allocated to irrigation, communications and public works, education, and national defense.

In light of ample dollar reserves, on Jan. 1, 1951, the government removed curbs on importation of luxury items which had been prohibited since 1946, including automobiles, trucks, radios, cigarettes, nylon articles, clothing and wines. The move was an effort to stem inflation by making more items available to Mexican buyers, thus decreasing money in circulation, said Treasury Secretary Ramón Beteta. He indicated that existing curbs would be replaced by stiffer import duties on all articles except raw materials, machinery and industrial equipment.

Also in the economic field, 1950 witnessed (1) mutual renunciation of the Mexican-U.S. reciprocal trade agreement of 1942; (2) a rise of between 10% and 20% in the cost of living, despite governmental efforts to maintain ceilings on basic foods; (3) issuance of the republic's first savings bonds (100,000,000 pesos total, sold at half their face value, bearing 7.17% interest) to finance agriculture, industrial development, and low-cost housing; (4) trade pacts with 11 European nations, including agreements calling for interchange of some \$150,000,000 worth of goods with Britain, France, west Germany, Italy, Belgium and Switzerland, and earlier announcement of a \$62,000,000 export-import agreement with west Germany. Another event of great economic significance was the announcement by President Ale-

mán of a \$150,000,000 loan to Mexico from the Export-Import Bank of Washington to develop rail and highway transportation, agriculture, irrigation, communications, electric power transmission and generation.

In June the republic completed its seventh census in one day with the help of nearly 500,000 citizens, and preliminary reports indicated a growth of approximately 6,000,000 in the decade 1940-50.

In his fourth annual report to the nation on Sept. 3, Alemán announced that (1) production and employment were high; (2) the hoof-and-mouth scourge finally had been defeated; (3) agriculture was thriving; (4) Mexico would comply with decisions of the Security council of the United Nations, and that the Mexican people would participate in the solidarity of the continent and in the determination to guarantee the peace (in 1950, Mexico presented vegetable products valued at \$348,000 to the United Nations for the Korean war effort).

In the field of politics the big issue was the presidential succession in 1952, and even at this early date several prominent Mexican leaders already had been mentioned as possible candidates to succeed President Alemán. In spite of pressure from segments of the Partido Revolucionario Institucional, the government party, President Alemán himself announced on several occasions that he would not be a candidate for re-election, stressing his decision as "unbreakable" in his fourth annual message. This stand reaffirmed the "no re-election" principle which is incorporated in the Mexican constitution, and which had been an important issue in Mexican politics since 1910.

**Education.**—Education is free, compulsory and secular. In June 1950 an estimated 3,986,428 students were enrolled in 29,036 schools, compared with 1949 when 3,286,428 students were enrolled in 26,343 schools and taught by 90,212 teachers and professors. They were divided (1949) into the following categories: preschool, 98,155 students, 2,887 teachers, 837 institutions; primary, 2,997,198 students, 67,860 teachers, 24,625 schools; secondary, 80,598 students, 7,805 teachers, 466 schools; normal, 26,998 students, 2,854 teachers, 77 schools; technical, 41,928 students, 3,676 teachers, 199 schools; agricultural, 5,949 students, 701 teachers, 16 schools; universities, 35,602 students, 4,429 faculty members, 12 institutions.

The national campaign to reduce illiteracy, initiated in 1944, taught an estimated 3,250,000 adults to read and write during the period 1944-49. Illiterates (persons over 10 years of age who cannot write) were estimated in 1950 at 5,302,583, or 20.79% of the population, as contrasted with 7,543,952, or 38.39% in 1940. During the 1949-50 academic year, 825 Mexican students were enrolled in U.S. educational institutions.

**Defense.**—In 1950, funds budgeted for military and naval purposes included: defense \$30,289,010; marine \$8,510,982; and military industry \$2,264,739. In 1949, Mexico's budget provided for 55,620 men in the air and ground forces, 3,322 of which were assigned to the air force. The army, including the air force, was administered by the department of national defense. The air force in 1949 had an estimated 250 planes of all types. The navy, merchant marine and coast guard were administered by the ministry of marine. In 1950, the ministry operated 3 gunboats, 4 frigates, 1 armed transport, 13 coast guard vessels, 4 auxiliary vessels, and 6 dredges.

**Finance.**—The monetary unit is the peso of 100 centavos. In June, 1949, the peso was stabilized at 11.56 cents, U.S. currency, or 8.65 pesos to the dollar. In this article, dollar sums are calculated at 8.65 pesos to the dollar for 1950 statistics, and 7.87 pesos to the dollar for 1949 statistics (an average value for the year).

The federal budget for 1950 totalled \$317,520,013 and was distributed as follows: legislative \$2,195,700; presidency \$271,676; judicial \$1,187,398; government \$2,029,132; foreign relations \$4,777,572; treasury \$10,774,566; defense \$30,289,010; agriculture \$4,950,289; communications \$55,822,680; economy \$2,544,508; education \$36,102,120; health \$14,999,130; marine \$8,510,982; labour \$709,098; agrarian reform \$1,751,445; hydraulic resources \$28,901,730; attorney general \$503,699; national resources \$776,879; military industry \$2,264,739; special funds \$22,605,540; additional expenses \$15,280,630; public debt \$70,271,490.

The estimated national income for 1949 was \$3,252,858,000. Provisional federal tax receipts for 1949 were \$364,803,000. The public debt as of Dec. 31, 1949, was: internal \$421,388,800; external \$173,273,100, including railway debt. According to the Feb. 20, 1946, railway debt settlement agreed upon between the Mexican government and the International Committee of Bankers on Mexico, supplemented by an agreement signed Nov. 24, 1949, the original dollar debt was scaled down as follows: principal \$48,100,000; interest (1914-1922) \$100,000; interest (1923-1945) \$2,300,000; total \$50,500,000. Service payments during 1950 should have reduced the amount outstanding on principal and back interest to approximately \$48,000,000. Notes in circulation as of Nov. 30, 1950, were valued at \$295,073,200. Gross reserves of the Bank of Mexico on Dec. 31, 1950, were estimated at \$250,000,000.

As of Aug. 31, 1950, there were 352 banks, credit institutions and auxiliary organizations with 466 additional branches. Their total capital



was \$155,549,100; total resources \$1,386,716,000; total deposits \$352,485,500.

**Trade and Communications.**—Imports in 1949 totalled \$448,198,297, exports \$460,366,074. During the first eight months of 1950, imports were valued at \$342,890,100, exports at \$335,895,900. Principal imports included machinery, vehicles, scientific apparatus, mineral and metal products. Principal exports were base and precious metals, vegetable products (with cotton leading) and animal products.

The ten leading countries in Mexico's foreign trade in 1949 with their percentages of the total were: the United States (82.8), Britain (2.0), Canada (1.7), China (1.5), France (1.1), Belgium (1.0), Switzerland (0.8), Cuba (0.7), Netherlands (0.633), Sweden (0.629).

There were approximately 16,509 mi. of railroad in Mexico in 1949. In 1950, the government announced a three-year plan for improving the national railways by renovating, converting all lines to standard gauge, reconditioning and augmenting rolling stock and installing other new equipment. The improvement program was to be financed partly by a \$60,000,000 credit from the Export-Import bank. During 1950, Mexico purchased from companies in the United States 200 new steel gondolas and 67 old-type Pullman sleeping cars.

The government rail system, which includes more than 75% of the republic's rail mileage, increased its freight rates early in 1950 in an effort to avoid losses which had approximated \$5,000,000 annually.

Shipping received new impetus during 1950 with announcement by the government that it would permit 100% foreign capital investment in any international shipping firm set up within the republic. (Coastwise companies were still required to comply with earlier regulations regarding investment percentages.) In the period 1940-50, Mexico's merchant fleet expanded from 10 vessels (of 1,000 tons gross or over) with a gross tonnage of 23,815, to 21 vessels grossing 106,000 tons.

As of March 1950, there were approximately 14,212 mi. of passable highways in Mexico, of which 12,630 mi. were all-weather roads including 8,417 mi. of paved road. Mexico's link in the Pan-American highway was completed to the Guatemalan border in May, providing through service from Laredo, Tex. Motor vehicle registration as of Dec. 1949, was: passenger 160,580; buses 16,169; trucks 106,321; motorcycles 5,298.

In 1949, two United States air lines (American Airlines and Pan-American World Airways) and one Central American air line (Transportes Aéreos Centro-Americanos or T.A.C.A.) were operating in Mexico. There were three major Mexican air carriers—Cia Mexicana de Aviación (a Pan-American World Airways affiliate), Aeronaves de México, S.A. (in which Pan-American World Airways participated), Líneas Aereas Mexicanas, S.A. (L.A.M.S.A.), which was wholly owned by United Air Lines—Aerovías Guest and 31 smaller Mexican air lines operating within the country. For domestic carriers, business was up approximately 20% in 1949 over 1948 volume, while international carriers enjoyed a 15% increase. During 1948, 22,085,925 mi. were flown by all lines, and 815,118 passengers were carried.

In May 1950, the republic's two telephone companies (the \$22,000,000 Cia Telefónica y Telegráfica Mexicana, an International Telephone and Telegraph subsidiary, and the \$30,000,000 Teléfonos de México, a Swedish company) merged. In 1949, the republic had 239,749 telephones.

In the field of radio, 1950 marked the advent of television in Mexico, with station XHTV formally inaugurated on Sept. 3 when it televised President Alemán's annual message to the nation. In 1949, there were 205 standard broadcasting stations and 1,221,360 radios in use.

**Agriculture.**—In 1950, private-property farmers were encouraged to take full advantage of new lands being made available under the government's huge irrigation program, as the government made an effort to increase production through encouragement of the profit motive.

The year 1950 saw abolishment of the government's subsidy on wheat imports, originally granted to keep the price down on home markets. By the end of 1950 it appeared that the dreaded hoof-and-mouth disease had been eliminated from the infected area. No outbreak of the scourge appeared during 1950 in the region where 17,000,000 animals had been vaccinated in the costly campaign which involved expenditures totalling \$24,000,000 in 1949 and \$15,000,000 in 1950.

In the 1949-50 season, Mexico's production of 12 leading field crops increased some 661,380 tons over production in 1945-46. Harvests of maize, wheat, beans, rice, sugar, vegetable fats, linseed, cocoa, tomatoes, barley, fruits and coffee yielded approximately 6,364,500 in 1949-50, with a total value approximating \$527,700,000. Cotton production increased from 396,000 bales in 1945-46 to 913,000 bales in 1949-50.

Agricultural production for 1949-50 (in tons) included: maize 2,535,290; wheat 518,081; sugar 750,000; beans 231,483; chick peas 99,207; bananas 606,265; pineapples, fresh, exported 154,322 (a new record); coffee 72,751; henequen 113,537 (tons); barley 138,890; tobacco 27,557; rice 203,925; sesame 99,207; cotton 913,000 (bales); tomatoes 335,000; linseed 50,500; cottonseed 187,500; vanilla 220,460 (lbs.).

The estimated number of animals in 1949 included: cattle 14,500,000; sheep 5,100,000; goats 8,900,000; hogs 5,600,000; horses 2,511,175 (1940 census); mules 932,522 (1940); donkeys 2,341,539 (1940). (In 1948 it was estimated that the 1940 totals had increased by 25%.)

**Manufacturing.**—The total value of Mexican industrial production for 1949 was \$406,971,561 (with the following industries excepted, as unreported: alcohol; refined sugar; cabinetmaking; cookies, crackers, food

pastes; bricks, tile, etc.; floor and wall tiles; and working clothes).

During 1949, 305,561 U.S. tourists spent about \$135,000,000 in Mexico. Tourist revenue for 1950 was expected to total \$150,000,000. During the first eight months of 1950, 257,878 U.S. travellers entered the republic, as compared with 205,862 during the same period in 1949.

**Mineral Production.**—Total mineral and metal production (excluding petroleum) for 1949 was 763,098 tons with an estimated value of \$221,840,000. Production of the most important metals (in tons) was: lead 220,764; zinc 178,402; silver 1,538; copper 57,246; gold 12.6; antimony 5,753; manganese 23,771; graphite 23,812; iron 246,573; arsenic 3,576.

Mexico's petroleum industry produced 60,909,910 U.S. barrels in 1949, and authorities forecast a 72,000,000-bbl. production in 1950 for the greatest annual output since 1926. The year saw many significant developments in the industry, including purchase of \$1,000,000 worth of pipe from France to finish the Tehuantepec isthmus line; announcement by Petróleos Mexicanos (Pemex), official government agency which controls the industry in Mexico, of plans to drill 300 new wells annually with equipment purchased in France, west Germany and the United States; a record budget for Pemex of \$155,100,000 to enable the agency to undertake vast drilling and construction projects; announcement by Pemex of \$13,300,000 profits for 1949; an increase in the industry's output in 1950 to 250,000 bbl. per day against the former output of 185,000 bbl. per day, with goal of 350,000 bbl. per day by 1952; discovery in October of four important new petroleum areas in Veracruz and Tamaulipas; and announcements by Pemex of surveys indicating oil potential in Baja California.

In August, the new \$30,000,000 Salamanca refinery (capacity 30,000 bbl. per day) was dedicated.

**FILMS OF 1950.**—*Lund of Romance* (Paul Hoefer Productions); *Mexico—Ciudad Encantadora, Tierra Mexicana* (International Film Bureau). (C. D. HE.)

**Michigan.** One of the north central group of states of the U.S., Michigan was the 26th state admitted to the union; it is popularly known as the "Wolverine state." Land area: 58,216 sq.mi. (excluding 39,960 sq.mi. of Great Lakes water surface); pop. (1950 census): 6,371,766, a gain of 21.2% since 1940. Of the state's population in 1940, 65.7% was urban and 34.3% rural. Whites composed 95.9% of the population, nonwhites 4.1%. Capital: Lansing (pop. 91,964). Larger cities were (1950 preliminary census): Detroit (1,838,517); Grand Rapids (175,647); Flint (162,800); Dearborn (94,529); Saginaw (92,352).

**History.**—The legislature, called into special session by Gov. G. Mennen Williams on March 15, 1950, did not formally adjourn until Dec. 30. Having completed its most important item of business on May 20, that of making appropriations, the legislature, instead of following the usual procedure and setting the constitutional *sine die* adjournment date for June, left the final date open. The Republican leaders thus remained free, when the June 20 session came, to recess the legislature until later in the summer and to return any time they chose. There were, in fact, several meetings in August, September and November before it was decided, on Nov. 10, to remain in session until Dec. 30, with a full session slated for Dec. 4. Despite the extended length of the special session, little was accomplished except for the passage of appropriations measures.

Governor Williams expressed disapproval of the legislature for failing to act upon his recommendations for marketing aid to farmers, changes in the standards of unemployment compensation, a broader fair employment practices law, improvement of facilities in mental hospitals, tuberculosis hospitals and other state institutions, and better standards of support for the state university, Wayne university and the various state colleges.

The governor was particularly vigorous in his criticism of the legislature's budgetary policy. He had recommended a budget of \$340,000,000, but the legislature, following the unique procedure of combining all appropriations within a single measure, adopted a budget of \$271,300,000 for 1950-51. Approximately \$70,000,000 below the minimum set by the governor, the appropriation was also \$15,000,000 below the 1949-50 figure.

A referendum on article 1 of the Public acts of 1949, which would permit the manufacture and sale of yellow margarine in Michigan providing certain requirements were satisfied, was endorsed by a vote of 1,090,000 to 562,034.

In the November election for the governorship, Williams, who

#### Industrial Production of Mexico

Industry	Value of product, 1949	Industry	Value of product, 1949
Vegetable oils . . . . .	\$26,154,940	Cotton thread and cloth . .	\$91,157,420
Rubber goods . . . . .	23,639,410	Woolen thread and cloth . .	18,002,930
Drygoods . . . . .	7,619,664	Silk and rayon thread . . .	13,094,740
Shoes . . . . .	7,472,412	and cloth . . . . .	27,601,130
Cement . . . . .	15,485,090	Soap . . . . .	34,456,920
Matches . . . . .	5,114,943	Flour . . . . .	15,886,370
Beer . . . . .	39,050,520	Paper . . . . .	8,206,559
Cigarettes and cigars . . .	26,442,240	Glass . . . . .	
Canned goods . . . . .	7,195,643		
Iron and steel . . . . .	40,390,630	Total . . . . .	\$406,971,561



had won the Democratic nomination unopposed, had as his opponent Harry F. Kelly, who had served as governor from 1943 to 1946. The closeness of the contest led both parties to express a desire for a recount, which got under way on Dec. 2. Both parties set up elaborate machinery to safeguard their interests, and the many technical questions raised were hotly argued. From the outset, Williams' lead grew. On Dec. 13, when, with more than three-quarters of the state's precincts recounted, Williams' margin had risen to 4,243 votes, Kelly conceded defeat; further recounting was abandoned. The official figures gave Williams a margin of 1,154 votes.

For the other state offices the Republicans had made a clean sweep. The following were elected: William C. Vandenberg, lieutenant governor; Fred M. Alger, Jr., secretary of state; Frank G. Millard, attorney general; D. Hale Brake, state treasurer; and John B. Martin, Jr., auditor general.

**Education.**—In 1949-50 elementary school enrolment was 678,090 with 22,734 teachers; secondary school enrolment 363,490, with 14,388 teachers. There were 4,860 school districts. There were 52 institutions of collegiate rank, with a combined enrolment of 122,808 as of June 30, 1950. The state superintendent of public instruction in 1950 was Lee M. Thurston.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The various state institutions of correction and their populations as of June 30, 1950, were as follows: State Prison of Southern Michigan, 5,909; Michigan reformatory, 1,241; Marquette Branch prison, 880; Detroit House of Correction, 389 (male, 107; female, 282); Cassidy Lake Technical school, 172; wayward minor boys in custody, 14. Total expenditures of the department of correction amounted to \$6,883,082.06 (including \$234,649.53 for capital expenditures).

The department of social welfare reported that the old-age assistance case load increased steadily from 99,186 recipients in Jan. 1950 to 100,695 in Sept. 1950. Decreases of 1,352 cases in October and 992 in November were attributable chiefly to the fact that increased O.A.S.I. benefits became available through amendments, effective in October, to the federal Social Security act. Aid to dependent children reached a peak in May 1950, with a case load of 28,112 families. This case load decreased from June to December by an average of 220 families monthly. The case load under direct relief reached a post-World War II peak of 54,771 cases in March 1950; by November the number had fallen to 26,138.

As of June 30 there were 1,510 children who were wards of the state under the supervision of the Michigan Children's institute. As of the same date 48 blind persons were employed at the Michigan Employment Institution for the Blind. The Boys' Vocational school at the end of October was caring for 348 socially maladjusted boys; the Girls' Training school had an enrolment of 250 girls.

**Communications.**—During the 11 months from Jan. 1 to Nov. 30 the sum of \$26,533,600 was expended for road and bridge construction, exclusive of right of way. During the fiscal year July 1, 1949, to June 30, 1950, \$13,300,000 was spent for road maintenance and \$564,000 for bridge maintenance. During the first 11 months of 1950, 886,607 passengers were transported by ferry across the Straits of Mackinac, a decrease of 40,240 when compared with the same period in 1949.

**Banking and Finance.**—As of Oct. 4, 1950, 343 state banks had total assets of \$2,792,800,988.47; three industrial banks, \$10,540,398.08; seven trust companies, \$40,741,905.26. Total assets of 78 national banks in Michigan on June 30 were \$3,096,570,000. Sixty-nine building and loan and savings and loan associations (35 state-chartered, 34 federally chartered) with 82 offices in the state had total assets on June 30 of \$373,860,862.

**Agriculture.**—Michigan's 1950 production of field crops dropped below the high 1949 level, but continued to be well above average. Total production of the crops was higher, however, than for any other year since 1942. Potatoes continued the sharp upward trend of recent years, with a new record of 180 bu. per acre, to give the largest production since 1946. Fruit production amounted to 441,900 tons, 12% less than in 1949, but 26% above average. In the production of both sweet cherries and red tart cherries, new records were set.

Table I.—Leading Agricultural Products of Michigan

Crop	1950	1949	Average 1939-48
Corn, all, bu. . . . .	64,796,000	85,920,000	56,482,000
Winter wheat, bu. . . . .	29,666,000	35,019,000	21,544,000
Oats, bu. . . . .	58,460,000	56,700,000	51,134,000
Potatoes, bu. . . . .	17,460,000	17,160,000	18,136,000
Apples, commercial, bu. . . . .	7,020,000	11,735,000	6,776,000
Peaches, bu. . . . .	4,080,000	3,500,000	3,606,000
Barley, bu. . . . .	3,910,000	3,562,000	4,960,000
Beans, dry edible (100-lb. bags) . . . . .	3,990,000	5,709,000	4,405,000
Hay, tons . . . . .	3,794,000	3,362,000	3,779,000

**Manufacturing.**—Prosperity in manufacturing and business was enormously enhanced by the fact that the automotive industry—outstanding leader in Michigan—experienced the biggest year in its history. Production, retail deliveries and wages to employees reached levels more than 20% higher than those of 1949. Net earnings far exceeded any previous record. The year was also conspicuous in the number of worker-pension and other welfare measures taken by the industry. In general, the industrialization of Michigan went on apace. Through the agency of the state's economic development department, 14 new industries were brought into the state during the year. Sales tax collections for 1950 exceeded \$221,000,000,

an all-time record. By the end of the year the four largest automotive manufacturers and many other industrial plants were devoting a considerable fraction of their efforts to defense contracts.

**Mineral Products.**—Production figures (preliminary) for 1948 and 1949 are shown in Table II.

Table II.—Mineral Products of Michigan

	1949		1948	
	Quantity	Value	Quantity	Value
Iron ore, long tons . . . . .	10,737,137	\$57,722,248	12,896,478	\$53,246,591
Petroleum, bbl. . . . .	16,517,333	45,610,021	16,870,000	47,860,000
Cement, bbl. . . . .	12,747,791	28,823,055	11,116,911	23,533,001
Salt, short tons . . . . .	4,064,106	16,009,117	4,387,879	16,265,743
Stone, short tons . . . . .	16,546,670	13,387,334	19,704,150	14,620,527
Sand and gravel, short tons . . . . .	20,475,996	13,992,903	20,671,078	14,071,712
Copper, lb. . . . .	38,498,167	7,380,099	55,554,000	12,055,218
Bromine, lb. . . . .	28,034,765	7,023,211	17,666,243	5,435,940

(L. G. V. V.)

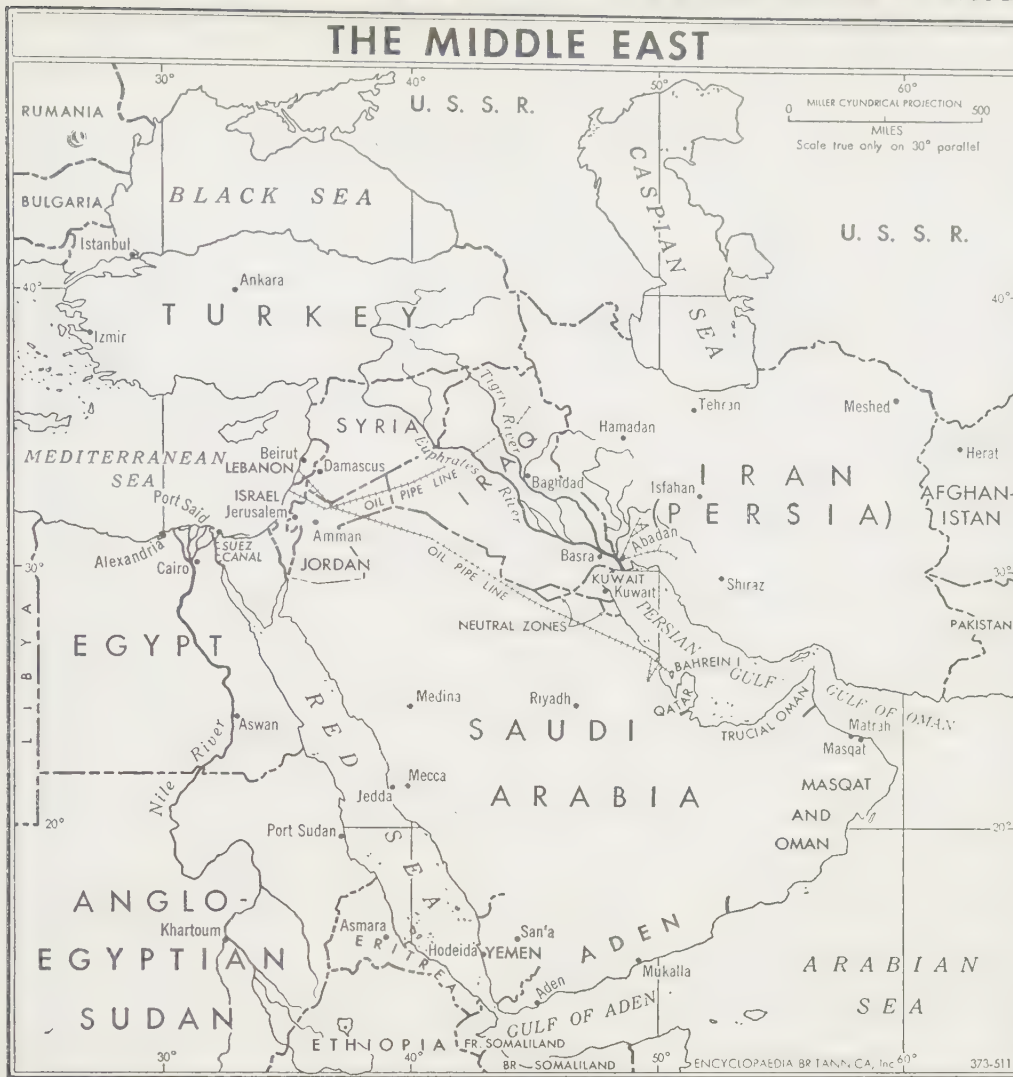
## Middle Eastern Unity.

In the two world wars of the 20th century the middle eastern region, stretching roughly from the western borders of Egypt to the western borders of India and from the Black and Caspian seas in the north to the Arabian sea and the Indian ocean in the south, played an important role. Its strategic importance rests upon the fact that it is the junction of the three continents of the old world and of its intercontinental land, sea and air routes. The road from Egypt to India was the road which all the great world conquerors coveted, after Alexander the Great set the example. Napoleon, Hitler and Mussolini attempted to follow him; these attempts at intercontinental control were in each case thwarted by the successful British defense of the strategically important middle east. Russia has during the last 200 years viewed the middle east as its potentially first and most important field of expansion, and in recent years the Soviet Union has intensified this drive. The strategic value of the middle east has been enhanced in recent decades by the discovery and exploitation of vast oil deposits in that region, which are regarded by many experts as the richest oil deposits in the world.

The growing international tension after 1946 increased the importance of the middle east for the defense of the free world. It is significant that the doctrine of aid to any country striving to maintain its freedom against aggression, as formulated by Pres. Harry S. Truman on March 12, 1947, was applied first in Greece and Turkey. With the growth of Communist unrest and success in the far east and with the plans for an integrated defense force for western Europe, the in-between area of the middle east gained in importance in 1950. But the middle eastern countries by themselves were much too weak and in many cases too backward economically to withstand aggression. They could hope to maintain their freedom only in close co-operation. For that reason several suggestions and efforts were made in 1950 to integrate the middle eastern countries. Two of them, Turkey and Greece, were invited to associate themselves with the appropriate phase of the planning work of the North Atlantic treaty organization with regard to the defense of the Mediterranean. Both governments accepted this role of consultant to the North Atlantic organization. But for geographic reasons their inclusion into a regional arrangement centring around the North Atlantic seemed impractical. The middle east had to develop its own regional arrangements. Such a process presented great difficulties; even its beginning was hindered by jealousies and hostilities among these countries, especially the deep-seated antagonism between the Arab nations and Israel; on the other hand the Islamic faith, to which most of the middle eastern peoples adhere, was a possible integrating factor.

A nucleus of such a middle eastern integration could be found in the Arab league, a regional organization of seven nations (Egypt, Jordan, Lebanon, Syria, Iraq, Saudi Arabia and Yemen) bound by historical, geographical, political and cultural ties. The legal committee of the United Nations general assembly voted on Oct. 5, 1950, to extend a permanent invitation to the secretary-general of the Arab league to attend assembly





from Pakistan, the most populous Islamic country. Though the Mohammedan far eastern nation of Indonesia was represented, the conference was composed on the whole of middle eastern countries, Afghanistan, Egypt, Iran, Iraq, Jordan, Lebanon, Pakistan, Saudi Arabia, Syria and Turkey. Its discussions expressed the wish that the United Nations should establish an economic commission for the middle east to help in the modernization and intensification of the agriculture of that region.

But these conferences were only a first and very modest beginning on the road toward integration. One of the obstacles to its growth was the fact that some Arab leaders, especially in Egypt, envisaged rather the creation of an Arab nation or a federation of Arabic-speaking peoples which would reach from Morocco on the Atlantic ocean to the western frontiers of Iran. The secretary of the Arab league, Abdul Rahman Azzam Pasha, inclined to this school of thought. The creation of an independent new state of Libya by decision of the United Nations strengthened this trend, for Libya was expected to join the Arab

sessions as an observer. The roll call ballot showed 43 votes in favour, 1 against and 7 abstentions. Six members of the Arab league were also members of the United Nations. With other Asiatic nations they took a leading part in Dec. 1950 in trying to arrange for a truce in Korea. In general, however, the Arab league saw its main task in safeguarding the interests of the Palestinian Arabs. It demanded, basing the request upon the resolution of the United Nations general assembly of Dec. 1948, the return of the Arab refugees to their Palestinian homes and payment of the indemnity owing to these refugees. The Arab league was, however, trying to expand its field of activities, though yet with little success. A cultural conference of the Arab league which met at Alexandria, Egypt, at the end of August, called in a resolution for the substitution of classic Arabic for the colloquial dialects used in the everyday life of the various Arab nations. This written classic language presented a vital bond of unity among the Arab nations and even among all the Islamic peoples.

The Arab league is, however, only a regional organization in the middle east, not the broader regional organization which would have to embrace, in addition to the Arab lands, Turkey, Iran, Pakistan, Israel and other countries. At the Arab cultural conference in Alexandria, there were represented also the two small Arab countries of Kuwait and Bahrein which do not belong to the Arab league. Of much broader scope was the Moslem economic conference which met in Tehran, Iran, in Oct. 1950, following another similar conference in Karachi, Pakistan, in Nov. 1949. The initiative for these conferences came

league, to sign its collective security pact and thus to prepare for the emergence of an African-middle eastern Arab commonwealth. On the other hand, the real strength in the middle eastern region and in Islam lay with Pakistan and Turkey. A close co-operation of all middle eastern nations would be necessary not only for their mutual defense against aggression but also for the strengthening of their economic and social structure.

An event of major importance not only for the middle east but for western Europe was the opening on Dec. 2, 1950, of the 753-mi. oil pipe line from Saudi Arabia to Sidon in Lebanon. This trans-Arabian pipe line was built by the Arabian American Oil company (Aramco) over a period of almost three years. It connected the oil fields of northeastern Saudi Arabia with the Lebanese port on the Mediterranean. A branch line led to Ras Tanura, a port on the Persian gulf. This new pipe line was not only of great strategic importance for the Mediterranean and western European area but it was also expected to accelerate the economic growth of Lebanon and other Arab states. (See also FAR EASTERN UNITY; EUROPEAN UNION; NORTH ATLANTIC COMMUNITY; also articles on the various middle eastern countries.)

(H. Ko.)

**Milbank Memorial Fund:** see SOCIETIES AND ASSOCIATIONS.  
**Milk:** see DAIRY PRODUCTS.

## Mineral and Metal Production and Prices.

In Table I there has been compiled as much world production



Table I.—World Mineral and Metal Production in 1949

(Metric tons unless otherwise specified: Th. indicates thousands and Mi. millions of units.)

Country	Aluminum (Th.)	Antimony	Asbestos (Th.)	Bauxite (Th.)	Cadmium	Chromite (Th.)	Coal (Mi.)	Coke (Mi.)	Copper in Ore (Th.)	Copper (Smelter) (Th.)	Diamonds (Th. carats)	Gold (Th. oz.)	Iron Ore (Th.)	Pig Iron (Th.)	Steel (Th.)	Lead in Ore (Th.)	Lead (Smelter) (Th.)
Algeria	—	1,288	p	—	—	0.26	—	—	—	—	770	—	2,539	—	—	1.1	—
Angola	—	174 <sup>a</sup>	—	5.7 <sup>b</sup>	210.	p	19.21	1.347	12.5	10.2	—	897	2,077 <sup>b</sup>	1,058	1,188	203.4	185.3
Australia	—	—	0.4 <sup>b</sup>	—	27.0	—	0.12 <sup>b</sup>	—	141.4	141.4	9,650	334	—	—	—	p	—
Belgian Congo	—	—	—	—	157.9 <sup>b</sup>	—	27.85	3.47	—	133.4	—	42	3,743	3,818	—	—	79.3
Belgium	—	—	—	—	—	—	—	—	5.1	—	—	32	—	—	—	—	26.4
Bolivia	—	9,453	0.1 <sup>b</sup>	—	—	—	2.14	0.27 <sup>b</sup>	—	—	250	184	1,441 <sup>b</sup>	508	605	—	—
Brazil	—	110 <sup>a</sup>	3.57	20.2	—	1.6 <sup>b</sup>	—	—	—	—	—	p	p	p	—	2.3	—
Burma	—	64	521.5	—	383.2	0.2	17.33	3.04	239.1	206.4	—	4,104	3,424	2,146	2,891	165.4	132.6
Canada	332.8	—	0.2 <sup>b</sup>	—	—	—	1.80	—	367.0	351.3	—	179	2,597	14 <sup>b</sup>	32	—	0.7
Chile	—	—	—	—	—	—	—	—	0.5 <sup>b</sup>	0.5 <sup>b</sup>	—	p	246 <sup>b</sup>	172	100	—	0.8 <sup>b</sup>
China	—	3,251 <sup>a</sup>	—	—	—	—	16	0.09 <sup>b</sup>	—	—	—	359	—	—	—	—	—
Colombia	—	—	—	—	—	0.9 <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—
Czechoslovakia	—	1,600 <sup>b</sup>	—	—	—	43.53	6.59	—	—	—	—	—	1,400	1,875	2,903	2.2 <sup>b</sup>	5.8 <sup>b</sup>
France	59	2007	0.97	—	50.1 <sup>a</sup>	—	53.04	6.77	0.47	—	47	31,424	8,355	9,108	9,156	10.0	54.5
Germany	24.0	—	—	p	5.0	—	298	23.54	0.9	145.6	—	9,112	7,659	—	—	40.9	99.4
Gold Coast	—	—	—	134.	—	—	—	—	—	—	433	658	—	—	—	—	—
Greece	—	—	—	48.9	—	3.4	0.13 <sup>b</sup>	—	—	—	—	p	—	—	—	2.1	1.7
Guiana, Brit.	—	—	—	1,785.9	—	—	—	—	—	—	35	19	—	—	—	—	—
Guiana, Neth.	—	—	—	2,126.7	—	—	—	—	—	—	—	4	—	—	—	p	p
Hungary	8.2	—	—	600.	—	—	—	—	p	—	—	—	293	428	890	—	—
India	3.5	—	—	21.0 <sup>b</sup>	—	22.9 <sup>b</sup>	31.76	1.67 <sup>b</sup>	6.3	6.7	—	161	2,321 <sup>b</sup>	1,597	1,264	—	0.6
Indochina	—	—	—	—	—	—	0.39	—	—	—	—	p	p	p	—	—	—
Indonesia	—	—	—	678.1	—	—	—	—	—	—	—	—	521	445	2,055	35.0	26.3
Italy	25.6	330	15	104.9	57.0	—	1.93	1.36	p	p	—	18 <sup>b</sup>	780	1,602	3,111	9.1	12.6
Japan	21.2	158	5.5	—	18.9 <sup>b</sup>	9.3 <sup>b</sup>	40.06	2.58	32.7	74.0	—	85	4,137	2,372	2,272	—	—
Luxembourg	—	—	—	—	—	—	—	—	—	—	—	9	—	—	—	—	—
Malaya	—	—	—	—	—	—	0.39	—	—	—	—	14	—	—	—	—	—
Manchuria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mexico	—	5,293	—	p	—	—	1.03	0.37	57.2	49.4	—	406	363	356	358	220.8	212.0
Morocco, Fr.	—	600	0.4	—	—	—	0.35	—	0.4	—	—	p	357	—	—	37.5	—
New Caledonia	—	—	—	—	—	75	—	—	—	—	—	—	—	—	—	—	—
Norway	35.0	—	—	—	69.0 <sup>b</sup>	—	—	—	4.6	9.0	—	—	376	230	72	0.3	p
Peru	—	750	—	—	0.8	—	0.20	1.76 <sup>b</sup>	28.4	21.1	—	138	—	—	—	49.3	36.0
Philippines	—	—	—	—	—	246.7	0.12	—	7.0	—	—	288	370	1,133 <sup>b</sup>	2,297	—	17.0
Poland	—	—	—	—	115.0 <sup>b</sup>	74.49	—	—	—	—	—	—	677	—	—	—	—
Portugal	—	38 <sup>b</sup>	p	—	—	0.57	0.56	—	—	—	—	12 <sup>b</sup>	—	—	—	—	—
Rhodesia, No.	—	—	—	—	—	—	—	—	259.1	263.5	—	—	—	—	—	14.2	14.2
Rhodesia, So.	—	34	72.2	—	—	243.5	1.92	0.08 <sup>b</sup>	—	—	—	528	51	—	—	0.1	—
Sierra Leone	—	—	—	—	—	7.9 <sup>b</sup>	—	—	—	—	494	2	968 <sup>b</sup>	—	—	—	—
South Africa	—	—	6	—	—	327.0	25.01	0.247	30.2	29.7	1,254	11,705	1,248	708	632	p	—
So. West Africa	—	4,100	—	—	p	—	—	—	9.6	—	280	p	—	—	—	32.0	—
Spain	0.5 <sup>b</sup>	150	—	10.3	—	—	11.96	0.97	6.7	9.0	—	30	1,811	632	649	29.5	27.4
Sweden	4.0	—	—	—	—	—	0.31	0.08	16.3	14.4	—	80	14,000	801	1,366	23.9	10.8
Thailand (Siam)	—	213	—	—	—	—	0.05	—	—	—	—	—	712	—	—	15.0	19.5
Tunisia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Turkey	—	420	0.2	—	—	434.1	3.63	0.23	13.1	11.3	—	—	216	113	118	0.2	—
United Kingdom	30.8	—	—	—	102.7	—	217.16	15.74	—	—	—	—	13,620	9,653	15,802	2.1	2.1
United States	547.4	1,365	39.4	1,167.2	3,798.6	0.4	433.33	57.73	682.9	779.8	—	1,922	86,301	49,775	70,740	371.9	431.7
U.S.S.R.	140 <sup>b</sup>	—	0.2	500	p	350.	226	24	200	200	—	7,000	24,000	15,000	21,600	90	90
Venezuela	—	—	—	—	—	10.6 <sup>b</sup>	12.90	—	—	—	56	61	—	—	—	—	—
Yugoslavia	2.9 <sup>b</sup>	—	—	p	—	—	—	—	34	34	—	—	—	225	390	36.3	—
World Total	1,308	34,000	895	8,264	5,080	1,859	1,632	163.98	2,235	2,403	13,635	30,600	218,000	115,000	157,000	1,446	1,563

Country	Magnesian (Th.) <sup>a</sup>	Manganese ore (Th.)	Mercury (flasks)	Nickel (Th.)	Petroleum (Mi. bbl.)	Phosphate (Th.)	Platinum (Th. oz.)	Potash (Th.) <sup>†</sup>	Pyrite (Th.)	Salt (Th.)	Silver (Th. oz.)	Sulphur (Th.) <sup>‡</sup>	Tin in Ore (Long tons)	Tin (Long tons)	Tungsten conc. %	Zinc in Ore (Th.)	Zinc (Smelter) (Th.)
Algeria	—	—	102	—	—	645.9	—	—	32.4	13.0 <sup>a</sup>	247	—	—	—	—	6.4	—
Angola	—	p	—	—	—	—	—	—	—	53.4 <sup>b</sup>	—	—	—	—	—	—	—
Australia	33.0	4.0	—	—	p	2.2 <sup>b</sup>	0.1	0.7 <sup>b</sup>	49	264.2	9,849	—	1,973	1,955	1,227 <sup>b</sup>	153.0	82.3
Belgian Congo	—	16.3	—	—	—	—	0.2	—	—	1	4,549	—	13,900	3,247	236 <sup>b</sup>	51.1	—
Belgium	—	—	—	—	—	44.6	—	—	—	—	—	—	—	8,996	—	—	176.6
Bolivia	—	—	—	—	0.68	—	—	—	—	—	6,635	4.4	34,115	402	2,543	14.2	—
Brazil	43.1	141.3 <sup>b</sup>	—	—	0.11	4.6	—	—	3.6 <sup>b</sup>	781.4 <sup>b</sup>	21	—	325	325	576	—	—
Burma	—	p	—	—	0.32	—	—	—	—	p	450 <sup>b</sup>	—	1,781	—	1,824 <sup>b</sup>	—	—
Canada	—	p	—	—	22.22	p	151.3	—	227.0	672.5	16,938	—	276	276	791 <sup>b</sup>	263.7	187.6
Chile	—	20.5 <sup>b</sup>	467 <sup>b</sup>	116.4	—	59.5 <sup>b</sup>	—	—	—	78.0 <sup>b</sup>	800	13.3 <sup>b</sup>	—	—	—	—	—
China	—	22.8	290 <sup>b</sup>	—	0.73	—	—	p	42.9 <sup>b</sup>	2,000	p	—	4,200	4,200	12,200 <sup>b</sup>	—	p
Colombia	—	—	—	—	24.72	—	40.0 <sup>b</sup>	—	—	124.1 <sup>b</sup>	107	—	—	—	—	—	—
Czechoslovakia	p	—	800 <sup>b</sup>	—	—	—	—	—	—	9.2 <sup>b</sup>	1,600 <sup>b</sup>	—	—	—	—	—	—
France	—	—	—	—	0.41	104.1 <sup>b</sup>	—	900	179.0 <sup>b</sup>	2,615.67	395	13.8 <sup>b</sup>	73	—	—	9.9	2.07
Germany	11.3	33.6 <sup>b</sup>	—	—	5.95	0.5 <sup>b</sup>	—	1,280	430.5	1,966	1,602	—	120	120	563 <sup>b</sup>	52.0	86.9
Gold Coast	—	640.1 <sup>b</sup>	—	—	—	—	—	—	—	—	39	—	—	—	—	—	—
Greece	25.3	1.2	—	—	—	—	—	—	15.8	52.2 <sup>b</sup>	p	p	—	—	—	1.7	—
Guiana, Brit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Guiana, Neth.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hungary	—	40 <sup>b</sup>	—	—	3.79	—	—	—	—	15 <sup>b</sup>	—	—	—	—	—	—	—
India	45	551.8	—	—	1.89	1.1	—	p	—	2,600	13 <sup>b</sup>	—	—	—	—	—	—
Indochina	—	—	—	—	—	—	—	—	—	64 <sup>b</sup>	—	—	60	60	—	—	—
Indonesia	—	—	—	—	44.93	—	—	—	—	130 <sup>b</sup>	—	—	28,965	—	—	—	—
Italy	0.5	24.2	44,000	—	0.07	—	—	—	866.2	580	794	187	189	479	9 <sup>b</sup>	61.7	26.6
Japan	—	92.9	2,461	—	1.35	0.7	—	3.5	1,535.1	395.7	2,887	61.5	—	—	—	39.9	32.3
Luxembourg	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaya	—	—	—	—	—	—	—	—	—	—	—	—	54,910	62,737	87 <sup>b</sup>	—	—
Manchuria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mexico	—	54.7	5,250	—	60.91	—	—	—	—	156.7 <sup>b</sup>	49,448	2.1 <sup>b</sup>	358	358	168 <sup>b</sup>	172.3	53.5
Morocco, Fr.	—	233.8	—	—	0.14	3,693.0	—	—	0.2	44.6	3577	—	—	—	—	2.6	—
New Caledonia	—	—	—	3.4	—	—	—	—	—	—	—	—	—	—	—	—	—
Norway	1.7 <sup>b</sup>	—	—	—	—	—	—	—	745.4	—	145	—	—	—	—	6.3	41.0
Peru	—	—	—	—	14.79	—	—	—	—	60	10,628	0.3	44	250	—	64	



Table II.—Mineral and Metal Prices in 1950

New York market as reported by E. & M. J. Metal and Mineral Markets				London market as reported by the Metal Bulletin															
Jan. 3		Dec. 30		Grade		Units		Commodity		Grade		Units		Jan. 3			Dec. 15		
														£			£		
														s.			s.		
														d.			d.		
17.00	19.00	99% ingot	Pound	Aluminum	98-99%	Long ton	112	..	..	120	..	..	..	..	..	..	..	..	
\$ 2.55	\$ 4.55	50-55% Sb	S.T. unit	Antimony, Ore	50-55% Sb	Unit	..	21	6	..	..	..	..	..	..	..	..	..	
35.28	35.28	Domestic, cased	Pound	Antimony	Domestic, 99%	Long ton	185	..	..	250	..	..	..	..	..	..	..	..	
5.5	6.5	White oxide	"	Arsenic	Foreign, 99%	"	39	15	..	45	15	..	..	..	..	..	..	..	
\$ 24.50(a)	\$ 1.56	4% Be	"	Beryllium-copper alloy	(a, d)	Pound	8	10	..	14	10	..	..	..	..	..	..	..	
\$ 2.00	\$ 2.25	Ton lots	"	Bismuth	"	"	..	14	6	..	17	..	..	..	..	..	..	..	
\$ 2.00	\$ 2.55	Commercial sticks	"	Cadmium	"	"	..	14	6	..	18	..	..	..	..	..	..	..	
\$ 37.50	\$ 37.00	48% Cr <sub>2</sub> O <sub>3</sub> , 3 Cr:1 Fe	Short ton	Chromium, Ore	Rhodesian, 1st grade	Long ton	10	4	6	10	11	11½	..	..	..	..	..	..	
\$ 1.12	\$ 1.12	97%, spot	Pound	Metal	98-99%	Pound	..	5	1	..	5	3	..	..	..	..	..	..	
\$ 19.55	\$ 21.75	4-9% C, 65-69 Cr (a)	"	Ferroalloy	4-8% C, 60% Cr	Long ton	60	..	..	60	..	..	..	..	..	..	..	..	
\$ 1.80	\$ 2.10	97-99% Co	"	Cobalt	"	Pound	..	13	6	..	15	6	..	..	..	..	..	..	
\$ 18.20	\$ 24.20	Domestic	"	Copper	"	Long ton	152	10	..	201	10	..	..	..	..	..	..	..	
\$ 18.425	\$ 24.425	Export	"	Gold	"	Official	153	..	..	202	..	..	..	..	..	..	..	..	
\$ 35.00	\$ 35.00	99.9% In	Ounce	Indium	"	Ounce	..	248	..	248	..	..	..	..	..	..	..	..	
\$ 2.25	\$ 2.25	Sponge, powder	"	Iridium	"	"	..	13	..	..	12	..	..	..	..	..	..	..	
\$102.50	\$200.00	Mesabi, nonbessemer	Long ton	Iron Ore	"	"	35	(e)	..	(e)	..	..	..	..	..	..	..	..	
\$ 7.20	\$ 8.30	80% Joplin, Mo.	Short ton	Lead, Ore	"	"	..	(e)	..	(e)	..	..	..	..	..	..	..	..	
\$147.67	\$218.42	New York	Pound	Metal	Foreign, soft	Long ton	97	..	..	136	..	..	..	..	..	..	..	..	
12.00	17.00	99.8% car lots	"	Magnesium, Ingots	"	Pound	..	1	2	..	2	1	..	..	..	..	..	..	
20.50	24.50	48% Atlantic ports	L.T. unit	Sticks	"	"	..	1	6	..	7	..	..	..	..	..	..	..	
27.50	32.50	96% Mn, 2% Fe	Pound	Manganese, Ore	48-50% Mn	Unit	..	..	35	..	46½	..	..	..	..	..	..	..	
82.80	94.00	78-82%	Long ton	Metal	96-98% Mn	Pound	..	1	5½	..	1	7½	..	..	..	..	..	..	
35.5	35.5	19-21% Mn	"	Ferroalloy	78% Mn, 1% C	Long ton	86	..	..	90	..	..	..	..	..	..	..	..	
\$172.00	\$185.00	.. (76 lb.)	Flask	Spiegel	20% Mn	Long ton	17	8	..	17	16	..	..	..	..	..	..	..	
\$ 65.00	\$ 75.00	90% MoS <sub>2</sub>	Pound	Mercury	..	Unit	26	5	..	36	17	10	..	..	..	..	..	..	
\$ 72.00	\$151.50	99% Mo	"	Molybdenum, Ore	85% MoS <sub>2</sub>	Unit	..	88	6	..	90	16½	..	..	..	..	..	..	
54.0	60	55-65% Mo	"	Metal	..	Pound	..	32	6	..	32	6	..	..	..	..	..	..	
\$ 2.80	\$ 3.00	Cathodes	"	Nickel	70-75% Mo	"	..	8	6	..	8	6	..	..	..	..	..	..	
\$ 1.13	\$ 1.32	.. (a)	Ounce	Palladium	Refined	Long ton	321	10	..	406	..	..	..	..	..	..	..	..	
40.00	50.50	24% P	Long ton	Phosphorus, Ferro-	..	Ounce	8	10	..	8	10	..	..	..	..	..	..	..	
\$ 24.00	\$ 24.00	Wholesale	Ounce	Platinum	20-25% P	Long ton	23	12	6	24	2	6	..	..	..	..	..	..	
\$ 75.00	\$ 75.00	99.5%	Pound	Rhodium	..	Ounce	24	..	..	30	2	6	..	..	..	..	..	..	
\$ 69.00	\$ 90.00	97-1% Si, spot	"	Selenium	..	"	40	..	..	42	5	..	..	..	..	..	..	..	
\$125.00	\$125.00	50% Si	"	Silicon	..	Pound	..	14	4	..	23	3	..	..	..	..	..	..	
\$ 2.00	\$ 3.25	75% Si	"	Ferroalloy	98% Si	Long ton	120	..	..	120	..	..	..	..	..	..	..	..	
19.00	20.00	Foreign, New York	Ounce	Silver	45% Si	"	32	10	..	33	15	..	..	..	..	..	..	..	
11.3	12.00	60% Ta <sub>2</sub> O <sub>5</sub>	Pound	Tantalum, Ore	75% Si	"	49	..	..	49	..	..	..	..	..	..	..	..	
13.5	14.3	Sheet	Kilo	Tellurium	Official, spot	Ounce	..	..	64	..	70	..	..	..	..	..	..	..	
\$ 73.25	\$ 80.00	20-25% Ti	Pound	Tin	60-65% Ta <sub>2</sub> O <sub>5</sub>	Unit	11	..	..	13	..	..	..	..	..	..	..	..	
\$ 2.25	\$ 2.25	50-59% TiO <sub>2</sub>	Pound	Titanium, Ferroalloy	..	Pound	..	(e)	..	(e)	..	..	..	..	..	..	..	..	
\$143.00	\$143.00	94% TiO <sub>2</sub>	Long ton	"	..	Pound	..	12	6	..	14	4	..	..	..	..	..	..	
\$ 1.75	\$ 1.75	Domestic	S.T. unit	Tungsten, Ore	65%	Long ton	600	10	..	1,197	10	..	..	..	..	..	..	..	
\$ 77.5	\$ 1.51	Chinese	"	Ferroalloy	20-25% Ti	"	100	..	..	100	..	..	..	..	..	..	..	..	
\$ 1.40	\$ 1.40	75-80% W	Pound	Powder	50-52% TiO <sub>2</sub> , Malayan	Long ton	7	10	..	6	10	..	..	..	..	..	..	..	
\$ 15.00	\$ 15.00	98.8% W	"	Vanadium, Ore	95% TiO <sub>2</sub> , Australian	"	23	15	..	23	15	..	..	..	..	..	..	..	
\$ 4.5	\$ 4.0	.. (a)	"	Zinc, Ore	..	Unit	..	92	6	..	355	..	..	..	..	..	..	..	
\$ 28.50	\$ 56.50	.. (c)	"	Metal	80-85% W	Pound	..	6	6	..	22	..	..	..	..	..	..	..	
\$ 17.75	\$ 59.00	.. (a)	"	..	98-99% W	Pound	..	7	6	..	21	6	..	..	..	..	..	..	
\$ 2.30	\$ 3.25	.. (c)	"	..	18-20% V <sub>2</sub> O <sub>5</sub>	Unit	..	80	..	..	80	..	..	..	..	..	..	..	
\$ 2.90	\$ 4.15	60% Joplin, Mo.	Short ton	..	35-60% V	Pound	..	15	..	..	15	..	..	..	..	..	..	..	
\$ 27.50	\$ 27.50	St. Louis	Pound	..	52% R/C	Long ton	..	nom.	..	nom.	..	..	..	..	..	..	..	..	
\$ 3.00	\$ 3.25	..	"	..	G.O.B., foreign	"	85	10	..	151	..	..	..	..	..	..	..	..	
\$ 57.00	\$115.00	..	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
\$ 9.785	\$17.50	..	"	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	

(a) Per pound of base metal contained. (b) Per pound of MoS<sub>2</sub> contained. (c) Per pound of V<sub>2</sub>O<sub>5</sub> contained. (d) Plus 1s. 7d. per pound of alloy in January and 2s. 3d. in December. (e) Not quoted.

data as can be included in one page. Many of the less important products and many of the smaller producers cannot be included for lack of space, but the coverage is sufficiently comprehensive to indicate the general distribution and the relative importance of the producing countries.

Table II is a compilation of the prices for the leading minerals and metals as quoted on the New York and London markets at the opening and closing of the year 1950. After Feb. 1949, when production began to catch up with the post-World War II demand, the prices of many mineral commodities dropped sharply, especially the major nonferrous metals. While there was some recovery in the third quarter of 1949, another decline followed in the fourth quarter and extended into 1950. As a result, in March 1950 the *Engineering and Mining Journal* composite price index for nonferrous metals stood at 132.60, as compared with a peak of 185.75 in Feb. 1949. Except for 131.20 in June 1949, this was the lowest figure since the advances that followed the abandonment of price controls in 1946. The military operations in Korea followed shortly, and the demand incident to defense rearmament brought a prompt reaction on prices, raising the index to a new record high of 186.00 in November, with prices still advancing.

(See also the articles on the various minerals and metals.)

(G. A. Ro.)

## Mineralogy.

A new lead-copper mineral from the Mammoth mine, Arizona, was described by J. J. Fahey, E. B. Daggett and S. G. Gordon (*American Mineralogist*, 35:93-98). The name *wherryite* was assigned to this new mineral in

honour of Edgar T. Wherry, professor of plant ecology at the University of Pennsylvania, Philadelphia, and first editor of the *American Mineralogist*. M. A. Peacock and John McAndrew reported on the new natural nickel-lead sulphide, Ni<sub>3</sub>Pb<sub>2</sub>S<sub>2</sub>, from Trial Harbour, Tasmania (*ibid.*, 35:425-439). This mineral was sent to them by P. Ramdohr, who named it *shandite* after S. J. Shand, Scottish petrologist, who was for a period professor at Columbia university.

C. B. Slawson discussed "Twinning in the Diamond," much of which is of a multiple character (*ibid.*, 35:193-206), and C. B. Slawson and J. A. Kohn described the "Maximum Hardness Vectors in the Diamond" (*Industrial Diamond Review*, 10:168-172). "The Mining and Heat Treatment of Zircons" was reported by W. C. Buckingham (*Journal of Gemmology*, vol. ii, pp. 177-187). In an extended article R. Keith Mitchell discussed the "Cleavage and Structure of Gem Minerals" (*ibid.*, vol. ii, pp. 237-274). The "Diagnostic Importance of Inclusions in Gem Stones" by Edward Gübelin, with 48 illustrations, was a valuable contribution (*ibid.*, vol. ii, pp. 281-303). "Exploring the World of Gems" by W. F. Foshag (*National Geographic Magazine*, vol. xcvi, pp. 779-810), with 34 illustrations, 24 in natural colours, was of great popular interest.

A *Roman Book on Precious Stones* by S. H. Ball became available during the year. The book is based upon an English modernization of Pliny's 37th book of the *History of the World*, which is a treatise on gems. The life of Pliny, his standing as a mineralogist and the status of gemmology and jewellery in his time are discussed by Ball. A section of the book contains



Ball's extensive notes which explain, amplify or correct many of Pliny's statements and illusions. The famous translation of Georg Agricola's *De re metallica* (1556) by former Pres. Herbert C. Hoover and Lou H. Hoover, which was published in 1912 and had long been out of print, was issued in a new edition. This is a valuable history of the scientific development up to the middle 16th century and serves as a source book in mineralogy, geology and mining and mechanical engineering. E. E. Wahlstrom's *Introduction to Theoretical Igneous Petrology* stresses the application of physical chemistry to rocks. *Einfuehrungen in die Mineralogie (Kristallographie und Petrologie)* by C. W. Correns (Berlin) is designed primarily for advanced students and specialists. Paul Ramdohr's *Die Erzminerale und Ihre Verwachsungen* (Berlin) is a comprehensive treatise on ore minerals. It contains a wealth of information concerning their properties, occurrence and methods used for their determination.

The Sept.-Oct. 1950 number of the *American Mineralogist*, pp. 615-958, was dedicated to Esper S. Larsen, Jr. A copy was presented to him at the annual meeting of the Mineralogical Society of America in Washington, D.C., on Nov. 16, 1950, in advance of official publication. Larsen was professor of petrology at Harvard university from 1923 until his retirement in 1949. Thirty-eight friends and former students contributed articles, which included an appreciation of the work and influence of Larsen and 31 scientific papers dealing with various phases of mineralogy and petrography. There was also a bibliography of 106 papers by Larsen.

The recipient in 1950 of the Washington A. Roebling medal of the Mineralogical Society of America was Norman L. Bowen of the Geophysical laboratory of the Carnegie institution, Washington, D.C., an authority on the application of physical chemical methods and theory to the study of mineral and igneous rocks. (See also CHEMISTRY; MINERAL AND METAL PRODUCTION AND PRICES.) (E. H. KR.)

**Mining:** see MINERAL AND METAL PRODUCTION AND PRICES. See also under various minerals.

**Minnesota.** The most northern state of the United States, popularly known as the "Gopher" or "North Star" state, Minnesota is 84,068 sq.mi. in area including 4,059 sq.mi. of water. The population total on April 1, 1950, as determined by the U.S. bureau of the census, was 2,982,483, an increase of 6.8% over the 1940 population of 2,792,300. The preliminary 1950 population figures for principal cities include: St. Paul, the capital (309,474); Minneapolis (517,277); Duluth (104,066); Rochester (29,634); St. Cloud (28,375); and Winona (25,965). The 1950 population was comprised of 89% native-born whites, 10% foreign-born whites and 1% Negroes and other races.

**History.**—During 1950, the Minnesota Efficiency in Government commission, known as the "Little Hoover" commission and patterned after the Hoover commission of the federal government, completed a report and recommendations on efficiency in state government departments and agencies. This report and recommendations were to be presented to the 57th session of the Minnesota legislature early in 1951.

The Nov. 1950 election of principal state officers resulted in the following vote for each candidate: governor, Luther W. Youngdahl 635,800 votes, Harry H. Peterson 400,637 votes and Vernon G. Campbell 10,195 votes; lieutenant governor, C. Elmer Anderson 588,777 votes, Frank Murphy 401,148 votes and Susie W. Stageberg 19,043 votes; secretary of state, Mike Holm 686,364 votes and Mrs. A. J. McGuire 344,173 votes; state auditor, Stafford King 627,754 votes and Elmer A. Borgschatz 371,665 votes; state treasurer, Valdimar Bjornson 542,019 votes and

Paul A. Rasmussen 444,548 votes; attorney general, J. A. A. Burnquist 575,736 votes and Orville L. Freeman 429,320 votes.

**Education.**—Minnesota public school districts spent about \$121,586,460 for education during 1949-50. For that year, \$47,966,510 was available from state funds derived from the revenue of trust funds and earmarked taxes. The 7,117 school districts of the state maintained 7,687 elementary schools, 641 secondary schools, 10 junior colleges and 15 teacher training departments. There were also 5 public state teachers' colleges in operation.

These schools had an enrolment of 324,743 pupils with 12,174 teachers in the elementary grades; 171,602 pupils with 8,533 teachers in the secondary grades; 1,603 students with 136 teachers in junior colleges; and 205 students with 15 teachers in teacher training departments. Dean M. Schweickhard was commissioner of education.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Persons given financial assistance in Nov. 1950 totalled 97,800, approximately 7,600 less than in Nov. 1949. This trend reflected higher employment levels for 1950. However, in the same period, the amount of assistance granted these persons showed an increase resulting from higher medical grants, \$3,915,848 in Nov. 1950, compared with \$3,902,257 in Nov. 1949. For the year ending June 30, 1950, a total of \$46,400,307 was granted to a monthly average of 104,700 persons. In Sept. 1950 approximately 4,200 old-age assistance recipients were also receiving old-age and survivors insurance; approximately 600 families in aid to dependent children were also receiving these payments, while only 20 aid to the blind recipients were receiving both types of payments. As of March 31, 1950, 13,494 children were receiving services from Minnesota welfare agencies. Of this total, 9,526 received services primarily from public welfare agencies, while 3,968 received services primarily from private welfare agencies.

During 1949, approximately 769,000 workers were covered by the Minnesota Employment and Security law. An estimated \$15,440,000 was paid in unemployment compensation benefits during 1950. At the same time, approximately \$675,000 was paid in unemployment and self-employment benefits to World War II veterans under the Servicemen's Readjustment Allowance program.

**Communications.**—Minnesota's highway transportation facilities aggregated approximately 121,000 mi., including 11,893 mi. of state trunk highways, 42,522 mi. in county road systems, 56,757 mi. of township roads, 7,868 mi. of municipal streets. State highway department expenditures for the fiscal year ending June 30, 1950, exclusive of principal and interest payments on bonded indebtedness totalled \$41,971,466.

On Dec. 31, 1950, there were 22 railroads operating in the state of Minnesota with 8,350 mi. of main-line trackage of which 15 mi. was electrified. In addition these roads operated 4,304 mi. of second main-line, sidings, yard and switching trackage. Minnesota had 80 municipally owned airports, 37 privately owned commercial airports, 21 privately owned commercial seaplane bases and 258 privately owned landing strips.

**Banking and Finance.**—Resources of Minnesota banks increased 3.4% or \$106,629,000 to \$3,196,070,000 on July 1, 1950, as compared with \$3,089,441,000 on July 1, 1949. The 499 state banks, 1 mutual savings bank and 4 trust companies had deposits of \$991,144,000 and resources of \$1,067,656,000, increases of \$29,693,000 and \$35,512,000 respectively since July 1, 1949. The 179 national banks had deposits of \$1,973,545,000 and resources of \$2,128,414,000, increases of \$61,125,000 and \$71,117,000 respectively since July 1, 1949. The state had 41 chartered savings and loan associations with deposits of \$98,345,000 on July 1, 1950, compared with deposits of \$86,860,113 on July 1, 1949, an increase of \$11,485,000. The 30 federal savings and loan associations had resources of \$266,440,000 on July 1, 1950, an increase of \$45,609,000 over the \$220,831,557 reported on July 1, 1949.

Total operations of the state government (exclusive of public debt redemption, stores for resale, annuities and pensions, land and interest in land) amounted to \$486,479,797 for the fiscal year ended June 30, 1950, as compared with \$222,478,172 for the fiscal year ended June 30, 1949. The state's total indebtedness in bonds and certificates of indebtedness on June 30, 1950, was \$129,815,331.11, an increase of \$78,111,708.34 over the debt on June 30, 1949, of \$51,703,424.77. Sale of the veterans' adjusted compensation bonds in July of 1949 to pay the Minnesota veterans' bonus accounted for most of this increase.

The four principal trust funds of the state—internal improvement land, swamp land, permanent school and permanent university funds—the income from which is devoted largely to schools, reached \$189,900,176 on June 30, 1950, as compared with \$177,282,747 on June 30, 1949.

**Agriculture.**—Butter production in 1949 was 252,621,000 lb. compared with 222,657,000 lb. in 1948, an increase of almost 30,000,000 lb. For the calendar year 1949, cash receipts from farm marketings totalled \$1,191,207,000 with \$838,765,000 from livestock and livestock products and \$352,442,000 from crops.

#### Leading Agricultural Products of Minnesota

Crop	1950	1949	1939-48 Average
Corn, all, bu. . . . .	194,218,000	248,512,000	214,392,000
Oats, bu. . . . .	188,737,000	183,224,000	171,594,000
Barley, bu. . . . .	36,934,000	25,464,000	34,108,000
Wheat, all, bu. . . . .	15,410,000	19,971,000	22,109,000
Flaxseed, bu. . . . .	13,255,000	16,280,000	13,487,000
Potatoes, bu. . . . .	17,640,000	17,000,000	18,349,000
Soybeans for beans, bu. . . . .	16,384,000	12,762,000	5,995,000
Hay, all, tons . . . . .	5,494,000	5,021,000	6,402,000

**Manufacturing.**—In Oct. 1950 Minnesota's manufacturing employment reached 204,740 and showed an increase of 10.7% or almost 20,000 persons in manufacturing employment above the 184,951 reported for Oct. 1949. Nonagricultural employment in 1950 ranged from a low of 752,284 in February to an all-time high of 825,100 in September. Latest



census of manufacturing reports indicated 4,567 manufacturing establishments to be operating in Minnesota in 1947. An estimated 6,000 were operating in 1950.

**Mineral Production.**—During 1950 an estimated 65,000,000 tons of iron ore were shipped from Minnesota by rail-water and all-rail methods of transportation. This constituted an increase of approximately 8,200,000 tons over the 56,825,957 tons shipped during the calendar year 1949. (L. W. MH.)

**Mint, United States:** see COINAGE.

**Miquelon:** see FRENCH UNION.

**Missions, Foreign (Religious).** For Christian foreign missions the most acute crisis of 1950 accompanied the fighting in Korea. The invasion of South Korea by North Koreans brought distress to Christians as well as to others. The counteradvance by the United Nations forces and North Korean resistance made for much destruction of property and disruption of normal life, including church life. Much church property shared in the damage wrought by bombings, looting and fires. Some church leaders were carried off by the North Koreans and presumably killed.

In China, because of the Communist regime, the missionary situation continued to deteriorate. The exodus of missionaries was accelerated, partly because of overdue furloughs, partly because of the conviction of Chinese Christians in some localities that the presence of missionaries was a handicap to the churches, and partly because of the restrictions on the travel of foreigners imposed by the Communists. The Communist government was fairly tolerant of Chinese Christians and churches, although at least one striking case of the execution of Chinese Catholics was reported, but made it clear that the churches must sever ties with foreign "imperialists" and must be quite independent of all foreign control. Chinese Communists sought to woo Protestant Christians, but with only limited success. Several outstanding Protestants signed statements denouncing the connection of missions with "imperialism" and insisting that the churches conform to the program of the Communist regime. A few Chinese Protestant leaders also denounced the United States in its action in connection with Korea. Christian schools were required to teach courses in the principles of the new order set up by the Communists. Drastic restrictions were placed on religious instruction and Christian services in connection with these schools. Numbers of Christian hospitals were secularized by Communist officials. Yet hundreds of missionaries remained in China; in most areas churches continued many of their activities, including especially their religious services; and here and there Christian groups showed a decided growth.

The open-mindedness of the Japanese to Christianity which had characterized the years since World War II was still noticeable, but was not so marked as it had been a year or two earlier. The number of missionaries from abroad mounted. Catholic somewhat outnumbered Protestant missionaries. In April 1950 the former totalled about 1,400, from 32 different countries, the large majority coming from Germany, Canada, France, the United States, Italy and Spain, in the order named.

In Indochina and Burma the political situation continued to work adversely to missions. In India conditions, in some areas difficult for Christians since independence, slightly eased. Pakistan, although avowedly a Moslem state, was not actively anti-Christian. Africa was still the scene of rapidly growing Christian communities, and that in spite of rising racial antagonism to Europeans in some areas. Catholics of the United States were making Latin America their chief foreign field and were sending more missionaries to that region than to any other. These were principally to serve Catholic populations, for the latter were inadequately supplied with priests from their own ranks.

The Holy Year was for Catholics an opportunity for special gatherings in Rome on missions. (K. S. L.)

**Mississippi.** A southern state of the U.S. admitted to the union in 1817, Mississippi is popularly known as the "Magnolia state"; area: 47,716 sq.mi. (47,420 sq.mi. land and 296 sq.mi. water); pop. (1950): 2,178,914, a decrease of 0.2% since 1940; capital: Jackson (97,674). Other eight cities of more than 20,000 population (1950 preliminary census figures): Biloxi (37,034); Greenville (29,914); Gulfport (22,428); Hattiesburg (29,432); Laurel (24,988); Meridian (41,709); Natchez (22,678); Vicksburg (27,344).

Of the state's population in 1940, 432,882 or 19.8% were urban; there were 1,106,327 whites; 1,074,578 Negroes; 2,177,324 native-born; 6,472 foreign-born.

**History.**—For 1948-52 the chief elected officers of the state were: governor, Fielding L. Wright; lieutenant governor, Sam Lumpkin; secretary of state, Heber A. Ladner; attorney general, J. P. Coleman; state tax collector, Mrs. Thomas L. Bailey; state treasurer, Robert W. May; state auditor, Carl N. Craig; state superintendent of public education, J. M. Tubb.

The regular biennial session of the state legislature convened in Jan. 1950. Three important questions of state-wide interest occupied the attention of the legislature. A long-time state road-building program, which was the subject of an extraordinary session of the legislature in 1949, was enacted. Appropriations were made for more adequate support for schools and colleges, both for whites and for Negroes. Legislation was enacted authorizing the expansion of the two-year school of medicine of the University of Mississippi, located at Oxford, to a full four-year school, the enlarged medical school to be a division of the university but to be located in the city of Jackson.

**Education.**—In 1949-50 there were 1,069 white elementary schools in Mississippi and 3,029 Negro elementary schools, a total of 4,098. The enrolment in elementary schools was 464,659, of whom 216,090 were whites and 247,750 Negroes. The state had 480 approved white high schools and 148 approved Negro high schools. The enrolment of these approved high schools plus enrolments in nonaccredited schools gave a total enrolment of 83,002 in 1949-50. There were 9,585 white elementary and high school teachers (including superintendents and principals) and 6,640 Negro elementary and high school teachers (including superintendents and principals), a total of 16,225 teachers. The total enrolment in white elementary and high schools was 279,433, in Negro elementary and high schools, 268,228.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—From July 1, 1949, to June 30, 1950, the state department of public welfare paid \$14,227,745 to 73,599 recipients of old-age assistance; \$843,274 to 3,147 recipients of aid to the blind; and \$3,233,135 to 15,341 families for 42,645 dependent children. Special child welfare workers were assigned to 16 county departments of public welfare, to Columbia Training school and to Oakley Training school. There was a training unit in one county to which child welfare workers were assigned for special training before being assigned to a county unit. The state-county program of foster boarding care for children was augmented.

Through its division for the blind, the department maintained a state-financed program of sight conservation, restoration and services and continued its program of training adult blind persons to work on factory-type sewing machines. The division continued to serve as the channel for federal funds for vocational rehabilitation of blind civilians.

**Communications.**—In 1950 the state maintained 7,346.6 mi. of highways. In 1950 the counties maintained approximately 53,838.6 mi. In the fiscal year 1949-50 the state maintenance expenditures were estimated as \$4,073,891.18. The total mileage of railroads in the state on Dec. 31, 1949, was 4,363.73.

**Banking and Finance.**—On June 30, 1950, there were 177 state banks in Mississippi, with 23 branch banks and 39 branch offices; there were 24 national banks. The resources of the state banks were \$561,298,348.19 and the total deposits were \$519,686,400.57; the resources of the national banks were \$217,717,339.80, and the total deposits were \$203,776,689.02.

Table I.—Leading Agricultural Products of Mississippi

Crop	1950	1949	Average 1939-48
Cotton (500-lb. bales) . . . . .	1,340,000	1,487,000	1,653,000
Cottonseed, tons . . . . .	536,000	612,000	688,000
Corn, bu. . . . .	60,473,000	47,725,000	43,725,000
Hay, tons . . . . .	1,041,000	988,000	1,098,000
Sweet potatoes, bu. . . . .	4,300,000	3,990,000	5,271,000
Sugar-cane syrup, gal. . . . .	1,300,000	2,030,000	2,971,000
Sorgho syrup, gal. . . . .	864,000	700,000	1,664,000
Pecans, lb. . . . .	3,625,000	10,000,000	6,617,000
Soybeans, bu. . . . .	6,768,000	1,782,000	1,212,000

The balance in the general fund account as of Dec. 31, 1950, was \$20,668,675.67. The special fund account as of Dec. 31, 1950, was \$16,617,315.73. On Dec. 31, 1950, the full faith and credit debt of the



state of Mississippi was \$8,914,000; outstanding highway bonds (payable from gasoline tax) amounted to \$65,758,000 on Dec. 31, 1950, making a total debt of \$74,672,000.

**Agriculture.**—The 1950 census reported 251,378 farms. The 1945 census reported 19,616,533 ac. in farms. In 1950 the cropland harvested was 5,789,000 ac. The 1949 receipts from farm marketings were \$490,236,000, of which \$376,282,000 were from crops and \$113,954,000 from livestock products; the value of farm products consumed in farm households was \$102,852,000. (See Table I, page 463.)

**Manufacturing.**—The value of manufactured products in Mississippi for the year 1949 was \$664,400,000 as compared with \$174,900,000 in 1939. Income from pay rolls and profits totalled \$216,100,000 in 1949 as compared with \$27,437,088 in 1931.

**Mineral Production.**—The total value of mineral production in 1949, including natural gas, sand and gravel and other mineral products, was \$112,218,826.

Table II.—Principal Mineral Products of Mississippi

Mineral	Value, 1949	Value, 1948
Natural gas . . . . .	\$ 7,548,491	\$ 2,289,136
Sand and gravel . . . . .	3,502,536	2,744,217
Petroleum . . . . .	94,380,000	108,732,500
Other mineral products . . . . .	6,787,800	420,000

On Dec. 31, 1948, there were approximately 1,355 producing oil wells in the state. The value of petroleum for the year 1949 was \$94,380,000 and for 1950 it was \$93,990,936. (A. B. Bu.)

**Missouri.** A west north central state of the U.S., Missouri was admitted to the union in 1821; it is popularly known as the "Show Me state." Area: 69,674 sq.mi. of which 404 are water. Pop.: (1950 census) 3,954,653; (1940 census) 3,784,664 (51.8% urban, 48.2% rural); 3,425,062 (90.5%) native white, 114,125 (3%) foreign-born white and 244,386 (6.5%) Negro. Capital: Jefferson City (1950 census, preliminary count, 24,990). Largest cities (1950 census, preliminary count): St. Louis (852,623); Kansas City (453,290); St. Joseph (75,572); Springfield (66,302); University City (39,595); Joplin (38,515).

**History.**—In a referendum on a special election on April 4, 1950, the proposal to increase the state gasoline tax was defeated.

In the election of Nov. 7, 1950, the Republicans lost one of their two seats in the U.S. senate but gained two seats in the U.S. house of representatives. The popular vote for U.S. senator was: Thomas C. Hennings, Jr. (Dem.), 685,732; Forrest C. Donnell (Rep., incumbent), 592,922. Ten Democrats and three Republicans were elected to the U.S. house of representatives. The Republicans made slight gains in the state legislature but the Democrats retained control of both houses. Ten Republicans and 7 Democrats were elected to the state senate, making a total of 21 Democrats and 13 Republicans. Eighty-five Democrats and 69 Republicans were elected to the state house of representatives. An amendment to the state constitution was adopted whereby school taxes in a district could be increased by a majority vote (instead of two-thirds).

The major state officers (1950), all Democrats, were: Forrest Smith, governor; James T. Blair, Jr., lieutenant governor; Walter H. Toberman, secretary of state; W. H. Holmes, auditor; M. E. Morris, treasurer; J. E. Taylor, attorney general.

**Education.**—For the school year ending June 30, 1950, the public school system consisted of approximately 6,000 elementary schools, with 499,126 pupils and 17,330 teachers; 712 secondary schools, with 145,331 pupils and 6,642 teachers. For the same school year expenditures for public schools totalled \$110,875,561, of which \$41,849,137 was from state and federal funds. Hubert Wheeler was state commissioner of education.

Under the G.I. Bill of Rights and the Vocational Rehabilitation act for disabled veterans, 35,301 veterans of World War II were enrolled in schools and colleges in the state, 16,897 were receiving farm training and 5,215 job training in Nov. 1950.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—For the year ending June 30, 1950, unemployment insurance totalled \$23,513,357, paid to 295,500 persons. In Sept. 1949, 29,089 received payments and in Sept. 1950, 15,206. For the year ending June 30, 1950, old-age assistance amounted to \$66,627,001, aid to dependent children \$16,023,757, general relief \$6,403,771, and blind pensions \$1,376,772. In June 1950, 131,457 persons received old-age assistance, 26,127 families (65,102 children) aid to dependent children, 17,105 persons general relief, 2,788 persons blind pensions. During the year ending June 30, 1950, the state penitentiary had an average of 2,920 inmates per day, the reformatory (Algoa) 354, and the expenditures for

these institutions amounted to \$2,066,269. On June 30, 1950, the three state training schools (Boonville, Chillicothe and Tipton) had a population of 263 boys and 152 girls, and for the year ending June 30, 1950, their expenditures totalled \$679,948.

**Communications.**—On Dec. 31, 1949, Missouri had 18,341 mi. of state highways and 87,917 mi. of rural roads. During 1949 the state highway department spent \$51,469,247 (state and federal funds), of which \$26,562,972 was for construction and \$11,485,417 was for maintenance. In 1946 railroad mileage totalled 6,832 mi. There were 1,145,957 telephones in use on Dec. 31, 1950.

**Banking and Finance.**—On June 30, 1950, Missouri had 494 state banks, with deposits of \$2,165,698,000 and resources (loans and investments) of \$2,043,637,000; 79 national banks, with deposits of \$1,297,105,000 and resources (loans and investments) of \$1,280,678,000; 155 savings and loan associations, with resources of \$210,304,611.

During the fiscal year ending June 30, 1950, the receipts of the state treasury totalled \$248,515,002; disbursements \$251,755,473. The state debt (road bonds) on July 1, 1949, was \$44,000,000 and on June 30, 1950, \$36,000,000.

**Agriculture.**—During 1949 cash income from crops and livestock was \$944,357,000, and cash income from government payments was \$5,493,000. The value of Missouri's 1949 crops was \$530,981,000 and the value of the 1950 crops, harvested from 13,633,400 ac., was estimated at \$591,067,000. Unfavourable spring weather reduced the 1950 acreages of most crops; but the acreage and yield of soybeans were the largest on record, and of oats the largest since 1942. The yield of cotton was smallest since 1935.

Table I.—Leading Agricultural Products of Missouri

Crop	1950	1949	Average, 1939-48
Corn, bu. . . . .	187,110,000	173,963,000	137,551,000
Winter wheat, bu. . . . .	24,516,000	35,028,000	22,358,000
All hay, tons . . . . .	4,823,000	5,095,000	4,215,000
Cotton, bales . . . . .	253,000	462,000	373,000
Oats, bu. . . . .	55,242,000	41,136,000	45,072,000
Soybeans, bu. . . . .	27,393,000	17,997,000	8,046,000

**Manufacturing.**—The number of persons employed in Missouri's manufacturing industries in 1947 was 327,515, and salaries and wages totalled \$827,184,000. The value added by manufacture of products in 1947 totalled \$1,623,145,000, compared with \$581,804,000 in 1939, when the previous U.S. census of manufactures was taken.

Table II.—Principal Industries of Missouri

Industry	Value added by manufacture 1947	Value added by manufacture 1939
Food and kindred products (including malt liquors, meat packing, etc.) . . . . .	\$331,753,000	\$128,606,000
Transportation equipment (including motor vehicles) . . . . .	173,131,000	40,558,000
Apparel and related products . . . . .	130,549,000	43,127,000
Chemicals and allied products (including drugs and medicines) . . . . .	129,257,000	53,208,000
Leather and leather products (including footwear) . . . . .	117,333,000	56,958,000
Printing and publishing industries . . . . .	116,327,000	49,733,000
Fabricated metal products . . . . .	112,587,000	35,353,000
Machinery (except electrical) . . . . .	109,412,000	23,519,000
Electrical machinery . . . . .	89,212,000	28,299,000

**Mineral Production.**—In 1949 the value of Missouri's mineral production was \$111,287,000, an increase of 2.8% over 1948. The quantity of lead produced in 1949 was 24.7% more than in 1948, and the quantity of zinc 8.5% less.

Table III.—Principal Mineral Products of Missouri

Mineral	Value, 1949	Value, 1948
Lead . . . . .	\$40,296,952	\$36,619,104
Cement . . . . .	19,347,814	17,911,257
Bituminous coal . . . . .	14,919,384	15,668,348
Stone . . . . .	13,969,008	12,320,220
Lime (open market) . . . . .	8,035,117	8,998,691
Sand and gravel . . . . .	4,346,681	4,197,922
Clays (except for cement) . . . . .	3,962,674	5,060,598

(R. P. Br.)

**Mohammedanism:** see ISLAM.

**Molybdenum:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Monaco.** A sovereign principality on the Mediterranean coast, 9 mi. E. of Nice, Monaco, is bounded on all land sides by the French *département* of Alpes Maritimes. Area: 369.9 ac. Pop. (1946 census): 19,242, including 1,975 Monacans, 10,522 French and 6,745 other foreigners; (1949 est.) 23,000. Ruler, Prince Rainier III; minister of state, Pierre Voizard.

**History.**—Strong resentment of what was regarded as a persistent French attempt to whittle away the independence of



Monaco led to the resignation in Dec. 1949 of all 18 members of the national council. The main criticism was directed against Jacques Rueff, minister of state, who was accused of "half-heartedness" in his handling of negotiations to secure a revision of the 1945 conventions between France and Monaco (these had brought the principality into line with the financial control imposed in France). On Jan. 8, 1950, elections took place at which, out of the 922 male electors (the women of Monaco having no parliamentary vote), 736 went to the poll. Rejecting both *rouge* and *noir*, they backed the moderate National coalition, led by Louis Aureglia, which won 11 seats outright. The remaining seven seats were filled at the second round on Jan. 15. The only Communist candidate was again beaten and so were right-wing Independents. On May 12 the offices of the Communist party in Monaco were raided and closed down by the police.

**Education.**—Schools (1949-50): primary 9, pupils 1,494, teachers 85; secondary 3, pupils 312, teachers 38.

**Finance.**—Budget: (1949-50, actual) revenue 878,100,000 fr., expenditure 935,300,000 fr.; (1950-51 est.) revenue 924,400,000 fr., expenditure 884,800,000 fr. (1 franc = .2857 U.S. cents.)

**Monetary Units:** see EXCHANGE CONTROL AND EXCHANGE RATES.

**Mongolian People's Republic** (formerly OUTER MONGOLIA). Chronologically the first soviet-dominated people's republic (founded on July 11, 1921), Mongolia is bounded N. by the Asiatic part of the Russian S.F.S.R. and E., S. and W. by China. Area (official figure): 606,000 sq.mi. Pop.: no census has ever been taken and estimates vary from 850,000 (soviet, 1941) to 2,078,000 (Chinese, 1945); U.N. 1949 est. 2,000,000. Language: Mongol. Religion: Lama-Buddhism. Capital: Ulan Bator, formerly Urga (pop., 1941 est., 70,000). Chairman of the presidium of the Little Hural, Bumatsende; chairman of the council of ministers and commander in chief, Marshal Choi-Balsan.

**History.**—Although nationalist China recognized the independence of Mongolia on Jan. 5, 1946, Sino-Mongolian diplomatic relations were established by Communist China only on July 9, 1950, when Chi Ya-tai, first Chinese ambassador, arrived at Ulan Bator. During April the Mongolian ambassador to Moscow exchanged letters with his colleagues there of Albania, Bulgaria, Czechoslovakia, the German Democratic Republic, Hungary, Poland and Rumania by which diplomatic relations between Mongolia and other people's democracies were established. Up to the end of the year, however, no envoys had been exchanged.

According to official figures published in 1946, and attributed to the year 1941, Mongolia had a total of 27,500,000 head of livestock, including 15,900,000 sheep, 5,500,000 goats, 2,800,000 cattle, 2,600,000 horses and 700,000 camels. As the target of 50,000,000 head set for 1945 had never been approached, the five-year plan adopted in 1947 fixed for 1952 the target of 31,000,000 head of livestock, which was still the basis of Mongolian economy. Choi-Balsan said in February that during 1949 livestock had increased by 1,345,822 head, including 1,315,900 raised by individual *arats* or peasants. At the same time the State Planning commission announced that in 1949 the total livestock had increased by 6.5% in comparison with 1948. This would suggest that in Jan. 1950 the livestock numbered only 22,051,000 head and would not substantiate the claims of success in livestock breeding made in Choi-Balsan's report.

Unfavourable soil and climate determined a small-scale agriculture. In 1948 the area under cultivation was estimated at 750,000 ha. and the 1949 increase was reported to be 7.4%, the main crops being oats, millet, spring rye, wheat and barley.

The combined industrial plant at Ulan Bator in 1950 pro-

duced 100 different articles compared with 10 in 1934. No figures were published of coal production at Nalaikha, linked by a narrow-gauge railway with Ulan Bator, but it was estimated that the 1950 extraction amounted to about 1,000,000 tons.

**Education.**—In 1950 there were 368 primary, 32 seven-year and 11 secondary schools with a total of 71,000 pupils. There were also 14 vocational secondary schools with a total of 2,800 pupils. From the Mongolian state university 80 physicians, veterinary surgeons and teachers graduated during the year. Illiteracy (1949): 55.4%.

**Finance.**—Budget (1950 est.): balanced around 300,000,000 tughriks. The Mongolian tughrik, divided into 100 munghe, was at parity with the rouble. The theoretical exchange rate, therefore, was (as from March 1, 1950) U.S. \$1 = 4 tughriks. (K. Sm.)

**Monnet, Jean** (1888— ), French economist and diplomat, was born at Cognac, Charente. During World War I he was French representative on the Inter-Allied Maritime commission and from 1919 to 1923 deputy-secretary general of the League of Nations. In 1925 he became European partner of a New York investment bank. In 1933 he began to serve as financial adviser to China. At the start of World War II he was made chairman of the Franco-British Co-ordination committee. In June 1940 it was he who suggested to Winston Churchill the idea of the Franco-British union. After the capitulation of France, Monnet left for Washington, D.C., where he was appointed to the British Supply council. Early in 1943 he moved to Algiers, where he became a member of the newly organized French Committee of National Liberation. After the liberation of France he headed a commission preparing a comprehensive plan for the reconstruction and modernization of the French economy. By Nov. 1946 the main features of the Monnet plan had been completed; in Jan. 1947 it was officially adopted by the French government for execution and Monnet was appointed commissioner-general of the plan. When on May 9, 1950, the French government launched the Schuman plan for a European coal and steel pool, Monnet, who had played an outstanding part in its elaboration, was chosen leader of the French delegation.

**Montana.** A northwestern state of the United States, Montana is popularly known as the "Treasure state." Land area: 146,316 sq.mi.; water area 822 sq.mi.; pop. (1950 census): 591,024, an increase of 5.6% over the population of 1940. Principal cities, with preliminary 1950 census figures: Helena, the capital (17,498); Great Falls (39,006); Butte (32,904); Billings (31,725); Missoula (22,320); Bozeman (11,252); Anaconda (11,221); Kalispell (9,694). The urban population was 251,428 or 42.5%, compared with 37.8% in 1940.

**History.**—Incumbents in the principal state offices in 1950 were John W. Bonner (Dem.), governor; Paul Cannon (Dem.), lieutenant governor; Sam W. Mitchell (Dem.), secretary of state; Arnold H. Olsen (Dem.), attorney general; Mrs. Alta Fisher (Dem.), treasurer; John J. Holmes (Dem.), auditor; and Mary M. Condon (Dem.), superintendent of public instruction. In the biennial election of 1950, John E. Henry (Rep.) was elected state treasurer for the unexpired term of Neil Fisher who died in 1949; and Leonard C. Young was elected railroad and public service commissioner. Republicans gained control of both houses of the state legislature. Albert Angstman and Harry J. Freebourn were elected associate justices of the supreme court without party designation. Mike Mansfield (Dem.) and Wesley D'Ewart (Rep.) were re-elected representatives to congress.

Constitutional amendments providing for the separation of the bureau of labour and industry from the bureau of agriculture, and for the raising of the limitation of indebtedness of school districts, cities, towns or townships from 3% to 5% were approved by a substantial majority of the voters. A referendum measure prohibiting the operation of slot machines





HUNGRY HORSE DAMSITE in Montana, showing workmen preparing to make the season's first placement of concrete in April 1950

within the state carried by a vote of 140,309 to 55,348. Initiative measure no. 54, providing for \$22,000,000 (to be raised by an excise tax on cigarettes) for an honorarium or adjusted compensation for residents of the state in active duty in the armed forces of the United States in World War II, was carried by a vote of 108,251 to 75,211.

**Education.**—There were 1,326 elementary schools in Montana in 1950, with an enrolment of 80,768 and a teaching staff of 3,633. There were 179 high schools with 25,200 students and 1,467 teachers. The total amount spent on the operation of these schools was \$24,200,000. An additional \$7,800,000 was spent for debt service, capital outlay and other miscellaneous items, making a total expenditure of \$32,000,000 for public school education in Montana in the 1949-50 school year.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Approximately 24,000 persons received public assistance in 1950. Grants totalling \$11,574,695 were distributed as follows (figures in parentheses indicate the average number of recipients per month): old-age assistance (11,770) \$7,440,740; aid to dependent children (8,707) \$2,372,079; aid to needy blind (526) \$362,143; subsistence (1,425) \$647,258; medical care (841) \$158,534; hospitalization (516) \$550,329; burials (34) \$43,612. Unemployment benefits of \$4,696,695 were paid to 24,993 persons, an average of \$17.31 per week for 10.5 weeks, or \$187.92 per claimant. Correctional institutions with their average populations and total expenditures in 1950 were: Montana state prison, 553 inmates, \$319,164; state industrial school, 130 inmates, \$181,309; vocational school for girls, 44 inmates, \$92,284.

**Communications.**—In 1950, the state highway commission maintained 8,826 mi. of highways, of which 940 mi. were unsurfaced. State highway expenditures in 1950 were \$17,441,770, including federal aid. The local rural mileage system totalled 61,310 mi. The total number of airports listed on the U.S. aeronautical charts for Montana in 1950 was 119, not including 200 fields intermittently used by farmers and ranchers within the state boundaries. The railway mileage was 5,241. The number of telephones was 144,700.

**Banking and Finance.**—There were 111 banks in the state in 1950. The 39 national banks had total deposits of \$273,735,000, and their total assets were \$287,582,000. State banks had total deposits of \$262,729,048, and their total assets were \$275,979,642. There were 16 building and loan associations with assets of \$26,739,518. For the fiscal year ending June 30, 1950, the net state revenue, all sources, was \$76,528,641, and

the expenditures were \$70,996,586. The gross debt of the state on July 1, 1950, was \$7,351,000 and the net debt \$6,350,687.

**Agriculture.**—The value of crops harvested in Montana in 1950 reached a record of \$309,307,000, which was \$3,500,000 above the previous high value recorded in 1948. Wheat accounted for 57% of the year's aggregate, followed by hay with 24% and barley with 7%. Crops were removed from 9,272,000 ac., or 578,000 ac. more than in 1949. The value of all livestock in Montana was estimated at \$265,218,000, as compared with \$320,730,000 in 1949.

Table I.—Leading Agricultural Products of Montana

Crop	1950	1949	Average 1939-48
Wheat, bu. . . . .	93,958,000	64,080,000	64,048,000
Hay, tons . . . . .	2,999,000	2,415,000	2,589,000
Barley, bu. . . . .	23,772,000	12,052,000	13,945,000
Sugar beets, tons . . . . .	743,000	697,000	836,000
Oats, bu. . . . .	15,984,000	8,091,000	12,612,000
Potatoes, bu. . . . .	2,590,000	2,325,000	1,996,000
Alfalfa seed, bu. . . . .	112,000	148,000	117,300
Corn, bu. . . . .	3,838,000	1,572,000	3,119,000
Dry beans, 100-lb. bags . . . . .	181,000	242,000	268,000
Flaxseed, bu. . . . .	648,000	295,000	1,424,000
Mustard seed, lb. . . . .	15,540,000	8,600,000	25,174,000
Seed peas, 100-lb. bags . . . . .	71,000	60,000	321,000

**Manufactures.**—The total value added by manufacture (1947 census) in the 652 manufacturing establishments in Montana in 1947 was \$92,258,000, as compared with \$38,828,000 for 552 establishments in 1939. Reports of the state unemployment compensation commission showed that during the two years 1949 and 1950 an average of 18,200 persons were employed in manufacturing in Montana, with total wages of \$57,250,080 in 1949 and \$55,388,633 in 1950. The decline in 1950 resulted from heavy winter layoffs in the lumber industry and slowness in metal processing during the first six months of the year. Official estimates by the state unemployment service listed total employment figures for all Montana industry, aside from agriculture, as 148,200 for the 1950 fiscal year. Electrical power to a total of 3,130,000,000 kw.hr. was generated in the state in 1950.

Table II.—Industrial Products in Montana

Products	1949	1948
Cheese, lb. . . . .	2,965,000	2,818,390
Butter, lb. . . . .	8,025,000	8,636,503
Ice cream, gal. . . . .	2,964,000	2,721,302
Beef sugar, cwt. . . . .	1,940,000	1,879,766
Beer, bbl. . . . .	200,594	206,082
Gasoline, gal. . . . .	255,169,417	194,137,832
Electric power generated, kw.hr. . . . .	2,840,116,000	2,924,704,115
Lumber, bd. ft. . . . .	?	598,000,000

**Mineral Production.**—The total yield of the five major metals in Montana in 1950 was 37% greater than in 1949, despite a decrease of 5% in copper production caused by an insufficient number of miners in Butte. Zinc, with the best record, increased 22% in quantity, lead 4%, silver 1% and gold 1%. A substantial increase in the price of copper accounted for its greater value in 1950 than for the previous year. The value of production during 1950 and 1949 is shown in Table III.

Table III.—Principal Mineral Products of Montana

Mineral	Value, 1950	Value, 1949
Copper . . . . .	\$22,339,200	\$21,216,900
Zinc . . . . .	18,431,400	13,011,200
Lead . . . . .	4,675,000	5,668,350
Silver . . . . .	5,782,000	5,423,968
Gold . . . . .	1,862,000	1,634,500
Total value . . . . .	\$53,089,600	\$46,954,918

Crude oil production in Montana in 1950 amounted to 8,046,022 bbl., as compared with 9,225,000 bbl. in 1949. The coal tonnage produced was 2,454,752 in 1950 and 2,763,000 in 1949. Natural gas deliveries to pipe lines at wells in Montana fields were approximately 37,469,799,000 cu.ft. in 1950. (E. E. B.)

**Montreal.** A city in the province of Quebec, Canada, first called Ville Marie, Montreal was founded in 1642. The population of the city proper, estimated by *Lovell's Directory* (1950), was 1,453,041 and of greater Montreal 1,695,485.

The port of Montreal is the largest in Canada. Deep-sea vessel arrivals in 1950 (commercial) numbered 1,211, with a net tonnage of 4,491,795. The number of coastal or inland vessel arrivals (commercial) in 1950 was 3,439, with a net tonnage of 3,747,846. In addition there were noncommercial vessels (such as warships, pleasure boats, yachts, etc.) numbering 146, with a net tonnage of 23,973.

The total of cargo tonnage which passed through the port during 1950 was 15,315,533; this consisted of 8,579,034 inward (foreign 6,292,018, domestic 2,287,016) and 6,736,499 outward



(foreign 3,435,195, domestic 3,301,304).

The assessed value of real estate, as of April 1950, was \$1,500,-714,217, of which \$1,137,224,347 was taxable and \$363,489,870 was exempt from taxation.

In 1950 building permits were issued for 6,232 new buildings having a value of \$99,136,588, and for 2,778 repairs having a value of \$13,731,588.

Bank debits for 1950 were \$32,847,407,939 and bank clearings were \$16,303,554,024.

(J. A. MA.)

**Montserrat:** see LEEWARD ISLANDS.

**Mormons.** During 1950 the missionary work of the church reached the highest point in its history. At the end of the year 6,400 missionaries were in the field, serving in Canada, Newfoundland, the United States, Mexico, Guatemala, Costa Rica, Panamá, Brazil, Argentina, Uruguay and Paraguay in the western hemisphere; in Japan and China in the far east; in Australia, New Zealand and Samoa in the south seas; in Tahiti, Tonga and Hawaii in the Pacific; in South Africa; in the British Isles, Scandinavia, Finland, Denmark, Germany, the Netherlands, Belgium, Switzerland and France in Europe; and in the near east.

During 1950 112 church buildings were erected in organized stakes and missions. Also during the year, approximately 40,000 persons were helped as to food, clothing and shelter. Wards and stakes set up additional projects for supplying wants of the needy.

(See also CHURCH MEMBERSHIP.)

(J. R. CL.)

**Morocco, French.** A sultanate of northwest Africa, with both Mediterranean and Atlantic coast lines, divided into three unequal parts, the French protectorate described from 1947 as potentially an associated state of the French union, the Spanish protectorate (see SPANISH COLONIAL EMPIRE) and the international zone of Tangier (*q.v.*). French protectorate: area 153,870 sq.mi., pop. (1947 census) 8,224,997, (1949 est.) 8,594,000; Spanish protectorate: area 17,713 sq.mi., pop. (1949 est.) 1,336,000; Tangier: area 232 sq.mi., pop. (1949 est.) 150,000.

Arabs and Berbers constitute the overwhelming majority of the population; they are Moslem and speak Arabic or Berber. Chief towns (pop., 1947 census): Rabat (cap., 161,416); Casablanca (551,222); Marrakesh (238,277); Fez (200,946); Meknès (159,811). Ruler, Sultan Sidi Mohammed ben Youssef III; grand viziers in 1950, Si Kaddur ben Ghabrit and (from Sept. 20) Si Mamri.

French resident general, General Alphonse Juin.

**History.**—From 1947 Morocco could claim the status of an associated state if it indicated willingness to join in the French union, but the Nationalist Istiqlal (Independence) party, which regarded the sultan as champion of its ambitions, was opposed to this and sought the country's independence. In the course of the Dec. 1950 session of the native section of the council of government, when charged with examining the budget, the elected councillors belonging to the Istiqlal party launched a bitter attack on the work of the protectorate. Gen. Alphonse Juin, the French resident general, expelled them from the assembly (Dec. 12).

During his stay in France (October–November), the sultan entered into negotiations with the government for the revision of the treaty of protectorate. He considered inadequate the reforms proposed and in a cabinet communiqué noted the points of disagreement (Oct. 22). A joint commission was to continue negotiations.

**Finance.**—Budget (1951 est.): ordinary balanced at 37,783,000,000 fr.

extraordinary (equipment) 22,617,000,000 fr. Monetary unit: Moroccan franc=metropolitan franc. U.S. \$1.00=350 francs.

**Foreign Trade.**—(1949) Imports 103,320,000,000 francs; exports 53,515,600,000 francs.

**Transport and Communications.**—Railways (1948) 2,111 km. Roads (1948): 9,181 km.; tracks 32,000 km. Motor vehicles licensed (Dec. 1948): cars 24,470, commercial 19,956. Ships entered (1949, Casablanca) 6,030; cargo (1949, all ports, metric tons): unloaded 2,125,000; loaded 5,449,000. Air transport (1949): aircraft landed 5,603; passengers carried, arrivals 65,406, departures 69,520; cargo carried 7,059 metric tons; mail 269 metric tons. Telephone subscribers (May 1949) 29,500.

**Agriculture.**—Main crops (metric tons, 1949): wheat 638,000; barley 1,368,800; oats 39,100; maize 399,900; sorghum (millet) 43,400; wine (hl., 1950 est.) 500,000. Livestock (1948): cattle 1,449,000; sheep 8,474,000; goats 6,009,000; pigs 97,000; horses 155,000; asses 555,000; mules 141,000; camels 165,000.

**Industry.**—(1949) Fuel and power: anthracite 346,500 metric tons; electricity 333,000,000 kw.hr.; crude oil 17,479 metric tons. Raw materials (metric tons, 1949): phosphate rock 3,620,000; iron ore 372,000; manganese 228,400; cobalt 2,000. Cement (1949) 266,100 metric tons. Rugs (1949) 81,900 sq.m.

(C. A. J.)

**Morocco, Spanish:** see SPANISH COLONIAL EMPIRE.

**Mortgages, Farm:** see FARM CREDIT ADMINISTRATION; FARMERS HOME ADMINISTRATION.

**Mortgages, Home:** see HOUSING.

**Moscow.** Capital of the Union of Soviet Socialist Republics and of the Russian Soviet Federated Socialist Republics, Moscow had in 1950 an estimated population of 7,000,000.

During the year, eight modern skyscrapers were in varying stages of erection in the city, and it was hoped to complete them all by 1952. Four of them including a 26-story luxury hotel of 1,000 suites and 246 flats, were going up along the Dorogomilovskaya Moscow river embankment, three were situated on the Sadovoyering road and the eighth, the extensive new university building, in the Lenin hills. The tallest of them was a 32-story pillar-shaped administrative building which was being erected on Zaradye; a 20-story structure on Smolensk square was to house a number of soviet institutions; while a second hotel of 17 stories, on Kalanchevskaya street, would cater to travellers using the Kazan, Leningrad and Yaroslavl main-line stations. The Kremlin's battlemented walls and mediaeval turrets also had a "face lift," the first major one for 80 years. In the work of restoration more than 100,000 coloured glass tiles, corresponding in form and colour to the ancient tiles, were used to cover the tops of the towers.

All the missing white stone gargoyles, allegorical statues and obelisks were restored.

Another notable architectural event was the removal in August of the Pushkin monument, weighing 70 tons, from Tverskoy boulevard to Strastnoy (now Pushkinsky) square—a distance of about 100 yd.

A 12½-mi. "great circular" line of the underground railway, which would service 18 districts of the capital, was in construction during 1950 and was to be completed in 1952.

(R. Js.; X)

**Motion Pictures.** The U.S. motion picture industry recognized in 1950 that the fact, and no longer the theory, of television confronted it. No clear-cut plan to deal with the new competition had evolved. Some industry leaders emphasized theatre television, but not much was done toward that end. Others felt that the industry should gear itself toward the production of television films—a course naturally unpalatable to film theatre owners. Exhibitor feelings were outraged even by the televising of ancient motion pictures.

Film statistics, never crystal-clear, were increasingly difficult of analysis in 1950. *Variety*, a leading trade magazine, estimated that, despite the continuing box-office decline, a



10% increase in profits was indicated. Tabulations of nine companies pointed to profits of \$34,722,422 as against \$31,328,117 for comparable periods (in five instances twelve months, in four instances nine months) in their 1949 fiscal years. Six of the companies showed increases, three decreases.

Opinions varied widely as to the box-office decrease from 1949's approximate \$1,350,000,000 take. A falling-off of nearly 4% seemed a favourite estimate. After a rise in business coincident with the start of the Korean conflict, the box office was reported falling considerably in the closing months of 1950.

Despite its difficulties, the industry in 1950 turned out products which many observers regarded as an all-time high in quality. Emphasis on economy in production continued, but studios were not averse to investing heavily in pictures deemed worthy of exceptional expenditure. Location photography was especially stressed, a new record being set for distance and diversity in location sites. Desire to make use of frozen funds in other countries was responsible only in part for this trend. Producers felt that to turn out the highest quality product, authentic location photography was in many cases mandatory. Illustrative of this tendency was an advertisement of Metro-Goldwyn-Mayer proclaiming, "The Sun Never Sets on Leo, the M-G-M Lion!" It cited *King Solomon's Mines*, with photography in Africa; *Kim*, in India; *Pagan Love Song*, in Hawaii; and *Quo Vadis*, in Italy. The latter picture took rank as one of the most expensive in the history of the industry. The cost of *Quo Vadis*, largely filmed at Rome with thousands of extras and utilizing both foreign-earned and U.S. currency, was expected to pass the \$7,000,000 mark. More than \$3,000,000 was spent by 20th Century-Fox on *Dawn of Decision*, photographed at Munich, Germany.

In October, the U.S. government, in its concern for conserving essential defense materials, placed a ban on construction in entertainment fields. This included construction of new motion picture theatres, and set a limit of \$5,000 on remodeling. Strong protests against the ruling were made by the industry, which cited the proved influence of motion pictures in strengthening public morale in time of war.

Organizational changes in 1950 included the merging of Eagle-Lion and Film Classics, which became Eagle Lion Classics. New production organizations included two of outstanding importance. Producer Jerry Wald left Warner Bros. to unite with Norman Krasna, their product to be released by RKO Radio. Stanley Kramer, who had produced such distinctive pictures as *Home of the Brave*, *Champion* and *Cyrano de Bergerac*, joined forces with Sam Katz, former Metro-Goldwyn-Mayer executive and before that a theatre owner.

In the long-continuing government antitrust action, the U.S. supreme court refused to review the decision of the New York statutory court calling for divestiture of exhibition from production-distribution interests. Paramount and RKO had already entered into consent decrees. In the cases of Loew's (Metro-Goldwyn-Mayer), 20th Century-Fox and Warner Bros., the three remaining companies which had not settled their differences with the government, detailed plans for separation of theatre interests were yet to be worked out. In February, the government antitrust action against Technicolor was terminated by a consent decree in which the company agreed to license its patents.

There was little change in the complex foreign situation. A new agreement was negotiated with England which was regarded as slightly more favourable to the U.S. industry. In contrast to previous years very few foreign pictures of any great import reached the United States. The best of them was *The Third Man*, made especially noteworthy by the famous "Third Man Theme" background played on a zither.

The drive-in theatre showed a marked increase in strength during the year. It was estimated that there were more than 2,000 such theatres in the United States and Canada, and they were being opened at the rate of two a week as of mid-July 1950.

There was decreasing emphasis on psychological, horror and gangster pictures in favour of productions aiming at entertainment for the whole family. It was intended to regain the family trade, on which the great structure of motion pictures originally had been built. This patronage had been largely lost, too many polls revealing that the bulk of attendance at film theatres was being supplied by teenagers and young couples.

*Father of the Bride* started a trend toward family comedy. An unusual development was in the field of animal comedy, in *Francis* centring around an army mule, and in *Harvey*, an invisible rabbit. *Destination Moon* and *Rocketship X-M* were the novelty pictures of the year, having for their theme journeys through interstellar space.

The outstanding pictures of 1950 were *All About Eve*, *Born Yesterday*, *Harvey*, *Broken Arrow*, *Caged*, *Cinderella*, *Cyrano de Bergerac*, *King Solomon's Mines*, *The Magnificent Yankee*, *Sunset Boulevard*, and *Halls of Montezuma*.

Gloria Swanson, glamour queen of two decades before, scored the greatest comeback in film history when she returned to the screen to star in *Sunset Boulevard*, one of the most discussed pictures of the year. Among the players who rocketed to prominence were Howard Keel in *Annie Get Your Gun*, Mala Powers in *Cyrano de Bergerac*, Peggy Dow in *Harvey*, Jeff Chandler and Debra Paget in *Broken Arrow* and Nancy Olson in *Sunset Boulevard*.

The *Motion Picture Herald's* annual poll showed the following stars as the leading box office attractions in 1950: John Wayne, Bob Hope, Bing Crosby, Betty Grable, James Stewart, Abbott and Costello, Clifton Webb, Esther Williams, Spencer Tracy and Randolph Scott.

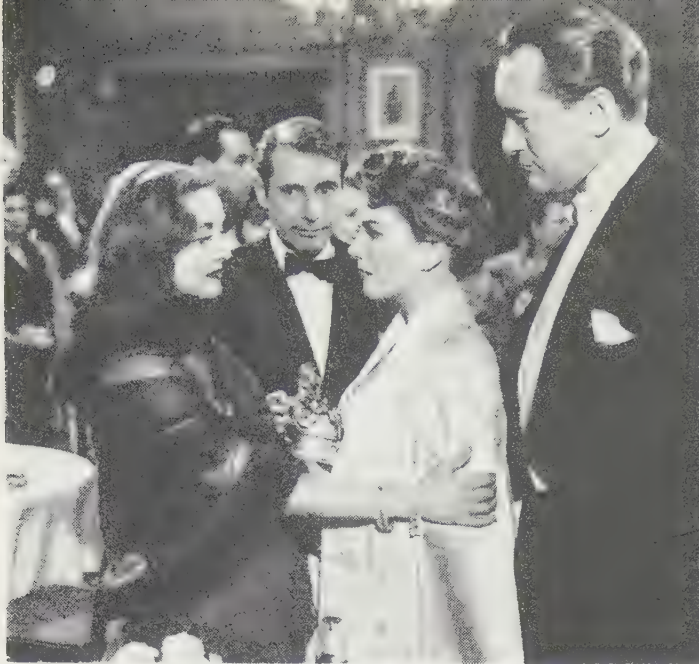
The New York film critics made the following selections for 1950: best picture of the year, Darryl Zanuck's *All About Eve*; best foreign-language picture, *Way of Love*; best actress, Bette Davis in *All About Eve*; best actor, Gregory Peck in *Twelve O'Clock High*; best director Joseph Mankiewicz for *All About Eve*.

Reflecting the increase in the number of pictures turned out in 1950, the Production Code administration approved 381 U.S. features during the year as compared with 360 in 1949. Approval also was given 48 foreign-made films in 1950 as compared with 54 in 1949.

The Academy of Motion Picture Arts and Sciences announced in March 1950 the following awards for 1949 (see accompanying page of photographs for the 1950 awards):

Best picture, *All the King's Men*, a Robert Rossen production, Columbia; performances: actor, Broderick Crawford in *All the King's Men*, actress, Olivia de Havilland in *The Heiress*, Paramount, supporting actor, Dean Jagger in *Twelve O'Clock High*, 20th Century-Fox, supporting actress, Mercedes McCambridge in *All the King's Men*; best direction, Joseph L. Mankiewicz for *A Letter to Three Wives*, 20th Century-Fox; writing (screen play), Joseph L. Mankiewicz for *A Letter to Three Wives*, writing (motion picture story), Douglas Morrow for *The Stratton Story*, Metro-Goldwyn-Mayer, writing (story and screen play), Robert Pirosh for *Battleground*, Metro-Goldwyn-Mayer; best art direction: black and white, Harry Horner and John Meehan for *The Heiress*, colour, Cedric Gibbons and Paul Groesse for *Little Women*, Metro-Goldwyn-Mayer; best cinematography, black and white, Paul C. Vogel for *Battleground*, colour, Winton Hoch for *She Wore a Yellow Ribbon*, Argosy Pictures-Corp., RKO Radio; best sound recording, Thomas T. Moulton for *Twelve O'Clock High*; short subjects: cartoon, *For Scentimental Reasons*, Warner Bros. (Edward Selzer, producer), one-reeler, *Aquatic House-Party*, Paramount (Jack Eaton, producer), two-reeler, *Van Gogh*, (Gaston Diehl and Robert Haesens, producers); best film editing, Harry Gerstad for *Champion*, Screen Plays Corp., United Artists; best scoring of a musical picture, Roger Edens and Lennie Hayton for *On the Town*, Metro-Goldwyn-Mayer; best scoring of a dramatic or comedy picture, Aaron Copland for *The Heiress*; best original song, "Baby, It's Cold Outside" from *Neptune's Daughter*, Metro-Goldwyn-Mayer (music and lyrics by Frank Loesser); best special effects, *Mighty Joe Young*, Arko Prods., RKO Radio; best set decoration: black and white, Emile Kuri for *The Heiress*, colour, Edwin B. Willis and Jack D. Moore for *Little Women*; costume design: black and white, Edith Head and Gile Steele for *The Heiress*, colour, Leah Rhodes, Travilla and





COURTESY, 20TH CENTURY-FOX FILM CORP.

Above: PRINCIPALS IN *ALL ABOUT EVE*, awarded six of the year's highest honours including those for best picture of the year, best performance by a supporting actor (which went to George Sanders, right) and best writing and directing, both by Joseph L. Mankiewicz



COURTESY, COLUMBIA PICTURES CORP.

Above: JUDY HOLLIDAY as the heroine of *Born Yesterday* for which she received the Academy award as best actress of the year. In this picture she is shown poring through the 24 volumes of *Encyclopædia Britannica*

Award winners among the films and players chosen by the Academy of Motion Picture Arts and Sciences for highest achievement in 1950

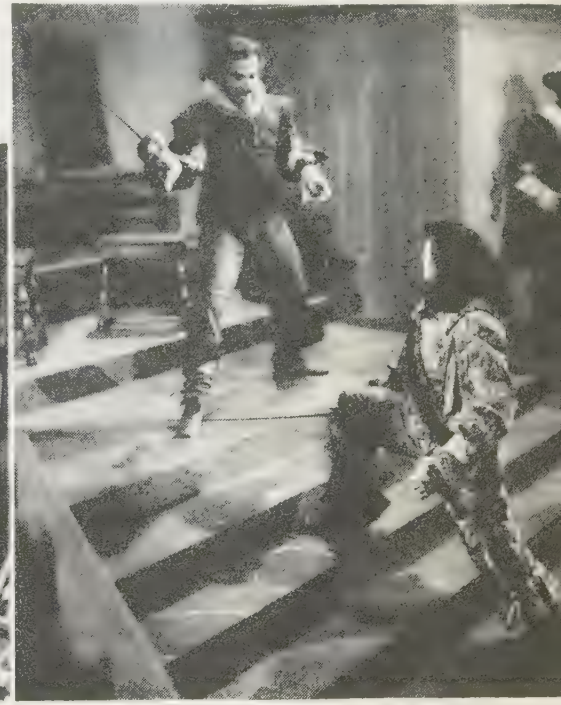


COURTESY, UNIVERSAL INTERNATIONAL FILMS, INC.

Above: JOSEPHINE HULL, chosen best supporting actress of the year for her role in *Harvey*

Below: SCENE FROM *KING SOLOMON'S MINES*, awarded highest honours of the year for the colour cinematography by Robert Surtees

COURTESY, METRO-GOLDWYN-MAYER PICTURES. COPYRIGHT 1950 LOEW'S INC.



COURTESY, UNITED ARTISTS CORP.

Above: JOSÉ FERRER (left), chosen the best actor of the year for his title role performance in *Cyrano de Bergerac*

Below: GLORIA SWANSON in a scene from *Sunset Boulevard*, whose musical score by Franz Waxman was chosen the best of the year

COURTESY, PARAMOUNT FILM CORP.





Marjorie Best for *Adventures of Don Juan*, Warner Bros.; best documentaries: short subjects, *A Chance to Live*, March of Time, 20th Century-Fox (Richard de Rochemont, producer) and *So Much for So Little*, Warner Bros. Cartoons, Inc. (Edward Selzer, producer); feature, *Daybreak in Udi*, British Information Services, produced by Crown Film Unit; foreign-language film award, *The Bicycle Thief* (Italian); special awards: Bobby Driscoll, as the outstanding juvenile actor of 1949, Fred Astaire, for his unique artistry and his contributions to the technique of musical pictures, Cecil B. De Mille, distinguished motion picture pioneer, for 37 years of brilliant showmanship, Jean Hersholt, for distinguished service to the motion picture industry; special awards, scientific or technical: Academy statuette, Eastman Kodak company for the development and introduction of an improved safety base motion picture film; honourable mention—Loren L. Ryder, Bruce H. Denney, Robert Carr and the Paramount sound department for the development and application of the super-sonic playback and public address system, M. B. Paul for the first successful large-area seamless translucent backgrounds, Herbert E. Britt for the development and application of formulas and equipment producing artificial snow and ice for dressing motion picture sets, Andre Coutant and Jacques Mathot for the design on the Eclair Camerette, Charles R. Daily, Steve Csillag and the Paramount engineering, editorial and music departments for a new precision method of computing variable tempo click tracks, International Projector corporation for a simplified and self-adjusting take-up device for projection machines and Alexander Velcoff for the application to production of the infra-red photographic evaluator.

(L. O. P.)

**Educational Motion Pictures.**—How effective are educational films in achieving their intended purposes? How much film can a group absorb at one sitting? How simple and compact should the vocabulary of the sound track be? Can films be used to build group morale?

Since World War II an important trend had been developing in communications research with special emphasis on research dealing with the instructional, informational or training sound motion picture. The studies conducted by the Research branch, Information and Education division, war department, during World War II, and reported in *Studies in Social Psychology in World War II*, v. 3—*Experiments on Mass Communication* by C. I. Hovland, A. A. Lumsdaine and F. D. Sheffield, greatly assisted in defining problems to be attacked.

Research was begun shortly after World War II, using modern experimental methods, on what precisely it is that makes films effective or ineffective for instructional purposes. Parallel and to some extent integrated research programs were set up at the Pennsylvania State college, State College, Pa., and at Yale university.

The basic method which was developed involved the production of series of experimental films. Different versions of films on a common subject were so produced as to control systematically a number of variables. Thus, after testing these experimental film versions and variables on matched groups, it was demonstrated that they could be quantitatively related to the amounts and kinds of learning which result from the film instruction alone. Accordingly, it was becoming possible to define the factors which, in the film medium, contribute either positively or negatively to learning or to attitude and opinion changes.

The Instructional Film Research program of the Pennsylvania State college under the direction of C. R. Carpenter was sponsored by the departments of the navy and army. Of the 50 research projects undertaken, 20 had been completed by the close of 1950. Facts and principles were being formulated on the basis of objective research data which were expected to aid in improving the effectiveness of films for defined instruction with a given audience. Furthermore, it was reasonably well established that some kinds of training could be accomplished by means of films without expert or even very competent instructors. This was an important conclusion.

Genuine excitement had greeted the pioneer series of films on emotional development and treatment of emotional disorders—*Feeling of Rejection*, *Feeling of Hostility*, *Over-Dependency*, by the National Film Board of Canada.

*Human Beginnings*, *Human Growth* and *Human Reproduction* stirred interest in the relationship of sex development to physical and emotional maturity and gave an unembarrassing "out there" experience which made communication about sex development of

children and young people healthier and more intelligent.

Films such as *The Quiet One*, *Preface to a Life*, *Problem Children* and *City of the Sick* were highly praised and widely distributed.

These films made tangible the intangible. They enabled teachers and parents to live through experiences with children and young people ahead of the time when critical decisions had to be made in the classroom and in the home. They gave an opportunity for rehearsal of ways in which common situations could be met. Indeed, if the excellent available films were widely and intelligently used, a high proportion of adults would know how to attack some of the difficult problems of mental health education.

The year 1950 witnessed the meteoric rise of television. What does this have to do with the development of educational motion pictures? Films and television can profoundly influence each other. Television, like radio, may reproduce too many forgettable experiences and make the viewer sponge-minded rather than critical and evaluative: How can the public, especially young people, learn how to evaluate thoughtfully this new and dynamic method of visual presentation?

Schools and colleges have an important obligation to guide taste and develop discrimination. They can develop critical viewing instead of gullibility and passivity. This means among other things the introduction into the school of units on the teaching of motion picture and television discrimination. Indeed, a recent study of most of the commonly used high school textbooks in English showed that about one-half of them included instructional material in motion picture discrimination.

Educational films can be presented to develop thoughtful reaction. Children and young people can be taught that an educational film must be skilfully presented, that it must be simple enough to be clearly understood, that it must make a relatively small number of points and make them well and that it must use to the greatest possible extent the unique powers of the film medium.

Further, the educational film must not be judged by entertainment standards. It must be judged by the standards of good design in exposition, by the standards of the film medium itself.

A fruitful trend in film production that during 1950 was still limited in scope was the production of motion pictures as an integral part of a teaching program. Thus the Encyclopædia Britannica Films on reading are not an addendum or an appendage, but are an integrated and inseparable part of the teaching process. The research program carried on at Pennsylvania State college also suggested the possibility of certain training films which could be used without the direct aid of a supervising teacher. These films might prove useful in certain subsidiary areas of instruction where simple skills and the like could be easily learned through film. Thus the time of the teacher in a class might be devoted to teaching the more complicated and difficult aspects of a subject.

Studies made by the U.S. office of education showed that most schools in the United States were equipped with sound projectors. This was an accomplishment of great significance, because more attention could be given to the production, selection, utilization and evaluation of the films used for teaching purpose. Such a program, one could confidently predict, held great promise for the improvement of education in the United States.

During 1950, producers in the United States were producing educational films for world-wide use. For example, there appeared during the year a catalogue entitled *UNESCO—Motion Pictures Suitable and Available for Use Abroad*. About 2,500 copies were printed and distributed to foreign countries and to U.S. embassies. This list was a direct outgrowth of an international effort by U.N.E.S.C.O. to produce an international film cata-



logue. The United States was the first to respond to this request. A similar program was beginning in Great Britain.

The preparation of lists of films for world-wide use offers many complications. First of all, there must be specialized catalogue lists like the one issued by the Educational Film Library association, *Index to Selected Film Lists*. Second, there must be evaluated lists of films for domestic use, such as were provided by the Educational Film Library association. Third, there must be evaluations of films based on their probable usefulness abroad such as were carried out by the U.S. state department through a nation-wide committee under the direction of I. A. Wright. And finally, producers must, either themselves or through some organization, make arrangements for sales abroad.

Nor is this the end. There must be improved facilities for sending films abroad, especially freedom from onerous tax and other barriers. Here the Agreement for Facilitating the International Circulation of Visual and Auditory Materials of an Educational, Scientific and Cultural Character, which by 1950 had been signed by more than 20 countries, would be of great importance. At the end of the year the agreement had not yet been ratified by enough countries to bring it into effect but it was believed that this might occur during 1951. (Ed. D.)

**Technical Developments.—Theatres and Projection.**—There was a remarkable increase, particularly in the United States, in the construction of outdoor drive-in theatres. These theatres held as many as 1,800 automobiles and one in Chicago, Ill., had four screens, each 50 ft. wide, so that the same picture was shown at the same time to four audiences from four different projectors in a centrally located booth. There was one loudspeaker for each car position and new types of speakers were developed to provide adequate sound quality and to stand up under continued exposure to the weather. The problem of producing pictures bright enough to be seen from car positions in the last row brought the introduction of larger projection lamps, methods for removing heat from the light beam and for cooling the film aperture, and also brought new large-aperture projection lenses.

One notable development was made in Switzerland. It consisted of a carbon arc with the flame held in a fixed position by several streams of air blown around the incandescent crater. Light distribution was improved, and products of combustion which normally degrade the performance of an arc lamp were either eliminated or blown away by the forced draft. Another lamp development from the same laboratory introduced a new arc lamp using a negative carbon in the form of either a disk or a ring, providing a much longer burning time than previously had been available.

The Island theatre, built in Bermuda, had a somewhat larger than normal screen in which the conventional black border did not appear. The architects who designed the theatre reasoned that the motion picture suffered artistically from the confining effects of the black frame and that the motion picture cameraman should be allowed freedom of expression on a larger canvas.

Another development was the first public showing of Cinerama, a U.S. development which projects an enormous picture from three projection machines at one time. Sound, recorded in synchronism with the original picture, is reproduced from five loudspeakers, providing a remarkable directional characteristic and enhancing the spectator's illusion of observing the action through a very large picture-window.

**Theatre Television.**—A new process developed in Switzerland and demonstrated during 1950 combined the advantages of the direct projection theatre television system, introduced in the United States by RCA, and the film storage system, introduced by Paramount Television Productions, Inc. This was the Eidophor system, in which a supplementary carbon arc light source pro-

jects an instantaneous television picture that is traced by a conventional electron gun upon the surface of a viscous fluid which responds by variations in its thickness to an electrostatic charge.

A combination of three electron guns was reported able to produce a projected television picture in full colour.

**Sound Recording.**—Motion picture producing companies in all countries converted their original recording facilities from photographic to magnetic recording process. Some used one-quarter inch tape, not perforated but driven in exact synchronism with a perforated picture film through the use of a control frequency recorded as the original scene was being photographed. Other producers used 16-mm., 17½-mm., and 35-mm. magnetic films. One U.S. manufacturer of magnetic recording materials introduced strip-coating in which a thin strip of magnetic material is applied to a conventional motion picture film either before or after the picture image is photographed, making magnetic sound available for release prints. A combination of magnetic and photographic tracks on the same film was being investigated as a practical means of providing stereophonic sound for conventional motion pictures at very low production cost.

**Scientific Photography.**—The Éclair Camerette introduced in France during 1949 appeared again during 1950 in the form of Éclair Aquaflex, 35-mm. underwater motion picture camera. The camera is fitted with a water-tight housing, a high pressure air bottle used to maintain positive air pressure inside the camera, completely flexible external controls and a set of fins and rudder that permit the underwater cameraman to guide the camera as he swims along. Reports of use tests by the United States navy include underwater photographs with clearly discernible detail at a depth of 85 ft., with an exposure of one-fortieth second, using readily available commercial motion picture film.

Use of high-speed motion picture photography as a tool of scientific instrumentation was widely reported during 1950. Research with guided missiles, highly dangerous explosives and extremely high-speed aircraft requires the use of high-speed motion pictures for observation. Picture rates up to 100,000,000 per second, although not commonplace, were used in several instances and represented a great technical advance in this photographic field. (B. Nc.)

**Canada.**—The chief development of 1950 was the reorganization of the National Film board, effected by an act of parliament. W. A. Irwin replaced Ross McLean as film commissioner on Feb. 1, 1950.

The most significant 1950 releases of the board were: *White Fortress*, the story of Canada's stepped-up health program; *Cadet Holiday*, the training of Canadian army cadets; *Life Under a Leaf*, the lives of vegetable insects; *Cliff Hangers*, Canadian alpine adventures; and *Challenge—Science Against Cancer*.

LeMay Templeton productions (a Paramount affiliate) filmed *Quebec*, a Technicolor version of the abortive 1837 rebellion; Quebec productions shot sequences of *The Scarlet Key*, starring Linda Darnell and Charles Boyer, and *Son Copain*, starring Patricia Roc and Paul Dupuis. The Doherty theatrical interests of Toronto, Ont., teamed up with the Hirliman television interests of New York city to produce films aimed at the U.S. television market.

A national trade union film committee was organized to make available to all trade unions films and filmstrips suitable for union use. The association of motion picture producers and laboratories of Canada announced it would sponsor an annual Canadian film festival beginning in 1951 for amateur, nontheatrical, and theatrical class films. By 1950 there were 265 film libraries in Canada, a 500% increase over 1945. (C. Cv.)

**Other Countries.**—The uneasy economic situation which had developed in 1949 in many of the European film production in-



dustries tended to expand in 1950. British producers were forced to cut their costs considerably at a time when the level of costs in general was steadily rising. The main tendency in France, Italy and Great Britain, which remained the most important production centres in western Europe, was to play safe both in choice of subject and in film technique.

Fewer film festivals were held in western Europe in 1950 than in 1949. The chief competitive festival for western Europe was held in Venice, Italy; that for eastern Europe in Karlovy Vary, (Karlsbad), Czechoslovakia. The Venice festival lasted for a considerable time with separate festivals for specialized documentary films, films on art and children's entertainment films; the French production *Justice est faite* won the Grand Prix. Several congresses were held during the year, including that of the International Scientific Film association in Florence, Italy (where, earlier in the year, a congress on film music had taken place). The newly formed Federation of Film Clubs and Academies, representing the senior film-makers of a number of European countries and countries outside Europe, also met for the first time in Venice.

**Great Britain.**—The quota of 45% fixed in 1948 as the proportion of British films which almost all exhibitors were to show, had to be reduced to 40% for 1949–50 and to 30% for 1950–51. The producers laid the blame for the state of decline mainly upon the excessive entertainment tax which took about fourpence out of every shilling paid by the public into the box office, whereas the producer himself earned only about twopence.

Realizing the producers' difficulties, the government increased its allocation to the Film Finance corporation during 1950 by £1,000,000, and announced later in the year a scheme known as the Eadie plan, through which another sum, estimated at more than £125,000,000, would be made available to producers during 1950–51 out of a fund formed by a special entertainment tax remission. Grants from the Film Finance corporation during 1950 could be made to independent producers ranging from distinguished film-makers to the humblest maker of low-grade films; in respect of the latter case the policy met with considerable criticism and was gradually changed in order that greater emphasis should be placed on quality. Nevertheless, during 1950 the J. Arthur Rank organization which had hitherto produced approximately half of the country's output reduced production to less than a quarter of its former scale.

However, neither in documentary nor in feature film production was 1950 a poor year. Feature films included *The Blue Lamp*, *Chance of a Lifetime*, *Madeleine*, *The Magnet*, *Morning Departure*, *Odette*, *Seven Days to Noon*, *State Secret*, *Trio* and *The Wooden Horse*. At the Venice festival British documentaries, mainly on technical and scientific subjects, won six first awards.

**Commonwealth.**—Apart from India, whose feature film output remained very substantial, the distinctive work of the commonwealth film industries (those of Canada, Australia and New Zealand in particular) was in the documentary field.

In Australia the National Film board was kept intact when the department of information was disbanded by the newly elected Liberal government. With Stanley Hawes as producer in chief, typical subjects were *Flight Plan*, *Arnhem Land* (Stone-Age life in the far north), *A Pint of Milk* and *Know Your Children*. In New Zealand the National Film unit had produced since the end of World War II, a weekly *Review* for the theatres as well as a considerable output of documentary subjects. Other important film-producing organizations in the commonwealth were the Malayan Film unit, the film unit of the Ceylon government and the Films division of the Indian ministry of information.

**Czechoslovakia.**—The state production of films continued during 1950; output remained at approximately 20 feature films a year. The aim of the industry, which was organized under the

ministry of information, was to increase the production of feature films eventually to 50 subjects a year and to increase the production of short films and documentaries proportionately. Although Czech and short films predominated in the theatres, Czechoslovakia remained the best centre in the Communist bloc for the exhibition of films from western Europe. Czechoslovakian productions of note during 1948–49 included *The Case of Dr. Kovar*, a story set in a hospital in the pre-World War II years and concerned with the struggle between two doctors; a Slovakian comedy, called *Katka*, in which a village girl leaves the traditional way of life of her people in order to work in a factory; and *The Great Chance*, a film about Czech youth and the construction of a railway.

**France.**—The year 1950 was interesting if not outstanding for French production, but it was clear at the Venice festival that France was considered to be the country whose entries were generally on the highest artistic level. *Justice est faite*, directed by André Cayatte, won the Grand Prix. It was a well-presented composite drama which showed how a young woman doctor on trial for a "mercy-killing" was pronounced guilty by the jury because peculiar individual circumstances influenced the decision each juror had to make. Two films which caused more discussion than *Justice est faite* were Jean Cocteau's *Orphée* and Max Ophüls (known in Hollywood as Opuls) *La Ronde*. *La Ronde* was also a composite film based on Arthur Schnitzler's famous story of the roundabout of love—half fantasy, half Viennese romance. Cocteau's film was another of his modernizations of classical myths, in this case Orpheus' search for the lost Eurydice in the underworld. Other French films of the year included: *La Cage aux filles* (with Danielle Delorme) a story with the background of juvenile delinquency; *La Marie du port* (with Jean Gabin), a love drama directed by Marcel Carné; *Un Homme marche dans la ville*, a strong melodrama of jealousy notable for the work of its actor-director Marcello Pagliero; *Dieu a besoin des hommes* (with Pierre Fresnay), a religious drama set on a Breton island; and *Ballerina*, a film of the ballet directed by Ludwig Berger. In the documentary field, *La Vie commence demain*, a full-length study by Nicole Védres of contemporary life and thought in France, was the most ambitious production of the year.

**Germany.**—German production developed steadily after World War II and amounted in 1949 to about 60 films. Among the German productions of 1949–50 was the fantasy *Der Rat der Götter*, directed by Kurt Maetzig, in which capitalism in Germany is attacked. Gunther Neumann, the writer of *Berliner Ballade*, wrote the script of a new film called *Herrliche Zeiten* (Gorgeous Times), which surveyed the past 50 years of German history.

**Italy.**—Average production costs in Italy, though they rose by about 20% during the few years before 1950, were still less than half the average for British feature films. It was therefore comparatively easy for Italian producers to recoup their costs in the home market and to earn profits in the various outlets abroad, which included America. There was a remission of tax on Italian productions of merit of up to about 18%, which also assisted producers, and 3% of the total box-office receipts of the program in which it was placed went to each Italian documentary film which obtained commercial distribution. This greatly facilitated the production of artistic documentaries, though the returns to the producer varied considerably with the popularity of the feature film, Italian or foreign, with which the particular documentary was paired for exhibition.

The outstanding Italian feature films of the year included *Domenica d'Agosto*, directed by Luciano Emmer (already well-known for his beautifully made documentaries on Italian art subjects); *Prima comunione*, a comedy directed by Alessandro Blasetti; and a series of important films with background which derived from Italy's contemporary social problems—*Il Mulatto*



(the children of Negro soldiers in Italy), *Donne senza nome* (the lost women of Europe), *Il Cammino della speranza* (emigrants from southern Italy seeking a new life north of the Alps), *Cuore senza frontiere* (human problems in Trieste) and *Domani è troppo tardi* (the sexual education of adolescent youths). Other much-discussed films included *Stromboli* and *St. Francis*, both directed by Roberto Rossellini, and *Non c'è pace tra gli ulivi*, directed by Giuseppe de Santis.

**Scandinavia.**—The film industry in Sweden, the principal Scandinavian film-producing country, suffered considerably after the imposition in 1948 of an addition to the already heavy entertainment tax levy, which in 1950 reached a total of between 30% and 45% according to the price of the seats. Sweden produces between 30 and 40 films a year.

Among the more important films of 1949–50 were *Just a Mother*, directed by Alf Sjöberg (who made *Frenzy*, perhaps the best known postwar Swedish film abroad), *Thirst* and *Prison*, directed by Ingmar Bergman, and *Singoalla*, directed by the French film-maker Christian-Jaque in three language versions.

**U.S.S.R.**—The annual output of feature films by soviet studios had never been large, though the development of regular production by many of the constituent republics of the union in their own languages and reflecting their own way of life added considerably to the number of films made in the union as a whole. Meanwhile, the chief studio of the union, Mosfilm of Moscow, undertook a production in the soviet far east with *Far from Moscow*, which was about the laying of an oil pipe line in those areas during World War II. Mark Donskoi made *Alitet Goes to the Hills*, based on a novel about the early years of the soviet government in the northern Chiskot peninsula, while K. Yudin made a film in colour about stud farms in the Caucasus. Biographical films continued to be produced; *Popov* told the story of a Russian radio pioneer, and *Zhukovsky* (in colour) dealt with the life of a famous 19th-century aircraft designer. Other films were of a more controversial nature; *Secret Mission*, for example, purported to show how the western Allies attempted negotiation for a separate peace with Germany at the end of World War II.

**Yugoslavia.**—Yugoslavia, conscious of its unique position as a Communist country outside the soviet orbit, continued to develop its film industry at high speed. The industry had been founded in 1945, and technicians and artists alike had to be trained in film making at the same time that they produced their films. Most films reflected the traditions, the recent history or the current developments of Yugoslavia. Recent films included *Red Flower* (prisoners of war in German concentration camps); *The Magic Sword* (folk legend); *Trieste* (a contemporary political film); and *The Unconquered People* (the Yugoslav army).

FILMS OF 1950.—*Sound Service Test Films* (Motion Picture Research Council). (R. MAN.)

**Motor-Boat Racing.** Motor-boat racing during 1950 was dominated by the performance of an outstanding boat which set a new world speed record and took international racing honours. This was the unlimited class hydroplane "Slo-Mo-Shun IV," owned by Stanley S. Sayres, designed by Ted Jones and built by Anchor Jensen, all of Seattle, Wash., and powered, like most unlimited hydroplanes, with a 1,710-cu.in. Allison aircraft engine.

"Slo-Mo-Shun IV," built late in 1949, made her first bid for fame on June 26, 1950, on Lake Washington in Seattle, in official speed trials run by the American Power Boat association. Driven by her designer, Ted Jones, she ran the required two one-mile record heats at an average speed of 160.3235 m.p.h.

The old record was 141.74 m.p.h., made 11 years earlier by Sir Malcolm Campbell driving "Blue Bird II" in England.

"Slo-Mo," as she was nicknamed, proved equally successful in race course competition. On July 22 she won the Gold cup, American unlimited hydroplane classic, against all the best boats of her class, setting new records of 78.216 m.p.h. for the 90-mi. Gold cup course and 80.897 m.p.h. for a 30-mi. heat.

The 21st Harmsworth trophy race for the international unlimited speedboat championship was run at Detroit, Mich., Sept. 2. "Slo-Mo-Shun IV" won it rather easily, and her average speed for the race, 100.68 m.p.h., made it the first 100-m.p.h. boat race in history. Lou Fageol drove "Slo-Mo" in that race, Jones being beached with an injured hand.

A damaged shaft bearing disabled "Slo-Mo" in the Silver cup race following the Harmsworth at Detroit. The winner was Jack Schafer's "Such Crust I," driven by Danny Foster, which turned several laps at speeds fractionally over 100 m.p.h.

"Slo-Mo-Shun IV" was not entered in the President's cup at Washington, D.C., Sept. 17, which was won by the new "Miss Pepsi," owned by Walter and Roy Dossin of Detroit, a boat powered with two Allison engines. Though a disqualification had spoiled her chances for the Silver cup, "Miss Pepsi" had set a new five-mile lap record of 107.654 m.p.h. in that event. Driven by Chuck Thompson, she won the President's cup at speeds which, while below those made at Detroit, were records for the Potomac river course. (W. H. TR.)

**Motor Transportation.** For most segments of the U.S. motor transport industry, the year 1950 was distinguished by the output of an unprecedented volume of goods and services. More vehicles were built than in any previous year—8,015,750, compared with 6,255,401 in 1949. The wholesale value of the industry's production of cars and trucks reached \$10,495,000,000, exceeding the previous high of 1949 by 28%. Employment and pay rolls also reached new levels with production workers in automotive plants averaging 715,000 for the year and pay rolls aggregating \$2,700,000,000—an increase of 22% above 1949. Although total automotive production reached an all-time high, truck and bus output fell to 2.5% below the 1948 record of 1,376,155 units. Overseas shipments of automotive vehicles, never a significant item, amounted to only 280,000 units in 1950 and accounted for only 3.5% of the industry's total output.

The high level of production reached in 1950 was generally reflected in increased highway use. Automobiles, trucks, and buses operated a total of 456,000,000,000 mi. over U.S. roads and streets. This striking increase of more than one-third over the pre-World War II level of highway use (333,000,000,000 mi. in 1941) resulted from higher annual mileage per vehicle and more vehicles in operation.

Registrations reached 48,484,000 by the end of 1950—9% higher than the previous record of 1949. Included in this total were 39,710,000 passenger cars, 8,550,000 trucks and 220,000 motorbuses licensed to operate.

Despite greater production, the average age of motor vehicles had not dropped back to the pre-World War II level. The average age of vehicles declined slightly in 1950 to about eight years, yet more than 40% of all automobiles and 33% of all trucks in use were ten years old or more. Only 17% of the cars and 18% of the trucks fell into that old-age bracket in 1941.

With respect to general transportation significance, motor vehicles remained pre-eminent in the urban and interurban movement of people, and were adding steadily to the proportion of freight carried. In 1949 automobiles accounted for 85.5% of all intercity passenger traffic as compared with 79.7% in 1948.





PORT AUTHORITY BUS TERMINAL in New York city shown nearing completion in Aug. 1950. Occupying a square block, it was built to serve approximately 136,000 passengers, 85% of them commuting on intercity lines. The terminal was officially dedicated on Dec. 14, 1950

Between 1948 and 1949 intercity bus traffic dropped from 6.5% to 4.7% of total intercity passenger travel. Although responsible for a declining share of the total, intercity buses handled about one-third of the intercity passengers moved by all public carriers in the United States. Bus volume amounted to 21,000,000,000 passenger-miles annually, as compared with the wartime peak of 27,500,000,000 when travel by private automobile was severely curtailed. The decline in traffic was accompanied by rising costs, particularly labour costs which made up more than half the total operating expenses. The narrowing gap between revenues and costs had led to some cuts in service and scattered fare increases. However, fares for intercity bus travel remained relatively low by comparison with other public carriers—roughly 2 cents per passenger mile.

The long-term trend toward substitution of motorbuses for conventional streetcars continued in 1950. Thus in 1939 railway operations accounted for 64% of transit passenger revenue while motorbuses produced only 33%. By 1949 the distribution had shifted to 40% and 52% respectively. However, the transit industry as a whole had been experiencing declining patronage and rising costs since the end of World War II. Transit rides declined from a peak of about 23,000,000,000 in 1946 to about 19,000,000,000 in 1949. The first ten months of 1950 recorded a further drop of 9.4% below the similar period in 1949, indicating a total for the year of 17,000,000,000.

The fleet of some 8,000,000 motor trucks in the U.S. in 1950 was divided according to major use approximately as follows: 56% privately owned nonfarm trucks, 27% farm trucks, 13% "for hire" trucks and 4% publicly owned vehicles. The importance of these vehicles as prime movers of freight increased rapidly after World War II. There was a pronounced trend toward heavy-duty operation. Thus between 1941 and 1948 the ton-miles carried by single-unit trucks on main roads decreased 21% as contrasted with a 69% increase in traffic moved by heavy-duty vehicles. This development was the product of an increase in the number of heavy-duty vehicles, more extensive operation, and a higher payload carried per vehicle. The importance of the latter factor was indicated by the fact that the

production of heavy-duty trucks had been increasing at a much faster rate than had that of other types. Total sales of all types of trucks in 1950 exceeded the 1949 figure by only 14%, as compared with an 80% increase in the sales of trucks of gross weight in excess of 19,500 lb. (heavy-duty).

This trend toward the concentration of highway freight movement in the heavy-duty long-distance phase of transportation was reflected in the relative shares of intercity freight traffic handled by the various transport agencies. At the peak of World War II the railroads handled 72.8% of intercity ton-miles of freight traffic as compared with 4.6% carried by "for hire" and private highway vehicles. By 1949 the relative shares had shifted to 61.4% and 10.8% respectively. Estimates indicated that the trend continued throughout most of 1950.

The intensity with which U.S. highways had been used since World War II created many problems for motor transportation. Modernization of the highway plant and expansion of its carrying capacity did not keep pace with traffic volume. Not only had heavy-duty traffic tended to increase at a faster rate than total highway use, but this portion of total volume had concentrated progressively on the main routes which constituted a relatively small portion of total highway mileage. The result was critical traffic congestion, physical deterioration of the highway plant and a sharp rise in motor vehicle accidents. (See also ACCIDENT PREVENTION; AUTOMOBILE INDUSTRY; RAILROADS.)

(C. L. D.)

**Motor Vehicles:** see ACCIDENT PREVENTION; AUTOMOBILE INDUSTRY; ELECTRIC TRANSPORTATION; FEDERAL BUREAU OF INVESTIGATION; MOTOR TRANSPORTATION.

**Mozambique:** see PORTUGUESE COLONIAL EMPIRE.

**Mules:** see LIVESTOCK.

**Municipal Government.** Although civilian defense dominated the U.S. municipal scene toward the close of the year, traffic and parking problems tended to eclipse all others in the majority of cities throughout 1950.

**The Traffic Problem.**—The most widespread remedy was the provision of off-street parking facilities in some form or other, often in conjunction with the use of parking meters; in some cities zoning amendments were adopted requiring all new buildings generating traffic to provide appropriate off-street parking space. Among the more striking developments during the year was the Harrisburg, Pa., plan for construction of a parking lot in the middle of the Susquehanna river; negotiations for construction by a private firm of a subsurface garage under the Boston common; a Los Angeles proposal for an underground garage below Pershing square; and New York city's plans for atomic bomb shelters under buildings, parks and playgrounds which in peacetime could serve as parking garages. At the close of 1950, New York city officials announced in addition a spectacular new traffic control program tied in with city defense, involving at the start construction of at least ten garages of 600- to 1,200-car capacity with a single level deep underground for use as bomb shelters, financed in part by revenues to be derived from more than 30,000 parking meters; the entire project to be under sole direction of the new City Parking authority authorized in 1950 and activated toward the close of the year.

San Francisco also consolidated its problems in the hands of a parking authority, which visualized a program of 6,000 additional parking spaces for immediate need and 14,000 by 1970, to be carried out by private enterprise.

**Organized Crime.**—Largely through the initiative of the American Municipal association, which called for federal investigation of the entire problem of interstate gambling rackets and



allied operations and for legislation prohibiting the transmission of gambling devices and betting information across state lines, a senate crime investigating committee was appointed in May under the chairmanship of Sen. Estes Kefauver. Following hearings in key cities throughout the country, the committee, while not prepared to state whether or not anything resembling a "national crime syndicate" really existed, found that well organized criminal groups were operating throughout the country with "interlocking ownership and directorship between all groups," and that organized crime was wielding "a very sinister and very great" influence on public officials. Chicago appeared to be "perhaps the one most important centre of criminal activities," although extensive organizations existed in New York city, Philadelphia, Los Angeles, Miami, San Francisco and many other cities. In all cities, the committee found, the situation was made possible through the "connivance and acquiescence of local enforcement officers." Several shake-ups occurred as a result of the committee's disclosures, particularly in the police departments of New York and Philadelphia, while a purging of the Chicago police department appeared imminent. A legislative ban against shipment of slot machines into all states except those specifically legalizing them was adopted by congress at the close of the year.

**Intergovernmental Relations; Annual Conferences.**—There were extensions of intergovernmental action into important new fields such as the investigation of organized crime and gambling by the federal government, previously mentioned, and the inauguration of a federal-state-local civilian defense program. Old-age and survivors social security benefits were extended to those municipal employees not already covered by an existing retirement system, subject to the consent of each state.

The Advance Planning program—revived in 1949—was re-directed toward the close of the year to relate it more specifically to the defense program. However, several budget cuts, made necessary by the national emergency, reduced the amounts of various federal-aid programs, exclusive however of highway aid.

The American Municipal congress was held Dec. 3 to 6, 1950, by the American Municipal association, an organization uniting 10,500 cities and towns through state associations and by direct city membership. At the same time the U.S. congress was in the throes of enacting a comprehensive civil defense program and opportunity was afforded municipal leaders attending the conference, who had insisted on such legislation, to present the views of the association at the congressional hearings. The policy statement adopted unanimously by the conference called for: (1) transfer of the new Civil Defense administration to the department of defense, to be placed on a par with army, navy and air force agencies; and (2) the establishment of direct relationships between the municipalities in critical target areas and federal authorities. Neither of these views, held to strongly by municipal leaders, prevailed in the ensuing legislation. The conference also went on record in various matters involving federal-local or state-local relations, some in connection with the national defense program, and adopted a comprehensive statement of policy on highways, traffic and parking, defining federal and state relations and prescribing local action. A handbook on *Federal Services to Cities and Towns* was published in 1950 by the association. The annual conference of the United States Conference of Mayors was held in May. The Third Inter-American Congress of Municipalities met at New Orleans, also in May.

**Finance.**—While municipal budgets practically doubled during the decade 1940-50, a tendency toward stabilization of operating expenditures set in between 1949 and 1950 and was reflected in 1950-51 budget figures. At the same time, increased

outlays for new projects deferred during World War II and immediate postwar periods raised the level of municipal budgets in a majority of cases. A number of cities established their budgets on a work program or performance basis in 1950, notably Los Angeles and Los Angeles county, San Diego, Calif., Kansas City and Slater, Mo., Phoenix, Ariz., Kissimmee, Fla., and Richmond, Va.

Census bureau data on the 1949 finances of the 397 cities with a population exceeding 25,000, published in 1950, likewise confirmed a falling off in the postwar trend of constantly increasing revenues and expenditures. The revenue figures reflected a gradual trend away from the general property tax toward new sources of municipal revenue, while the marked gains in debt and capital outlays measured the progress in postwar spending for capital improvements.

There were no spectacular new grants of local taxing powers in 1950. New York state extended to all cities authority to levy the nine local nonproperty taxes theretofore restricted to cities of more than 25,000 population and all counties; villages of more than 5,000 population were empowered to levy the 1% tax on gross income of public utilities. Mississippi legislation authorized retail sales taxes in the state's 12 largest cities, subject to local referendum; at least six cities had adopted this state-collected tax by the end of the year. In Louisiana, permission to levy local sales taxes, previously limited to New Orleans, was extended to all cities. Juneau, Alsk., imposed a retail sales tax in July.

In the income tax field, the voters of Dayton, O., approved the local pay roll income tax after its invalidation by the supreme court for want of such approval. The voters of Portland, Ore., on the other hand, rejected such a proposed tax by almost 3 to 1. The expiration of the \$7,000,000-a-year city earnings tax in St. Louis, Mo., on July 17 precipitated a fiscal crisis necessitating a \$2,800,000 cut in municipal spending for 1950. Paducah, Ky., adopted a 0.5% income tax effective July 1. Pennsylvania's supreme court invalidated Philadelphia's attempt to broaden the base of its pay roll tax by applying it to investment income.

Increased state aid had been granted by most of the 44 state legislatures meeting in 1949; the most frequent increases were for schools, highways and welfare; aid for general purposes through state-shared taxes also increased.

The average unadjusted property tax rate showed only a negligible increase for 1950: 0.08%, compared with 2.8% for 1949 and 5.7% for 1948, according to a study of 232 cities of more than 30,000 population. Adjusted tax rates for these cities decreased 10%, but this decline was attributed largely to a change in the method of computing the adjusted rates which, while preventing comparison with preceding years, provided a more valid basis of comparison for the future. Assessed valuations for these cities increased only 2.2% in 1950, compared with 4.9% in 1949 and 11.3% in 1947; the increase over the period 1946-50 was 21.4%. Tax collections for 100 reporting cities showed an insignificant increase in the percentage collected: 96.87% in 1950, compared with 96.82% in 1949.

Outstanding gross debt in 1950 reached a record high on all local government levels. City obligations, which comprised more than half of all local government debt, reached \$10,100,000,000, compared with \$9,500,000,000 in 1949 and \$8,900,000,000 in 1948. About 48% was for publicly owned enterprises and the remainder for general government purposes.

As reflected by the *Bond Buyer's* index of 20 municipal bonds, municipal bond yields were at a level approaching that of 1945; high point for the year was 2.07% in the first week of 1950, and the low point 1.70% on both Dec. 21 and Dec. 28. The index was below 2% for more than half the year. These figures reflected the good standing of municipal bonds as well as



changes in the federal tax structure.

**Personnel.**—While city government employment continued its postwar growth, there was an approach to stabilization of the average earnings of city employees. City employees as of Oct. 1950 numbered 2% more than Oct. 1949, while pay rolls increased 3.6%; the increase in 1949 over Oct. 1948 was 3% in number of employees and 4% in pay rolls. In 1947 and 1948, however, pay rolls rose more than three times as fast as number of employees because of widespread increases in city salary scales. Average earnings, which increased 8% in 1948 and 11% in 1947, rose only 1.4% in 1949 and 1.8% in 1950.

U.S. City Employees and Pay Rolls

Year	Total	Number of Employees (In thousands)		Total	Monthly Pay Roll (In millions of dollars)	
		School	Nonschool		School	Nonschool
1950	1,306	203	1,104	287.1	58.8	228.3
1949	1,280	198	1,082	277.1	57.4	219.7
1948	1,249	211	1,039	266.0	59.8	206.2
1947	1,202	205	996	236.3	55.0	181.2
1946	1,155	199	955	205.8	45.9	160.0

Data from Census Bureau reports; figure for Oct. 1950 is preliminary.

**Civil Defense and the Cities.**—The part municipal officials played in the passage in December of federal legislation setting up a permanent federal Civil Defense administration is mentioned briefly above. Of particular interest to municipalities was the provision prohibiting contributions by the federal government to proposed dual-purpose structures of a self-liquidating nature, such as underground garages or subways that could double in an emergency as bomb shelters, although Reconstruction Finance corporation loans for such purpose were authorized, as were also contributions for any section of a structure to be used exclusively for civil defense.

Civil defense test exercises were held in three widely separated cities, Washington, D.C., Seattle, Wash., and Chicago, in June, July and September, respectively, under the auspices of the National Security Resources board. They were attended by state and local government officials from many parts of the country. The Chicago Civil Defense corps published the Chicago experience under the title *Chicago Alerts* (226 pp.). St. Paul, Minn., scheduled a similar test in December under the auspices of state civil defense officials. A survey by the United Press published Dec. 15, 1950, indicated that while no cities were yet ready to handle an atomic attack, ten of the biggest cities were "well along" in their preparations, with Chicago leading the way; the others were: New York city, Philadelphia, Washington, Milwaukee, Detroit, Kansas City, Seattle, Minneapolis-St. Paul and Boston. Many other cities, especially smaller ones not reported, were presumed to be doing equally well, though many more had not taken even preliminary steps, pending anticipated participation by the federal government. A report on *The Status of Civil Defense in American Cities, November 1950*, incorporating verbatim reports of officials of nearly 150 cities, was published by the American Municipal association (159 pp.).

**Housing; Rent Control.**—The public housing and urban redevelopment programs authorized under the Housing act of 1949 were well under way in 1950, though the former had to be somewhat curtailed because of the war crisis.

At the close of 1950, 849 communities with a combined population exceeding 25,000,000 and containing 3,750,000 rental units had voted to continue federal rent ceilings until June 30, 1951. In communities failing to take such action by March 31, 1951, rent ceilings would expire on that date. It was estimated that as of Nov. 1950 about 7,000,000 housing units had been decontrolled since adoption of the first decontrol measures in 1949: about 1,500,000 by the housing expediter, 1,300,000 by local government action, 3,500,000 by state action and the remainder by county action and by local rent advisory board recommenda-

tions. A major controversy developed in Los Angeles between tenant and landlord groups after the action to decontrol was taken by the city council; landlord groups finally organized to help the policing of rent decontrol by hearing tenant complaints. The rise in rents for the first ten months in 1950 was 2.2%. (See also HOUSING.)

**Council-Manager Cities.**—The number of council-manager cities, exclusive of counties, in continental United States totalled 953 as of Dec. 31, 1950, according to figures released by the International City Managers' association. There were 52 adoptions during the year, compared with more than 70 in both 1949 and 1948, and four abandonments, compared with eight in 1949. (See also ELECTIONS, U.S.; TOWN AND REGIONAL PLANNING; also under individual large cities.) (A. M. DS.; L. GU.)

**Canada.**—Figures released in Oct. 1950 showed that while in 1939 Canadian municipalities received \$315,000,000 in taxes (30% of all taxes collected by federal, provincial and municipal taxing bodies), in 1950 municipalities received \$500,000,000 in taxes (13% of all collected). But in the period, new heavy loads of spending responsibility were placed upon municipalities in the education, health, welfare, highway-construction and traffic-control fields. To allocate the 1949-announced federal grants to municipalities in lieu of taxation (on federal property), the federal department of finance set up a municipal grants division. About 100 municipalities were involved. On June 29, 1950, parliament voted \$1,655,000 as an initial allocation.

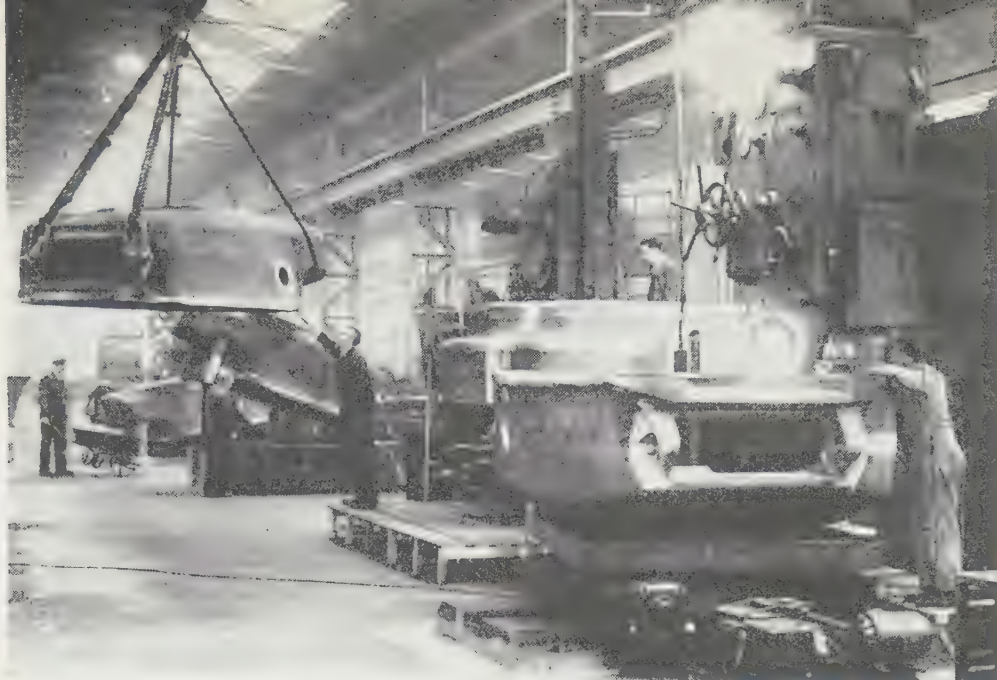
Provincial municipal developments included: the union of Alberta municipalities in an annual meeting urged the provincial government to hand out bigger grants or devise new forms of taxation for municipal needs; a royal commission studied municipal problems in Saskatchewan and recommended that the provincial government: (1) give up the public revenue tax in favour of the municipalities; (2) pay municipal taxes on crown companies; (3) boost the gasoline tax by two cents and accelerate its road program, and (4) establish a municipal advisory commission to investigate possible grants to municipalities; the Manitoba municipal and public utility board declared that municipalities should find greater sources of revenue or learn to live within the income derived from normal tax sources; Ontario set up a continuing provincial-municipal committee to study the fiscal relationships between the two levels of government, published a booklet to guide municipalities in setting up civil defense organizations and established a \$50,000,000 corporation to help municipalities to build incinerator, sewage and waterworks systems; New Brunswick municipal bodies sought a \$3 per capita grant as their share of the provincial sales tax proceeds.

FILMS OF 1950.—*Local Government* (British Information Services). (C. CY.)

**Munitions of War.** **U.S. Army.**—The most critical modern equipment item in the U.S. army in 1950 was the tank. Compared with the estimated 40,000 medium and heavy tanks of the Communist countries, the United States had approximately 6,000 combat-worthy tanks of light and medium varieties. Except for prototypes and a quantity of the new Patton tank, the United States had purchased no new tanks since the end of World War II. However, the army had a long-range tank program whereby there would be developed a family of superior tanks. Ordnance experts of the U.S. army believed that the United States had the best light tank in the world. It also had the prototype of a new medium tank and designs for a superior heavy tank. By using highly improved weapons and superior ammunition, both the light and heavy tanks had been armed to wreak devastating destruction upon even the heaviest of enemy tanks.

Of the 1,595 munitions plants built by the United States during World War II, 270 were retained, owned and managed by the





Left: MACHINING TANK TURRETS for the 50-ton British "Centurion," details of which were first released in 1950. It was the only tank designed after World War II in mass production, and was the standard tank of the royal armoured corps

Below: THE BIG BAZOOKA, U.S. anti-tank weapon firing 3.5-in. rocket missiles, which was first placed in military service in Korea during the summer of 1950



Above: SHOCK-RESISTANT PLASTIC LINER for a helmet assembly made up of liner and aluminum shell (the latter not shown in photo) which was being tested by the U.S. army in 1950 prior to standardization. Lighter than the World War II helmet, it afforded greater protection in terms of head area covered and of resistance to impact

Right: U.S. TROOPS using ropes to pull a "daisy chain" of anti-tank mines into position. Their delaying action was being carried out on a bridge approach outside Yongdong, South Korea, in July 1950





department of defense. In addition, 200 plants were placed in a national industrial plant reserve and either retained as "stand-by" or leased or sold with the stipulation that they would be maintained in such condition that they could be reconverted to war-time production in 120 days.

Some of the outstanding munitions items of the year 1950 follow in brief discussion.

**Aluminum.**—The Glenn Martin Aircraft company of Baltimore, Md., perfected a coating for aluminum which made it twice as wear-resistant as case-hardened steel. It was called M-H-C and was applied by an electrochemical process.

**Anti-aircraft.**—Bofors of Sweden produced a new anti-aircraft gun, a 120-mm., high and low angle, quick firing weapon. For the first time the fully automatic principle was adapted to a gun larger than 40-mm.

**Barium Titanate.**—This newly-developed material for sound and ultrasonic equipment replaced mica and other crystals. Its sensitive atoms respond quickly to the slightest change in pressure, temperature or electrical field. Light shining on a crystal causes the atoms to rearrange themselves. The dielectric constant for this new material had been placed as high as 5,000 as compared with 7 for mica.

**Battery.**—The signal corps laboratories at Fort Monmouth, N.J., developed a new magnesium-cuprous chloride battery, activated by tap water, for high-altitude meteorological research. It weighed 400 g., would operate in temperatures as low as  $-65^{\circ}\text{F}$ ., had a capacity of 12 watt-hr. and a unit size of 16 cu.in.

**Bombs.**—Two developments in the guided missile field included a 12,000-lb. bomb that could be guided all the way to its target, and several self-propelled guided missiles with ranges in excess of 500 mi., capable of as much destruction as ten unguided bombs of the same explosive power.

**Cameras.**—A new camera was tested at Aberdeen Proving Ground, Md., to take pictures, in colour or in black and white, at one 100-millionth of a second. It was expected that it could be speeded up to one ten-billionth of a second. Special aerial cameras were used to take photographs at 100,000-ft. altitudes. Balloons carried the aerial cameras in specially built containers which had their own pressurization, air circulation and heating means. Pictures were taken automatically every 50 sec. up to 100,000 ft. and, after five hours at this height, equipment was dropped by parachute.

**Electricity.**—The ordnance laboratory at White Oak, Md., confirmed the existence of a sheet of electric currents 66 mi. above the surface of the earth. They apparently flowed like an ocean tide and were believed to be the explanation for variation in radio waves.

**Gas.**—Acetogen, a new type of cutting gas made from super-refined purified petroleum gases, provided a  $5,400^{\circ}\text{F}$ . temperature for cutting purposes. Noninjurious and nontoxic, it was found to be far superior to acetylene.

**Generators.**—Chatham Electronics corporation produced two new electric generators of 6 kv. and 20 kv. to replace old cumbersome and short-lived batteries as a high-voltage supply for snooperscopes, sniperscopes and similar infra-red sighting instruments. Compact and weighing only ten pounds, these generators were powered by a spring motor which operated for an indefinite time.

The former batteries lasted three hours.

**Helmet.**—A new helmet assembly was developed by the quartermaster corps. It consisted of an aluminum shell and a shock-resistant plastic liner. Lighter in weight than previous types, it afforded greater protection to the individual, both in the area of the head covered and in resistance to impact.

**Medical.**—While conducting research into communicable diseases, army scientists discovered an antibiotic called actidione,

so detested by rats and mice that they actually die of starvation or thirst rather than eat or drink anything containing it.

**Microscope.**—An X-ray type of microscope, developed by the General Electric company, made visible the internal details of material through which light cannot pass. The microscope consisted of an X-ray tube and a pair of curved mirrors of platinum-covered quartz. The mirrors bent the beams so that they cast a magnified X-ray image of the sample on a photographic film.

**Mica.**—Synthetic mica with essentially the same properties as natural mica, but able to withstand much higher temperatures, was successfully crystallized at the national bureau of standards in Washington, D.C.

**Oils.**—The Lockery company developed a new molybdenum-base lubricant which could be added directly to crankcase or other oils which would carry it to friction surfaces.

**Plastics.**—A urea plastic-cellulose, developed under war conditions, was being used with paint to retard fires. Army boots were being treated with a new plastic coating to improve their looks and increase their resistance to wear. The new coating was an acrylate plastic, contained no inflammable solvents, and could be applied without heat.

**Polymer.**—A new synthetic rubber, developed especially for arctic use, would bounce and not shatter at  $-75^{\circ}\text{F}$ .

**Ration.**—Fifty picked men from the army's Alaska command conducted a rigidly controlled test of a new arctic trail ration designed by the quartermaster corps. Although light in weight, it provided 5,324 cal. a day, compared with the standard ration of 3,600 cal. furnished to troops in temperate climates.

**Resin.**—A new protective type resin, called HPM, was developed by the Glenn Martin Co. Durable enough to withstand laundering or dry cleaning, it remained soft and pliable to the touch and capable of being adapted to meet flame-resistance requirements for clothing.

**Rockets.**—A new anti-aircraft type of rocket believed capable of destroying planes at altitudes above 60,000 ft. was undergoing tests. A rocket fuel was developed by the Allied Chemical and Dye corporation from a former chemical "orphan," nitrogen tetroxide.

**Salvage.**—At five army ordnance plants platinum and rhodium were salvaged from war-surplus material. These metals were found in the form of dust within ammonia-oxidation units. Up to May 1, 1950, more than 1,770 troy ounces had been collected. Properly refined, this would yield 1,300 troy ounces of platinum worth \$69 an ounce and 41 oz. of rhodium worth \$120 an ounce.

**Signal Corps.**—In its policy of miniaturizing matériel so that it could be handled easier than similar equipment in use during World War II, the signal corps produced a crystal rectifier the size of a match head; a field switchboard that weighed only 22 lb.; subminiature radio tubes; and a radio receiver and transmitter, which was so small that it would fit into a king-sized cigarette package, including power supply, antennae and four tubes with a total weight of 11 oz. and a sending and receiving range greater than 200 yd.

**Stock Pile.**—The aluminum and magnesium advisory committee of the U.S. munitions board set as an objective a stock pile of 150,000,000 lb. of aluminum to be accumulated during the fiscal year 1950. The success of this program could be judged from the fact that by Jan. 1950 acceptance had been pledged for 24,000,000 lb. from the Reynolds Metal company and 36,000,000 lb. from the Permanente Metals corporation.

**Truck.**—The "Eager Beaver" was a new Reo-built  $2\frac{1}{2}$ -ton truck designed for high speed on and off the highway; it could operate normally in subzero cold, blistering heat, or with its engine completely submerged in water. It could carry a 10,000-lb. load on the highway at 60 m.p.h., or negotiate a 60% grade with the same load.



**X-Ray.**—General Electric corporation at Milwaukee, Wis., perfected two radically new lightweight "knockdown" X-ray machines designed for use under strenuous military conditions.

**Zinc.**—A new zinc was developed at the General Electric plant in Schenectady, N.Y.; by the addition of small quantities of copper and beryllium to the zinc, it acquired a springy, resilient quality.

(R. S. T.)

**U.S. Navy.**—The year 1950 saw a continuation of emphasis on development of new and improved weapons in the fields of air warfare, antisubmarine warfare and air defense, in order to provide the navy with effective firepower to meet any threat which might be posed in a future war.

Considerable effort was directed also toward developing interim weapons to meet immediate and anticipated short-term needs of the operating forces. For example, the navy's new 6.5-in. anti-tank aircraft rocket, with shaped-charge warhead, was developed specifically to knock out the soviet-built tanks encountered by the United Nations forces in Korea. The new rocket was developed, tested and produced at the Naval Ordnance Test station, Inyokern, Calif., in only 22 days, from preliminary designs drawn up earlier by the bureau of ordnance.

In offensive air warfare the striking power of naval aircraft was appreciably stepped up. New aircraft machine guns and fire control systems were replacing obsolescent equipment. New folding-fin rockets, small enough to be carried in modern high-speed planes in quantity, had far greater range and speed than the aircraft rockets of World War II. These rockets, launched either singly or in salvo from a new type rocket launcher, were capable of bringing under fire aircraft targets from beyond the target's effective defensive firepower.

Active programs were underway to develop radically new anti-submarine warfare weapons and to provide for the modernization and more effective utilization of existing equipment. One new type of torpedo, for use from surface ships and submarines, was undergoing evaluation and was released to limited production. A new shipboard launcher, capable of firing antisubmarine rockets with improved underwater ballistics at a high rate of speed, was developed.

Development of fully automatic intermediate calibre rapid-fire anti-aircraft guns, with accompanying improved fire control systems, had reached a point where introduction into the fleet in the near future was anticipated. These fast-firing high-velocity weapons would give the fleet a significant increase in anti-aircraft defense.

Important progress was made in solving a number of the problems connected with guided missiles development. The bureau of ordnance had a missile which would greatly increase the fleet's defense against attacks by modern aircraft. This missile had reached the evaluation stage and was in limited production. It was to be the primary armament on a cruiser which the navy was converting to a guided missiles ship.

(A. G. NE.)

**Air.**—The outstanding development in the field of air munitions during 1950 was the setting up of a new super-agency in the U.S., the Office of Guided Missiles (OGM). K. T. Keller, president of the Chrysler corporation, was named as director, and Maj. Gen. Kenneth D. Nichols, wartime engineer of the atomic Manhattan project, as deputy director. The OGM reports directly to the secretary of defense and the Armed Forces Policy council, and is charged with the responsibility of co-ordinating all guided missile research and development and planning for standardization of the lowest possible number of practicable types for production. In the initial budget for fiscal 1951 the defense department was allocated approximately \$200,000,000 for guided missiles. About \$600,000,000 additional funds for this purpose were scheduled for the supplemental defense appropriation. OGM plans called for a build-up to a \$2,000,000,000 guided missile

program for fiscal 1952, and a \$3,000,000,000 program for 1953-54. This latter sum was more than was spent by the air force and navy for procurement, research and development of piloted aircraft in fiscal 1950.

A prime purpose of the Office of Guided Missiles is to co-ordinate research and program the merger of several missile developments carried on by army, navy and air force. It fosters incorporation of technique, methods, design and engineering of one missile with those of another (or others) to develop a single usable weapon. A good example of this was the combining of the Martin Matador air defense missile, successfully tested by the U.S. air force, with navy's Regulus to form an improved missile, Matador-Regulus. Certain features of an army-developed missile might be added, and the final combined weapon would be put into production and used by all three services. How necessary this was can be seen from the fact that in the spring of 1950 the air force had 19 guided missile projects under development, the navy 15, and the army 7. Some of the air force and navy projects were refinements of wartime prototypes.

The following were reported to be nearly ready for production and service use, some of them before the end of 1951: Douglas WAC Corporal, General Electric Hermes A-1, Fairchild Lark and the army-developed LOKI. For immediate emergency use for long-range work, the air force had Banshee, a B-29 remote-controlled drone that could carry a 10,000-lb. bomb load. All three services had activated training units to handle the missiles when they were delivered, in the meantime using advanced experimental models. Co-ordination with the weapons systems had also begun; for example, anti-aircraft guided missiles (such as the Boeing GAPA, to be ready in 1952) were being co-ordinated with the parallel development and production of radar intercept nets, techniques and plans for utilization.

Industry devised new tools and techniques to speed up developments in the uncharted guided missiles field. One of the most important of these was unveiled in November as Project Typhoon—the result of a joint program of the special devices centre (office of naval research) and the Radio Corporation of America. It provided a rapid, precise, automatic computer for simulating missile flight for studying and evaluating guided missile performance.

In July 1950 a new radio-guided winged rocket was successfully flown off the Welsh coast. It was the prototype of a high-altitude anti-aircraft missile being developed at the royal aircraft establishment, Farnborough. Details of similar developments by the soviets were hard to obtain, but intelligence reports indicated that great efforts were being expended on missile development to neutralize possible long-range bombing attacks by the U.S. strategic air force. (See also ARMIES OF THE WORLD; AVIATION, MILITARY; JET PROPULSION; NAVIES OF THE WORLD.)

(N. F. S.)

**Murray, Philip** (1886— ), U.S. labour leader, was born in Blantyre, Scot., May 25, and in 1902 moved with his family to the U.S. where he was naturalized in 1911. He became a member of the international executive board of the United Mine Workers of America in 1912 and was the union's international vice-president from 1920 to 1942. He was also president of the United Steelworkers of America after 1942. In 1940 he succeeded John L. Lewis as president of the Congress of Industrial Organizations (C.I.O.). He helped launch several rounds of wage and hour demands after World War II, and in 1947 publicly violated the Taft-Hartley labour law to institute a test case, but was not prosecuted on technical grounds. During the 1948 national elections Murray first attacked Pres. Harry S. Truman's labour policy, but later backed Truman.

In Feb. 1950, Murray sent \$500,000 to the United Mine Workers as a gift from the steelworkers' union. In April he



sounded a new call for labour unity, and in June told a C.I.O. political action committee rally in Washington to collaborate locally with A.F. of L. and other labour groups. On Aug. 8 it was announced that Murray was appointed one of a 12-member committee on U.S. mobilization to advise W. Stuart Symington, chairman of the National Security Resources board. Later in 1950 Murray supervised a "purge" of Communist elements in C.I.O. unions that cost the organization more than 500,000 members. He was re-elected president of the C.I.O. at its national convention Nov. 20-24.

**Museums.** For museums in the United States, 1950 was a year of rapid but generally well-planned growth. More than 25 new museums were established or opened. Many older museums modernized and expanded their exhibits, and others enlarged or replaced their buildings. Museum services were extended in useful directions.

Most of the new museums were located away from the great urban centres. A historical museum was established in Cherokee, Ia., and its modern \$100,000 building was under construction. Texas Technological college, Lubbock, opened its museum of regional history and economy in a new \$500,000 structure. In Columbia, S.C., and St. Petersburg, Fla., new museums were opened. The International Folk Art museum was organized as a unit of the Museum of New Mexico in Santa Fe, but with a separate building in progress. Historic structures which were established as museums ranged from Hampton, a great Georgian mansion near Baltimore, Md., to a log cabin in Homestead National monument, Neb. Among them was Castle Clinton in New York city which had in turn guarded the harbour, served as a receiving station for immigrants from Europe, and been a famous aquarium. The restoration of the old fort as Castle Clinton National monument was begun.

The installation of modern exhibits continued to be a major activity. In some museums the whole scheme of exhibition was being revised, as at the Cleveland Museum of Natural History where the displays were being designed to interpret the Ohio environment familiar to its visitors rather than distant lands. Others opened new exhibit halls on timely subjects, such as television in the Chicago Museum of Science and Industry and water conservation in the Philadelphia Academy of Natural Sciences. There were new galleries of mediaeval Renaissance decorative arts at the Wadsworth Atheneum, Hartford, Conn., and on pre-Columbian art at the Minneapolis Institute of Arts. A lawyer's office of about 1830 was installed at the Farmers' museum, Cooperstown, N.Y., and an early schoolhouse was added to the Mystic (Conn.) Seaport restoration.

There were notable improvements in museum buildings. The Daughters of the American Revolution museum, Washington, D.C., moved into new quarters. So did the Ventura County (Calif.) Pioneer museum. The Boston Museum of Science and the Detroit Historical museum started large buildings. The Ohio State museum, Columbus, and the National Gallery of Art, Washington, D.C., completed \$1,000,000 construction projects. Other museums had important building operations in all stages of development.

Museums used their resources for public service in varied ways. The Museum of Modern Art, New York city, encouraged good design in home furnishings by arranging special exhibitions in collaboration with the Merchandise Mart (Chicago), and assembling a travelling collection of well-designed modern American pieces under the title "Design for Use, U.S.A.," to be displayed in Great Britain and Europe. Several leading art museums took steps to increase their support of contemporary art in the United States through purchases and special exhibitions. The Fogg Museum of Art, Harvard university, undertook

months of work to unroll an ancient scroll from Palestine. The Chicago Natural History museum sent out 14 expeditions to various parts of the world. (See also SMITHSONIAN INSTITUTION.) (R. H. Ls.)

**Accessions to Art Galleries and Art Museums.**—High prices were paid for significant paintings during 1950, as indicated by the fact that the City Art museum of St. Louis, Mo., spent \$130,000 for Rembrandt's "Portrait of a Young Man" (1662). Another notable painting by Rembrandt went to the Cleveland (O.) Museum of Art at a price reputed to be \$135,000. This was the "Portrait of a Student," dating from the 1650s, given for sale to the Metropolitan Opera association by the children of Otto H. Kahn in memory of their father who was for years a patron of the opera.

Cleveland also purchased a charming early German painting, "The Visitation" (about 1515), by Albrecht Altdorfer. The background is a delightful example of landscape painting in the days before landscapes were done independently.

An outstanding picture, "The Game of Skittles" (about 1665), by Pieter de Hooch (1629-83) was given to the Cincinnati (O.) Museum of Art by Mary Hanna, leading Cincinnati collector.

The Columbus (O.) Gallery of Fine Arts purchased Paul Cézanne's "Victor Choquet" (1878-80), a remarkably solid and richly toned portrait of the man who was one of the first to recognize Cézanne's importance as an artist.

Boston's Museum of Fine Arts purchased "Poppies in a Bottle" (about 1600), one of the earliest still-life paintings in existence. This was attributed to the great Italian master, Michelangelo da Caravaggio (1573-1610).

One of the rare art bargains was found by the director of the M. H. de Young museum in San Francisco, Calif. In a small shop in Italy Walter Heil discovered a painting by the Venetian master Gentile Bellini and purchased it for a few hundred dollars. The subject was identified as Leonardo Loredano, doge of Venice from 1501 to 1521.

As a gift from William Randolph Hearst, the Los Angeles County museum acquired an imposing painting by Sir Anthony van Dyck of "Rinaldo and Armida," illustrating Torquato Tasso's epic poem, *Jerusalem Delivered*.

The death of Mrs. Edward S. Harkness released the bequest of her husband of five outstanding paintings to the Metropolitan Museum of Art in New York city. These included a portrait of a member of the Wedigh family by Hans Holbein the younger (1497-1543), a "Self-Portrait" (1480) by Cosimo Rosselli (1439-1507), "Portrait of a Woman" attributed to Antonio Pollaiuolo (15th century), "Elizabeth Farren" by Sir Thomas Lawrence and "Madame Grant," later the princess de Talleyrand, by Marie-Anne Vigée-Lebrun (1755-1842).

The Metropolitan also acquired the "Boy Blowing Bubbles" (about 1735) by Jean-Baptiste Chardin (1699-1779).

Mrs. Edsel Ford presented to the Detroit Museum of Arts a "Madonna and Child" of unglazed terra cotta (dated about 1430) by Luca della Robbia. This was one of the most outstanding examples of 15th-century Italian sculpture ever to enter an American museum.

"St. Martin and the Beggar" by El Greco (1541-1614) was presented to the Art Institute of Chicago by Mr. and Mrs. Chauncey McCormick. Painted just after 1600, this was one of six versions, two of which were in the National gallery in Washington, D.C.

The Toledo (O.) museum acquired a fine 17th-century Dutch picture, "Landscape with Cattle" (1665) by Solomon van Ruysdael (c. 1600-70), and an early "Still Life" (1867) by the French Impressionist painter Camille Pissarro (1830-1903). (See also ART EXHIBITIONS; ART SALES.) (F. A. Sw.)

**Great Britain.**—In London, the British museum reopened the



Egyptian sculpture gallery in July, the Science museum reopened its national aeronautical collections in June and the Bethnal Green museum (a branch of the Victoria and Albert museum) was partly reopened after being closed since 1939. Great improvements were made in the National gallery, which reopened gallery 29 in August.

In the provinces there were many reopenings of galleries or museums closed for a decade, among the more important being the Turner House gallery, Penarth (branch of the National Museum of Wales); Gunnersbury Park museum, Acton; York Art gallery, first floor gallery; the Museum of the History of Science, Oxford; and Cannon Hill Park museum, Birmingham, which was redesigned as a museum of local history. New museums were opened at Oxford (New Museum of Eastern Art), Ince Blundell hall, Lancaster, and Crows Nest Park Art gallery at Dewsbury.

**Europe.**—In Italy more than a score of museums were completely reorganized. The ministry of public instruction republished the *Annuario dei musei e gallerie d'Italia* (Rome, 1950).

In Germany, a tremendous amount remained to be done to bring museums back to pre-World War II standards. At Hanover, both the Kestner museum and the Landesmuseum had only a portion of their collections open to the public. At Düsseldorf, the Shipping museum, the art and historical collections of the city, the Löbbecke museum and the Hetjensmuseum were fully open, but the Museum of Political Economy was still closed. At Cologne, where both the great museums were destroyed during World War II, the collections were brought together in a remarkable temporary exhibition. At Heidelberg, the Kurpfälzisches museum was reinstalled in the 18th-century baroque palace which it occupied before the war.

In Turkey, the Seraglio museum, Istanbul, was opened and showed a remarkable series of furniture, china, costumes, etc. At Ankara the Archaeological museum was being reorganized and was expected to be fully opened in 1951. An archaeological park was projected.

**International Conferences.**—Possibly the outstanding gathering of 1950 was the biennial conference of the International Council of Museums, which was held in London in July. Representatives from more than 30 countries attended. Particular attention was paid to problems of conservation and to the treatment of children in museums.

Among the other important conferences of the year were the

**TREASURE HUNT** designed to familiarize children with the contents of the City Art museum, St. Louis, Mo., as part of a 1950 summer program. Each child was given three post cards picturing objects in the museum which they then hurried to find—without running

technical meetings arranged by the United Nations Educational, Scientific and Cultural organization (U.N.E.S.C.O.). A conference on the care of paintings was held at Rome in Dec. 1949, and a conference on museum technique at Stockholm, Swed., in May, 1950. U.N.E.S.C.O. further sponsored a new international agreement under which paintings, sculptures, films and other works of art would pass freely from country to country.

The year also saw the setting up of the International Institute for the Conservation of Museum Objects, assisted by a grant from the Nuffield foundation of £500 a year for five years. The first president was George Stout of the Worcester Art gallery, U.S.

(S. F. Mm.)

**Music.** During 1950 festivals commemorating the bicentennial of the death of Johann Sebastian Bach were held all over the world. Particularly rich were the celebrations in Germany, both in the western zone and in the soviet zone. The International Music congress met for the first time after World War II at Lüneburg. There was an International Bach festival in Vienna, Aus., with the participation of 10 choral societies, 4 orchestras and 60 soloists. Albert Schweitzer was honorary president of the Bach festival in Strasburg. Virtually every orchestra in England, America, Switzerland, Italy, the Scandinavian countries, the Netherlands, Belgium, Australia and Latin America featured Bach's oratorios, chamber works and instrumental compositions.

Among Bach festivals, one organized by Pablo Casals in the little village of Prades near the Spanish frontier in France attracted world attention. Musical pilgrims came from many countries to hear Casals perform Bach's unaccompanied cello suites and conduct the orchestra in the performances of the Brandenburg concertos.

Beside the Bach festivals, there were 90 summer music festivals in Europe devoted mostly to contemporary works; 22 festivals in the United States and a smaller number in other countries. The Festival of the International Society for Contemporary Music, held in Brussels, Belg., in June, led the way in the field of advanced musical composition. Among the more notable works presented at the Brussels festival were the *Second Cantata* by the Austrian composer, Anton von Webern; the choreographic suite, *Jacob's Dream*, by Darius Milhaud; *Vistula Cantata* by Roman Palester, the Polish composer; *Sinfonia Giocosa* by the Norwegian Klaus Egge; and the challenging work, *L'Explication des Métaphores* by the Warsaw-born Schoenberg disciple, René Leibowitz.





A festival of British contemporary music was presented at Cheltenham in July, featuring a piano concerto for the left hand by Sir Arnold Bax, a piano trio by Edmund Rubbra, a string quintet by Richard Arnell and an oboe quintet by William Wordsworth, great-grandson of the poet.

The year 1950 was distinguished by international musical exchange and visits by foreign organizations. The orchestra of La Scala Opera of Milan, the Orchestre National de la Radio Diffusion Française, and the Radio Symfoniorkestret of Denmark gave performances at the Edinburgh festival in August. The Royal Philharmonic orchestra of London made a tour of the United States in the autumn, under the direction of Sir Thomas Beecham. The Helsinki opera visited Stockholm in March, where it presented the Finnish opera, *East Bothnians*, by Leevi Madetoja. The Stockholm Opera reciprocated by going to Helsinki; it also visited Iceland and gave that northern island country its first operatic performances. The Vienna Philharmonic travelled to Egypt. On the last day of the year, the Israeli Symphony orchestra arrived by plane in the United States, for a tour of 55 concerts in 40 cities, under the direction of Serge Koussevitzky, Leonard Bernstein and Eleazar de Carvalho. The Israeli symphony, comprising 90 musicians, natives of 20 countries, became in 1950 a major symphonic organization.

In Australia Eugene Goossens, conductor of the Sydney Symphony orchestra, inaugurated a series of open-air concerts; the opening concert was attended by 25,000 persons. A festival of works by Australian composers was held in Adelaide in May.

In Latin America a new orchestra, Orquesta Sinfonica do Rio de Janeiro, was founded in Brazil. Operatic productions occupied the attention of music lovers in Argentina, Chile, Colombia and Peru. A season of operas was given in El Salvador. In Mexico, a new symphonic body, Mexico City Philharmonic, made an auspicious beginning.

In Japan the penetration of western music was the most signal phenomenon. The Fujiwara opera group presented the opera *The Old Maid and the Thief* by Gian-Carlo Menotti. For the first time, *The Mikado* by Gilbert and Sullivan was given in Japan for the general public. This operetta was heard in Tokyo in 1946 in a performance limited to occupying forces, to avoid offending the Japanese. The Nippon Philharmonic gave a performance of the *Sixth Symphony* of Roy Harris, and George Gershwin's *Concerto in F*.

In France an important musical event was the production of the new opera *Bolivar* by Darius Milhaud, presented in Paris on May 12. *La Main de la Gloire* by Jean Françaix was produced in Bordeaux. A festival of old and new music was given at Aix-en-Provence in July, presenting a new *Piano Concerto* by Francis Poulenc, and the lengthy symphonic work, *Turangalila*, by Olivier Messiaen.

In England the Committee for the Promotion of New Music, organized in 1943, developed its activities and presented concerts with a critical discussion in which the audience took part.

In Italy the opera *Il Prigionero* by a radical Italian modernist, Luigi Dallapiccola, was presented at the Florence festival in June. The Florence International Congress of Music held a discussion of music for films, with Ildebrando Pizzetti as chairman. An important event was the Venice Biennial, which featured several works in the 12-tone technique: Vladimir Vogel's *Seven Aspects of a Dodecaphonic Series*; Arnold Schoenberg's *A Survivor of Warsaw* (which was repeated in response to audience request), a *Study for Kafka's The Trial* by Maderna and a piano concerto by Mario Peragallo.

The vogue of the 12-tone method of composition in Europe was signalized by several gatherings devoted especially to that form of modern music. The Second International Congress for Twelve-Tone Music was held in Locarno, Switz. (The first con-

gress took place in Milan, It., in 1949.) A *Tagung für Zwölfton-Musik* was held in Munich, Ger., in October.

The revival of modern music in Germany was particularly spectacular in view of its virtual prohibition under the Nazi regime. Numerous works of the modern school written since about 1935 were heard in Germany for the first time. Paul Hindemith visited his native land for the second time. His *Concerto for Horn and Orchestra* was given a world *première* in Baden-Baden. Ernst Krenek toured Germany and Austria as composer, conductor, pianist and lecturer. His opera *Tarquin* received its first complete performance in Cologne. Another native who returned for a visit to Germany was Ernst Toch. Edgar Varèse was invited to lecture in Darmstadt; his unique score *Ionization*, written for percussion instruments only, was performed in Germany for the first time.

The once famous Donaueschingen festival resumed its activities after many years. Five world *premières* by German composers were given: *Second Symphony* by Karl Amadeus Hartmann; a *Fantasy* on the name Bach by Wolfgang Fortner; *Sonata* for two pianos by Harald Genzmer; and works by Gisela Klebe and Otto Erich Schilling.

At the Salzburg festival, 70 delegates from 30 nations were in attendance. The world *première* of the opera *Romeo and Juliet* by the Russian-born German composer Boris Blacher was heard.

The Holland festival during the summer presented a rich fare of classical and modern music in Amsterdam, The Hague and other cities. Belgium, Denmark, Sweden, Norway and Finland contributed their share to musical production.

The first performance of four songs for voice and orchestra by Richard Strauss was posthumously given in London on May 22 with Kirsten Flagstad as soloist and Wilhelm Furtwaengler conducting. On Oct. 29, the British Broadcasting corporation presented for the first time a purported work by Beethoven, *Rondo in B flat* for piano, which was discovered among 18th-century manuscripts.

In the U.S., two festivals of contemporary American music were given in May, at Rochester, N.Y., and at Columbia university, New York city. The Rochester festival presented Robert Delaney's *First Symphony*; the Columbia festival featured the *First Symphony* by William Bergsma and *Twelve Poems of Emily Dickinson* by Aaron Copland.

After several years of suspension, the Elizabeth Sprague Coolidge festival presented a group of concerts at the Library of Congress in Washington, D.C. The first performances of *Five Fables* for voice and small orchestra by G. Francesco Malipiero, and string quartets by Aaron Copland and William Schuman were given.

The Cumberland Forest festival was inaugurated by Roy Harris at Sewanee, Tenn., presenting chamber works by classical and modern composers.

Ernest Bloch was honoured on the occasion of his 70th birthday by a six-day festival of his works in Chicago, which presented a panorama of his creative production, including a new orchestral work, *Scherzo Fantasque*, conducted by Bloch himself.

Several chamber operas by U.S. composers were given successful performances in 1950. *The Triumph of Joan*, a lyric drama by Norman Dello Joio, was presented for the first time at Sarah Lawrence college, Bronxville, N.Y., on May 9; Indiana university, Bloomington, produced two small operas, *The Veil* by Bernard Rogers and *The Jumping Frog* (after Mark Twain) by Berlin-born Lukas Foss.

*The Consul*, an opera by the Italian-American Gian-Carlo Menotti, produced in New York at the Ethel Barrymore theatre on March 15, with a libretto by the composer, who also directed the production, became a commercial success and



aroused hopes that a new lyric opera theatre might be feasible on Broadway. The appealing story of displaced persons in a totalitarian country vainly trying to secure a visa to freedom, set to dramatic music in a modern Italian tradition, made *The Consul* even more successful than Menotti's previous short operas *The Medium* and *The Telephone*.

With Dimitri Mitropoulos in charge of the New York Philharmonic-Symphony, more modern music was performed by that organization. An impressive innovation was his production, with some stage effects, of Schoenberg's cantata, *A Survivor of Warsaw*.

Among first performances given by U.S. orchestras was David Diamond's *Third Symphony* (Boston Symphony orchestra); Peter Mennin's *Fifth Symphony* (Dallas Symphony orchestra); and Ernst Krenek's *Fifth Symphony* (Albuquerque Symphony orchestra).

Musical developments in the U.S.S.R. and in the countries under the cultural influence or domination of the U.S.S.R., reflected the shock wave set in motion by the Feb. 1948 decree against musical modernism. Dmitri Shostakovich, Aram Khachaturian and others named in that decree as "formalists" later redeemed themselves by producing music acceptable to official tastes. Sergei Prokofiev wrote an oratorio, *On Guard for Peace*, but he was still under a cloud.

In the summer, more than 100 works by soviet composers were performed in Leningrad; there were similar presentations in other Russian cities. There was an increased number of compositions with Lenin and Stalin in the title; alternatives were the Kremlin and *Patriotic War*. But the reception of these works was unfavourable, and the composers were urged to write music more vigorous in order to match the subject matter.

In Czechoslovakia, more western music was played than in the U.S.S.R.; but a tendency to supply political titles was notable. A cantata by Miroslav Barvík, *Hands Off Korea* was produced in Prague. Another cantata by a Czechoslovak composer was titled *Stalin's Order*. Songs bore the titles *Great Mao-Tse-tung*, *Glory to the Tanks* and *Peace Cantata*. Classical Czech music was cultivated. Apart from Anton Dvořák and Friedrich Smetana, works rarely heard abroad by Josef Suk, V. Novák and the nonagenarian Prague composer Josef Bohuslav Foerster were given.

In Bulgaria, the *Third Piano Concerto* by Pantcho Vladigerov was performed for the first time, with the composer as soloist. In Hungary the music of Zoltán Kodály had most performances. Béla Bartók's works of folk inspiration were honoured. Of the younger generation, Paul Kadosa was a rising figure in modern Hungarian music.

A decided shift toward folk-inspired music was also observed in the educational policies of Rumanian musicians. Among new



PABLO CASALS, renowned Spanish cellist, who appeared as conductor-soloist at the Bach bicentennial festival in Prades, Fr., in June 1950, his first public appearance after three years of silence

Polish composers the folkloric trend was also apparent. The national substance rather than political orthodoxy was emphasized by the theorists of the U.S.S.R., Poland, Hungary, Rumania and Bulgaria in their advice to composers. This accounts for the fact that the music of Sergei Rachmaninoff, who was an outspoken enemy of the soviet regime, was widely performed and that J. Sibelius was accepted as a composer for the masses, and his well-known opposition to Communist philosophy and soviet practices was tacitly ignored. (N. Sv.)

**Popular Music.**—A majority of the successful songs of the year 1950 either echoed some older music or represented a deliberate revival of material already established in the past.

The most embarrassing index to public taste was supplied by the spectacular popularity of a naive piece of pure "corn" called "Goodnight, Irene," which could justifiably claim to be the song of the year. Nobody knows where or when it started. A press agent named Howard Richmond promoted "Goodnight, Irene" to the top of the Hit Parade and the leading spot among the best-selling records of 1950.

Another hit was the "nickelodeon" song, "Music! Music! Music!" which jizzes the closely related old tunes of "Down South" and "Good-bye, My Lady Love," with an echo of another ancestor dealing with gin as a stimulant and a bit of a Hungarian rhapsody for its "release." Richmond also made a success of the





RUDOLF BING chatting with ballerinas of the Metropolitan Opera company of which Bing became general manager in 1950

baffling "Tzena, Tzena, Tzena," whose background is in the folk music of Israel.

Equally astonishing was the vogue of the "Third Man Theme," played on the zither by its composer, Anton Karas, for the motion picture *The Third Man*. Its tune consists mostly of three notes of the chromatic scale, reminiscent of the old "Abba-dabba-dabba" and the start of the "Floradora Sextet."

The high-ranking "Harbor Lights" was written by Jimmy Kennedy and Hugh Williams in 1937 and some even earlier hits by Bert Kalmar and Harry Ruby enjoyed a revival through their use in the supposedly biographical motion picture, *Three Little Words*, with top honours going to a song called "Nevertheless," dated 1931. An encouraging comeback was made by the far superior "Bewitched, Bothered and Bewildered," written by Richard Rodgers and Lorenz Hart for their musical comedy, *Pal Joey*, in 1941.

Among other song hits of 1950 depending on old rather than new materials were "There's No Tomorrow," copying the Italian "O Sole Mio" note for note, "If I Knew You Were Coming I'd've Baked A Cake," echoing the verse of "A Hot Time in the Old Town Tonight," "Dear Hearts and Gentle People," whose title goes back to Stephen Foster, "La Vie en Rose," based on an old instrumental waltz of the same name and a curious "novelty" called "The Thing," whose tune duplicates that of an English folk song, "The Lincolnshire Poacher," with a suggestion also of the ancient "Vive la Compagnie."

Less obviously indebted to music of the past, but without much originality or distinction, were the two songs most often heard on the Hit Parade, "My Foolish Heart" and "Mona Lisa," both characterized by a pseudo nostalgia of the maudlin type. Other titles of the year in Tin Pan Alley, commercially successful but aesthetically insignificant, were "It Isn't Fair," "Sam's Song" (recorded by Bing Crosby and his son Gary), "Simple Melody," "All My Love," "I Wanna Be Loved," "Sentimental Me" and, in the closing days, "Tennessee Waltz."

The musical stage of 1950 had its share of box-office success, headed by the Runyonesque *Guys and Dolls*, to which Frank Loesser contributed some striking words and music, without

seriously endangering the continued appeal of the well established *South Pacific* and *Kiss Me, Kate*. An elaborate political satire, *Call Me Madam*, was generally considered below the standards of its creators, Howard Lindsay, Russel Crouse and Irving Berlin, with credit for its survival going almost entirely to the ebullient performance of Ethel Merman. The fanciful *Out of This World* also gave the impression of falling below the mark usually set by the gifted Cole Porter, while *Michael Todd's Peep Show* contented itself with living up to the implications of its leering title. A late arrival called *Bless You All* raised the level somewhat, so that the final score for musical comedy could be called above the average.

Gordon Jenkins and the Weavers rose to commanding positions in the field of recorded popular music during 1950, with Bing Crosby holding his own among individual singers and Guy Lombardo similarly entrenched on the instrumental side. The King Cole Trio, Andrews Sisters and Ames Brothers were also popular recording combinations. (S. Sp.)

**Music in Industry.**—The year 1950 was a significant milestone in the steady growth of music in industry, for it marked the publication of the first comprehensive report on the extent, influence and effect of functionally arranged music in industrial America.

Based on a nation-wide survey of more than 35,000 workers in varied types of skills and industries, this report was the initial authentic, large-scale investigation into the functional effectiveness and program acceptability of music specifically designed for industrial use. The findings of this four-year research study, conducted by Muzak corporation, confirmed the importance of specially orchestrated program content and repertory scope for the effective presentation and reception of industrial music. It revealed how vitally necessary the factor of audience acceptability was in work music programs to achieve desired results as expressed in terms of greater employee efficiency, better job attitudes and reduction of occupational fatigue and boredom.

Industrial acceleration for federal defense work late in 1950 added impetus to the installation of plant-wide music systems, thereby indicating the recognition by management of functional music as a production stimulant. Music amplification systems also served a dual role for paging, announcements, shift signals, executive speeches, fire drills, etc.

Other fields of business and commerce made use of specialized music programs for "atmosphere psychology." Such establishments included retail stores, show rooms, transportation terminals, doctors' and dentists' offices, hospitals, clinics and sanitariums. (X.)

**Recordings.**—During 1950 all the major U.S. record companies, and at least 65 small concerns, as well as the firms of Decca in England and Oiseau-Lyre in France, manufactured and sold LP (long-playing) 33 $\frac{1}{3}$ -r.p.m. recordings. RCA Victor, Columbia, London, Capitol, Decca and MGM sold 45-r.p.m. and 78-r.p.m. recordings in addition to LP's. Experts in the industry were agreed that the LP system, introduced in mid-1948 by Columbia, had met with popular acceptance in the U.S. But the same experts were not in agreement on the merits of the 45-r.p.m. system introduced at about the same time by RCA Victor, nor were they agreed on the extent of its acceptance among record buyers. Those manufacturers principally concerned with the promotion and sale of recorded popular songs and dance music were confident however that 45's would soon make obsolete all existing 78-r.p.m. recordings.

English Decca (the "London" label in the U.S.) released full-frequency range recordings of Johann Strauss's *Die Fledermaus* and Mozart's *Requiem*. RCA Victor brought out a new and complete *Rigoletto*. The Prades festival marking the reappearance of



cellist Pablo Casals on the continent was recorded by Columbia and provided Bach collectors with a ten-disk set of LP's which included the complete Brandenburg concertos and the three sonatas for cello and piano.

The small independent companies prepared and released many first recorded performances of important works, but often the technical quality of the records or the musicianship of the performers was less than satisfactory. Of these small companies, Dial, Westminster, EMS, REB, the Haydn society, Cetra-Soria and Vox were the best and their recordings were in some instances distinguished.

**FILMS OF 1950.**—*A Time for Bach* (A. F. Films, Inc.); *Children's Concert, Vocal Music* (Encyclopædia Britannica Films, Inc.); *Hawaiian Musical Shorts* (Nu-Art Films, Inc.); *Lost Chord* (Admiral Pictures, Inc.); *Mexican Serenade* (Sterling Films, Inc.); *Stars and Stripes* (International Film Bureau); *The Schumann Story* (Teaching Film Custodians, Inc.); *To Hear Your Banjo Play* (Brandon Films, Inc.); *University of Illinois Concert Band* (Visual Aids Service, University of Illinois).

(J. J. Ry.)

**Music Library Association:** see SOCIETIES AND ASSOCIATIONS.

**Mustard Seed:** see SPICES.

**Mutton:** see MEAT.

**Mutual Defense Assistance Program:** see NORTH ATLANTIC COMMUNITY.

**Narcotics and Narcotic Traffic.** The most persistent difficulty in the path of international control of opium has been to devise an acceptable method of limiting production of raw opium to meet medical and scientific requirements only. A factor in this difficulty has been the importance of the opium poppy harvest in the economies of the producing countries. The United Nations Commission on Narcotic Drugs of the Economic and Social Council appointed an *ad hoc* committee which met with representatives of the four principal opium-producing countries, Turkey, Iran, Yugoslavia and India, and succeeded in formulating an interim agreement whereby these countries agreed on specific yearly production quotas under supervision of the United Nations, the establishment of monopolies in the producing countries for control of the production of opium, and the founding of an international monopoly for buying and selling opium.

The joint committee of the principal opium-producing countries and the principal drug-manufacturing countries convened at Geneva, Switz., in Aug. 1950 and adopted as the basis of its discussions the proposition that opium production could and should be limited to medical and scientific requirements and that such limitation could best be achieved by means of an international monopoly.

As soon as the first international instrument for the control of narcotic drugs came into force, some provisions of existing conventions became obsolete while some others did not work satisfactorily in practice. However, the international control machinery did work, although its complexity made more and more difficult its adaptation to constantly changing conditions. The unification of the existing instruments therefore became a necessity. This simplification could not be achieved simply by a reduction in the number of control bodies. The problem was to create a system of clearly defined international obligations flexible enough to adapt itself to changing conditions without undue delay. The Commission on Narcotic Drugs during its third session asked the secretary-general to prepare the way for this new convention. Therefore, the secretariat drew up monographs intended to facilitate the work of the representatives of the governments and, at its fourth session, the commission studied this documentation and decided "to request the secretary-general to eventually publish general preparatory documentation on the single convention in printed form, in view of its permanent

value and interest to scholars and officials" (document E/1361). In the *Bulletin on Narcotics*, vol. ii, no. 1, in Jan. 1950 the United Nations secretariat presented three studies which were part of the monographs mentioned.

**Drug Addiction.**—The World Health organization Expert Committee on Habit-Forming Drugs held its second session in Jan. 1950 in Geneva, Switz. The committee expressed grave concern about reports that the world production of heroin was still on the increase and adopted a resolution which recommended that the executive board take steps to secure information on the use or dispensability of diacetylmorphine (heroin) in the various countries, soliciting the aid of the World Medical association and any other organ fitted to participate in this effort. The committee again emphasized its opinion that Keto-Bemidone is particularly dangerous from the standpoint of addiction liability.

The committee drafted the following definition of drug addiction: "Drug addiction is a state of periodic or chronic intoxication, detrimental to the individual and to society, produced by the repeated consumption of a drug (natural or synthetic)."

Evidence on the addiction potentiality of various drugs was considered and evaluated.

**Barbiturates.**—A report on chronic barbiturate intoxication considered by the expert committee showed that the production of barbiturates greatly exceeded the amount needed for therapeutic purposes. The following is quoted from the report: "Since chronic barbiturate intoxication resulted in the development of tolerance and dependence, as manifested by a characteristic abstinence syndrome, it must be concluded that the barbiturates are capable of producing addiction."

**Analysis of the Illicit Traffic.**—It would appear that the principal sources of illicit raw opium were Iran, Thailand, Turkey, China, Mexico and India. Turkey was one of the principal sources of heroin. The Egyptian authorities made exceptionally large seizures of Turkish and Syrian opium and hashish. Syria was a transit route for raw opium sent from Turkey to Egypt. Syria was also a major producer of hashish, most of which was smuggled from Syria to Egypt. Thailand and Indochina still permitted the smoking of opium. (See also DRUG ADMINISTRATION, U.S.)

**BIBLIOGRAPHY.**—World Health Organization Expert Committee on Habit-Forming Drugs, *Report* of the second session, held at Geneva, Switz., Jan. 9-14, 1950 (document EB5/85; Corr. 1, WHO/HFD/20; Corr. 1, Jan. 20, 1950); U.S. Treasury Department, Bureau of Narcotics, *Traffic in Opium and Other Dangerous Drugs for the Year Ended December 31, 1949* (1950).

**FILMS OF 1950.**—*The U.S. Customs Safeguards Our Foreign Trade* (Frith Films). (H. J. A.)

**National Academy of Sciences:** see SOCIETIES AND ASSOCIATIONS.

**National Archives and Records Service:** see ARCHIVES, NATIONAL.

**National Association for the Advancement of Colored People:** see SOCIETIES AND ASSOCIATIONS.

**National Association of Manufacturers:** see SOCIETIES AND ASSOCIATIONS.

**National Association of State Libraries:** see SOCIETIES AND ASSOCIATIONS.

**National Budget:** see BUDGET, NATIONAL.

**National Bureau of Standards:** see STANDARDS, NATIONAL BUREAU OF.

**National Catholic Community Service:** see SOCIETIES AND ASSOCIATIONS.

**National Catholic Welfare Conference:** see SOCIETIES AND ASSOCIATIONS.

**National Congress of Parents and Teachers:** see SOCIETIES AND ASSOCIATIONS.

**National Debt:** see DEBT, NATIONAL.



**National Education Association:** see SOCIETIES AND ASSOCIATIONS.

**National Gallery of Art:** see SMITHSONIAN INSTITUTION.

**National Geographic Society.** In the second half of 1950, the National Geographic Society, jointly with the University of Miami, Fla., launched a year-round program of research on the microscopic marine organisms known as plankton. F. G. Walton Smith, head of the university's Marine laboratory, was named director and Hilary B. Moore of his staff was named associate director. The field work began with seining of plankton at various levels down to 400 fathoms in and at the edge of the Gulf Stream between southern Florida and the Bahamas. The research program was expected to develop data of value to commercial fisheries and new information on the behaviour of the Gulf Stream, along with new general knowledge in the field of marine biology.

During the year several discoveries in astronomy resulted in the course of the National Geographic Society-Palomar Observatory Sky survey, a four-year project for photo-mapping the heavens initiated in mid-1949. Two dwarf stellar systems previously unrecorded were noted in remote space beyond the constellation Leo on plates exposed with the 48-in. Schmidt wide-angle telescope being used for the survey. One was the smallest galaxy so far known, Albert G. Wilson and R. G. Harrington reported in June in announcing their discoveries. Both were marked for further study with the 200-in. Hale telescope at Palomar. A new comet of the eighth magnitude (not visible to the naked eye) was observed in the constellation Ophiuchus. The California Institute of Technology, Pasadena, Calif., was co-sponsor of the survey. When completed in 1953, its 2,000 or more photographic plates of the heavens would provide prints to comprise a sky atlas of unprecedented scale and precision.

The society in 1950 continued for the fifth straight year its program of cosmic ray research jointly with the Bartol Research foundation of Philadelphia's Franklin institute. For the second year the principal studies were conducted at the high latitude (59°) of Churchill on Hudson bay, with the co-operation of the National Defense board of Canada. Under the direction of Bartol physicist Martin W. Pomerantz, 32 carefully planned

flights of free balloons were made 20 mi. and more into the top layer of the atmosphere, carrying Geiger counters, ionization chambers and other instruments for the purpose of recording the cosmic rays, their nuclear explosions, temperature, altitude and other data. Evaluation of the findings was still in progress at the year's end. Pomerantz disclosed in a scientific paper near the end of the year, however, that earlier experiments in the research program had developed evidence indicating that an increase in intensity of cosmic radiation occurs at the top of the atmosphere within 20 hr. of a major solar eruption. An accompanying phenomenon of considerable scientific interest was that the volume of solar radio noise also intensified at the same time, encouraging the theory that the eruptions caused both effects. The data strongly indicate, Dr. Pomerantz suggested, that the sun may be the source of virtually all the cosmic radiation reaching the earth.

Investigation into the nature of the aurora borealis, or northern lights, continued during the year. Carl W. Gartlein was director of the National Geographic Society-Cornell University study of the aurora, carried on since 1938 at Cornell and New York state and Canadian field points.

Published in the *National Geographic Magazine* during 1950 were approximately 980 colour pictures of scenes and natural history subjects in all parts of the world, and reproductions of paintings.

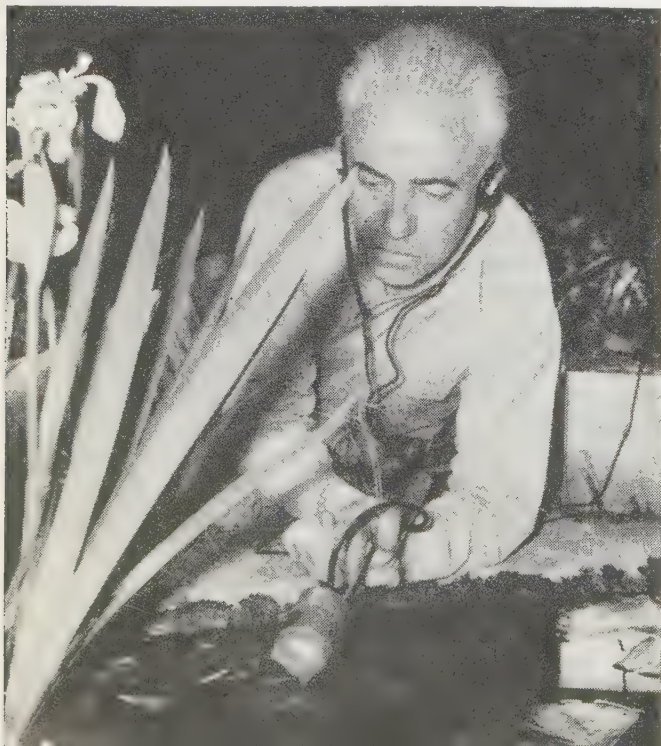
Four large wall maps in colour were prepared by the society's cartographic division and distributed as supplements to the magazine. The areas covered were: Northwestern United States and neighbouring Canadian provinces, South America, Africa and western Europe. The western Europe map was announced as the first of a three-map series that would give the most detailed coverage of Europe ever provided by the society.

Among 300 releases which the society's news bulletin service sent to its list of about 800 newspapers, press associations, radio news staffs, etc., requesting this service were 32 giving the geography behind the news of United Nations battle action in Korea. Three of the 32 were accompanied by maps of Korea—south, central, and north—prepared especially for newspaper use and giving detail on the peninsula's rail and road communications.

From the news bulletins, the geographic school bulletins were prepared and sent weekly to 35,000 teachers for classroom use.

The society's members at the year's end numbered approximately 1,950,000. The headquarters are at 16th and M Streets, N.W., Washington 6, D.C. Officers: president and editor, Gilbert Grosvenor (who at the year's end was in his 52nd year as editor); vice-president and associate editor, John Oliver La Gorce; secretary, Thomas W. McKnew; treasurer, Robert V. Fleming. The society's research committee: chairman, Lyman J. Briggs; vice-chairman, Alexander Wetmore. (G. Gr.)

RECORDING the voice of the barking frog with microphone and preamplifier, an illustration from a 1950 report in the *National Geographic Magazine* on a library of natural sounds being set up at Cornell university



**National Guard.** During 1950, the volunteer militia of the states, the national guard, was called upon by Pres. Harry S. Truman to release from state control for federal service six of its divisions, numerous nondivisional units, including anti-aircraft artillery units and medical companies. The air guard received orders calling four fighter bomber groups and one tactical reconnaissance group plus an undisclosed number of air supporting groups to active duty.

Major organizations of the guard reporting to camps in September were the 28th infantry division of Pennsylvania, the 40th of California, the 43rd of Connecticut, Rhode Island and Vermont, the 45th of Oklahoma, the 196th regimental combat team of South Dakota and the 278th regimental combat team of Tennessee.

The other two divisions, the 31st of Alabama and Mississippi



and the 47th of Minnesota and North Dakota, alerted on Dec. 16, were scheduled to leave for camp on Jan. 16, 1951.

The 296th infantry regiment of Puerto Rico was ordered to active military service in Sept. 1950 with remaining elements of the 296th regimental combat team alerted for active military service during January.

For security reasons, developing after hostilities began in Korea, the national guard's over-all strength at the end of 1950 was not revealed. The last published strength on June 30, 1950, showed a total of 372,000 officers and enlisted men serving in 4,863 army and 514 air units located in communities throughout the 48 states, District of Columbia and territories of Hawaii, Puerto Rico and Alaska.

More than 300,000 national guardsmen participated in the annual 15 days of summer field training.

To increase further the military proficiency of its men and to keep them abreast of the latest methods of the regular services, the national guard had 20,473 of its army members pursue resident courses of instruction in service schools and 2,710 of its air force members attend service schools during the fiscal year 1950.

In order to alleviate a shortage of junior officers in army units, a program was introduced enabling enlisted men to train for commissions at home, and upon completion of this training course, to take a practical test conducted by the senior army instructor.

To conform with the U.S. air force's combat wing structure developed after World War II, the air national guard reorganized its 12 wings, 27 tactical groups and 84 tactical squadrons into 27 combat wings, each with a single combat group. The number of squadrons, 84, remain the same.

Public law 783, the Armory bill which was passed by the 81st congress on Sept. 11, 1950, authorized the construction of armories and facilities in which to train guardsmen and to store military equipment.

(E. B. F.)

**National income and National Product:** *see* INCOME AND PRODUCT, U.S.

**National Insurance:** *see* RELIEF; SOCIAL SECURITY.

**Nationalization of Industries:** *see* COAL; GREAT BRITAIN AND NORTHERN IRELAND, UNITED KINGDOM OF; PUBLIC HEALTH SERVICES; PUBLIC UTILITIES; RAILROADS.

**National Labor Relations Board.** The National Labor Relations board, in its second full fiscal year of enforcing Title I of the Labor Management Relations act, 1947 (commonly known as the Taft-Hartley law), experienced an increase of 10% in the filing of representation and unfair labour practice cases.

The five-member board issued formal decisions in 2,951 cases of all types during the 1950 fiscal year. Of these, 2,481 were in representation cases, 417 in unfair practice cases and 51 in union-shop authorization cases. Of the unfair practice cases, 315 involved charges against employers and 102, charges against unions.

The general counsel of the board, who has independent responsibility for the investigation of unfair practice cases and their prosecution before the board members, issued formal complaints in 708 cases. Of these, 552 involved charges against employers and 156 involved charges against unions.

One of the major problems confronting the board since its inception had been the extent to which it should assert its jurisdiction under the law. This question came into new prominence as a result of the amendments to the act in 1947. The board, however, had long taken the position that it better effectuated

the purposes of the act "not to exercise its jurisdiction to the fullest extent possible under the authority delegated to it by Congress, but to limit that exercise to enterprises whose operations have, or at which labor disputes would have, a pronounced impact upon the flow of interstate commerce." In Oct. 1950, after long study of the pattern emerging from past decisions, the board announced in a series of decisions unanimous adoption of a set of explicit standards to govern its exercise of jurisdiction.

Among the unfair labour practice cases coming to the board members, several involved the question of what information a collective bargaining agent of employees is entitled to ask of the employer in order to be able to conduct negotiations intelligently or to safeguard its contract against violations. The board, with court approval, had held previously that a union was entitled to information on any merit increases made to individual employees in the bargaining unit it represented. Reaffirming this rule, the board held in one case that the union was entitled to this information even though it had made a contract giving the employer power to make merit raises without consulting the union. The board ruled, however, that the employer was not required to furnish such information in the precise form requested by the union in order to meet this requirement of the law.

The conduct of individual employees and their labour organizations also raised questions in a number of cases. In one case, the board reaffirmed its general policy of holding a union to a no-strike pledge, and a majority held that an employer was within his rights in refusing to bargain with a union which had failed to fulfil all its obligations under a no-strike clause. In this case, the majority found, the union had pledged itself not only to refrain from instigating or authorizing strikes, but had promised to endeavour to bring about the return to work of any employees going on strike. The majority ruled that the employer in the case was free to refuse to deal with the union because it had failed to fulfil the latter obligation.

Of the unfair labour practice cases filed during the fiscal year 1950, slightly more than three out of four involved charges against employers. Out of 5,809 such cases, allegations were made against employers in 4,472 and against unions in 1,337.

All told, the agency closed 5,615 unfair practice cases during fiscal 1950. Of these, 5,098 (or more than 90%) were closed in the field without the necessity of board decision, hearing or other formal action.

To remedy discrimination against employees, awards of back pay totalling \$1,090,280 were made to a total of 2,272 employees to reimburse them for loss of wages resulting from the illegal discrimination. This compares with 1,994 employees receiving back pay totalling \$605,940 in fiscal 1949. Reinstatement to a former job or one equivalent was offered to 2,111 employees as a result of board action in discrimination cases. Collective bargaining was ordered in 236 cases involving charges against employers and in 15 cases against unions. In 233 cases, employers were ordered to withhold recognition or other assistance from unions found illegally assisted, and employer-dominated organizations for employees were ordered disestablished in 20 cases.

During the fiscal year, the board conducted 5,731 representation elections in which 899,848 employees were eligible to vote. This was an increase of only 1.5% in the number of elections, compared with fiscal 1949, but it was an increase of 48% over the 607,534 eligible to vote in 1949 elections. In 1950 elections, 83% of those voting cast ballots in favour of bargaining representation compared with 73% in 1949. Collective bargaining representatives were selected in 4,223 elections in 1950, or approximately 73% compared with 71% the preceding year. The



units choosing representation comprised 759,038 employees or about 84% of the employees in all units.

The agency conducted 5,591 union-shop authorization polls, and negotiation of union-shop contracts was authorized by the employees in 5,377 polls, or 96.2% of those conducted. A total of 1,072,917 employees were eligible to vote in these polls; units comprising 1,045,162 employees, or 97% of those eligible, authorized the union shop.

In connection with unfair labour practice cases, the agency petitioned U.S. courts for 30 injunctions during fiscal 1950 compared with 33 the preceding year. Of the 1950 injunction proceedings, 28 were against labour organizations and 2 against employers. Of those sought against labour organizations, all but 6 were sought under the mandatory provisions of the act. Of these, 11 were granted and 4 denied. The others were either settled or pending at the close of the fiscal year. Three of the four other injunctions sought against unions also were granted. One of the two injunctions sought against employers was granted and the other was settled.

During 1950, Pres. Harry S. Truman appointed Paul L. Styles as a member of the board to replace J. Copeland Gray. He reappointed Chairman Paul M. Herzog to a second five-year term. The other three members of the board, John M. Houston, James J. Reynolds, Jr. and Abe Murdock, also continued in office. The president accepted the resignation of Robert W. Denham as general counsel, replacing him with George J. Bott. (See also LABOUR UNIONS; LAW; STRIKES.) (P. M. HG.)

**National Mediation Board.** The year 1950 was the 16th year of administration of the Railway Labor act, as amended in 1934, and the 24th year since the act was originally enacted in 1926. The National Mediation board is the principal administrative agency under the act and is charged with the duties of assisting railroad and air-line carriers and their employees in effective peaceful settlement of labour disputes in the interest of avoiding interruption to essential transportation.

The work of the National Mediation board falls into two categories: (1) mediating disputes involving changes in rates of pay, rules and working conditions; and (2) certifying collective bargaining representatives in disputes concerning representation of employees.

During 1950 the more prominent disputes in the railroad industry were those arising from the efforts of the employee organizations to secure added manpower for operating diesel locomotives and the efforts of the employees in train and yard service to secure establishment of the 40-hr. work week. The 40-hr. work week was established for railroad nonoperating employees in 1949, and efforts to secure similar arrangements for road and yard train service employees precipitated a dispute which, in the closing days of 1950, threatened to paralyze the nation's railroad transportation system. This threat became apparent as employees in key terminals reported off duty on account of sickness in such large numbers that terminal operations were sharply curtailed.

Following intensive mediation efforts and an appeal by the president of the United States on Dec. 15, the employees returned to their jobs and the dispute was settled within a few days thereafter.

**BIBLIOGRAPHY.**—Annual report of National Mediation board for fiscal year ended June 30, 1950. (T. E. S.)

**National Museum:** see SMITHSONIAN INSTITUTION.

**National Parks and Monuments.** Approximately 32,782,000 visi-

tors were recorded during 1950 at the national park service areas of the United States. Five of the national parks, the Blue Ridge parkway, Lake Mead National Recreational area and the Lincoln memorial in the nation's capital, each had more than 1,000,000 visitors.

Among major improvement projects completed during the year were a water supply system for Mesa Verde National park and a cooling and distribution system for the thermal waters at Hot Springs National park. Considerable headway was made on pier and other construction work at Statue of Liberty National monument designed to facilitate visitor use of the area and to improve its general appearance.

The first accommodations for visitors to Katmai National monument, Alsk., were provided during the summer when Northern Consolidated Airlines, Inc., operated two camps there, in addition to aeroplane transportation from Anchorage.

The most historic group of buildings on the North American continent, the Independence hall group, was transferred from municipal to federal administration under an agreement consummated between the department of the interior and the city of Philadelphia. The city, however, retained actual ownership of the buildings. Administration of historic Carpenter's hall and Christ church was provided under similar agreements with the organizations owning them.

These historic buildings would be administered as part of the Independence National Historical park project, for which congress authorized the expenditure of \$4,435,000 for land acquisition. In addition, the commonwealth of Pennsylvania undertook the acquisition of lands lying north of Independence square for the creation of a mall. The state acquired the first unit of this proposed mall at a cost reported to be \$3,000,000.

Historic Castle Clinton in Battery park, New York city, was established as a national monument and was being restored to its original appearance.

Establishment of the George Washington Carver National monument near Diamond, Mo., to include the birthplace of the distinguished Negro scientist, moved a step nearer completion with the authorization by congress of an expenditure of up to \$150,000 to acquire lands and develop the area.

The acquisition late in 1950 of all remaining private lands in Everglades National park (a total of approximately 125,000 ac.) considerably lessened protection and administration problems in the park.

Similarly, the addition to Grand Teton National park of most of the land comprising the adjoining Jackson Hole National monument facilitated administration and protection problems. Included in the enlarged park were approximately 31,000 ac. of land donated to the federal government by John D. Rockefeller, Jr., late in 1949.

By acts of congress approved in Aug. 1950, upon recommendation of the department of the interior, two other national monuments—Wheeler and Holy Cross in Colorado—were abolished and their lands transferred to U.S. forest service jurisdiction.

During 1950, there were a number of demands for commercial utilization of natural resources of national park service areas. One such demand, calling for construction of dams in Dinosaur National monument, was discussed at a public hearing in Washington, D.C. Conservationists and national park service officials testified against the proposal, pointing out the irreparable damage of scenic canyon terrain which would result from construction of the dams. Bureau of reclamation officials and delegations from the states which would benefit from the water produced by the dams testified in favour of the proposal. After carefully reviewing all the testimony, the secretary of the interior decided in favour of the dams because of the special circumstances involved, but indicated he did not wish his decision



to provide a precedent for other park and monument areas. Final decision on the proposal, however, rested with congress.

(N. B. D.)

**Canada.**—The Fundy National park was formally opened on July 29, 1950. Situated on the Bay of Fundy between the Goose and Upper Salmon rivers, the park has an area of approximately 80 sq.mi.

More than 1,045,000 tourists visited the national parks between April 1 and July 31, the largest number ever recorded. This was an increase of 27,593 over the same period in 1949. (See also TOURIST TRAVEL.)

FILMS OF 1950.—*Yellowstone* (John Ott Pictures Inc.).

## National Production

**Authority.** This U.S government agency was established Sept. 11, 1950, by the secretary of commerce to assist him in carrying out his functions under the Defense Production Act of 1950. The functions of its administrator, William H. Harrison, who was sworn in on Sept. 11, 1950, were to insure that rearmament requirements for production materials and facilities were met on schedule; to insure that, after defense needs were met the remaining supply of critical materials and products was distributed equitably for nondefense uses; and to develop and promote measures for the expansion of productive capacity and of production and supply of materials and facilities necessary for the national defense and for maintaining a strong economy.

The administrator was given authority to require that producers give priority to defense contracts, and was authorized to allocate materials and facilities and to requisition any facilities or supplies needed for defense production.

NPA's first formal action was the promulgation of its regulation 1, limiting inventories of materials in short supply. Regulation 2 established a broad system of priorities assuring the right of way to defense orders with minimum disruption of civilian supplies.

NPA orders also specified rules for placing, accepting and scheduling defense orders to reduce disruption of distribution to nondefense users of materials by requiring advance notice for placement of rated orders and a limit to the percentage of a manufacturer's current production which need be used for defense.

Generally, NPA controls were applied "across the board" to raw materials rather than being aimed at specific "end items," though it was anticipated that NPA controls eventually would suspend production of nonessential consumer goods.

To facilitate correspondence with producers, a number of NPA field offices were set up in large cities from coast to coast. Its headquarters organization included three bureaus and six offices. The bureaus and their functions were: the Program bureau, to review and audit requirements for materials and



VOORTREKKER GIRLS standing guard before the statue of a pioneer mother at the base of the Boer monument in Pretoria, U. of S. Af. The monument was designed by the South African architect, Gerard Moerdijk

equipment for all production programs; the Industry Operations bureau, to analyze supply and demand for essential resources and materials and to recommend proposed allocations; the Facilities and Construction bureau, to examine applications for "necessity certificates" referred to it by the National Security Resources board, and applications for federal loans which are consummated by the Reconstruction Finance corporation and to conduct activities relating to production and distribution of building materials.

Its offices were: the industry advisory committee; small business; civilian requirements; labour requirements; analysis and reports; and field service.

Among the first controls imposed by NPA were those on rubber, steel and building materials. The rubber ruling imposed Oct. 20 reduced each manufacturer's use of the product to 63% of the amount used in an average month of the year ending the preceding June 30. A ban on the construction of new amusement or recreational buildings was issued Oct. 26. A 35% cut in the civilian use of aluminum was made effective Jan. 1, 1951.

On Nov. 29 the NPA issued an order cutting civilian use of copper 15% during Jan. and Feb. 1951, and 20% in March 1951. On Dec. 7 the NPA denied that any immediate imposition of wage and price curbs was anticipated. Curbs of nickel and zinc were also imposed upon nondefense producers during December.

**National Wealth:** see WEALTH AND INCOME, DISTRIBUTION OF.

**Natural Gas:** see GAS, NATURAL AND MANUFACTURED.

**Naturalization:** see ALIENS.

**Nauru:** see TRUST TERRITORIES.



## Navies of the World.

At the end of 1950 only two navies could be considered as first class, namely those of the United States and of Great Britain, the former being three or four times larger than the latter. The fleets of the U.S.S.R., France and Italy could be reckoned as second class, and those of Sweden, the Netherlands, Turkey, Spain, Australia, Canada, Argentina, Brazil and Chile as third class, while the smaller and not so well-balanced navies fell into categories below that. Several of the smaller countries continued to add to their naval strength by acquiring the older or surplus warships of the United States and Great Britain. The relative strengths in ships (of and above the escort vessel categories) of the navies of the world were as shown in the accompanying table, which includes the new navies of Indonesia and Israel, the expanded navy of Egypt and the partly resurrected navy of Japan.

The principal tendencies in the navies of the larger maritime powers in 1950 were the development of radar apparatus and sonar devices, the improvement of antisubmarine and anti-aircraft weapons, the reconstruction and conversion of aircraft carriers to operate larger and faster aircraft, the adaptation of large destroyers as fleet antisubmarine escorts, the conversion of smaller destroyer types into fast antisubmarine frigates or submarine killers, an increase in the speed and underwater endurance of submarines and experiments for the greater efficiency of mine sweepers.

Events in the far east provided an impetus toward rearmament for the first time since the end of World War II. In the United States a number of warships which had been in a state of preservation were brought back into commission. In Great Britain many reserve ships which had been laid up were brought forward for refit. In both countries new warships, especially smaller types such as antisubmarine escorts and mine sweepers were ordered or projected.

Navies of the World, Dec. 1950

	Fleet air- craft Carriers	Light air- craft Carriers	Escort air- craft Carriers	Battle- ships	Cruis- ers	Coast defense ships and monitors	Destroy- ers	Sub- ma- rines	Frigates and Escort types
United States . . . .	28	9	66	15	71	1	351	187	244
Great Britain . . . .	6	6	1	5	25	2	106	57	162
U.S.S.R. . . . .	—	—	—	3	14	2	70	360	70
France . . . . .	—	1	1	2	8	4	17	12	25
Italy . . . . .	—	—	—	2	4	—	4	—	38
Sweden . . . . .	—	—	—	—	4	3	13	24	8
Netherlands . . . .	—	1	—	—	2	—	5	7	9
Turkey . . . . .	—	—	—	—	1*	—	10	11	—
Spain . . . . .	—	—	—	—	6	—	16	6	12
Australia . . . . .	—	1	—	—	3	—	10	—	14
Canada . . . . .	—	1	—	—	2	—	11	—	6
Argentina . . . . .	—	—	—	2	3	1	11	3	11
Brazil . . . . .	—	—	—	1	—	—	9	4	8
Chile . . . . .	—	—	—	1	—	2	6	7	6
New Zealand . . . .	—	—	—	—	2	—	—	—	6
Peru . . . . .	—	—	—	—	2	—	1	4	3
Greece . . . . .	—	—	—	—	1	—	2	6	16
India . . . . .	—	—	—	—	1	—	3	—	5
Norway . . . . .	—	—	—	—	—	—	5	5	10
Portugal . . . . .	—	—	—	—	—	—	5	6	8
China . . . . .	—	—	—	—	—	—	7	—	24
Pakistan . . . . .	—	—	—	—	—	—	3	—	4
Poland . . . . .	—	—	—	—	—	—	2	4	—
Thailand . . . . .	—	—	—	—	—	3	—	4	4
Dominican Rep. . . .	—	—	—	—	—	—	2	—	9
Rumania . . . . .	—	—	—	—	—	—	2	1	—
Colombia . . . . .	—	—	—	—	—	—	2	—	1
South Africa, Union of	—	—	—	—	—	—	1	—	3
Indonesia . . . . .	—	—	—	—	—	—	1	—	4
Egypt . . . . .	—	—	—	—	—	—	—	—	10
Denmark . . . . .	—	—	—	—	—	—	—	3	6
Yugoslavia . . . . .	—	—	—	—	—	—	—	7	3
Mexico . . . . .	—	—	—	—	—	—	—	—	8
Israel . . . . .	—	—	—	—	—	—	—	—	6
Venezuela . . . . .	—	—	—	—	—	—	—	—	6
Japan . . . . .	—	—	—	—	—	—	—	—	5
Cuba . . . . .	—	—	—	—	—	—	—	—	5
Belgium . . . . .	—	—	—	—	—	—	—	—	2
Republic of Ireland .	—	—	—	—	—	—	—	—	3
Iran . . . . .	—	—	—	—	—	—	—	—	2
Ecuador . . . . .	—	—	—	—	—	—	—	—	1
Burma . . . . .	—	—	—	—	—	—	—	—	1

\*Battle Cruiser.

Other naval forces, not shown in the table because they comprise only minor war vessels, are those of Bulgaria, Ceylon, Finland, Haiti, Honduras, Hungary, Iceland, Iraq, Republic of Korea, Nicaragua, Panamá, Paraguay, Philippines and Uruguay.

Among the naval events of the year which shocked or stirred the world were the grounding of the U.S. battleship "Missouri" from Jan. 17 until Feb. 1, when she was refloated; the sinking of the British submarine "Truculent" after collision with the Swedish tanker "Divina" in the Thames estuary on Jan. 12, her subsequent salvage on March 14 by the former German special lifting vessels "Ausdauer" and "Engerie," followed by the admiralty announcement on April 5 that she would be scrapped; a series of a dozen or more malicious damage incidents and suspected sabotage attempts in British warships and naval shore establishments, including the Bedenham explosions in Portsmouth harbour on July 14; the loss of the French weather-observation frigate "Laplace" which exploded and sank off Cape Frehel after striking a magnetic mine on Sept. 16; and United Nations' naval support in the Korean campaign from midyear onward.

The outbreak of war in Korea quickly demonstrated that sea power was as important as ever. Sea-borne supplies soon became a potent factor. Aircraft carriers, naval guns, landing craft and transports were needed. British warships concerned in the Korean campaign included the aircraft carriers "Theseus," "Triumph," "Ocean" and "Warrior," the cruisers "Ceylon," "Bel-fast," "Jamaica" and "Kenya," the destroyers "Charity," "Cockade," "Comus," "Concord," "Consort," "Constance" and "Cosack," the aircraft maintenance ship "Unicorn" and the frigates "Alacrity," "Alert," "Black Swan," "Cardigan Bay," "Hart," "Mounts Bay," "Morecambe Bay," "St. Bride's Bay" and "Whitesand Bay." Australian warships which took part were the destroyers "Bataan" and "Warramunga" and the frigate "Shoal-haven"; Canadian warships, the destroyers "Athabaskan," "Cayuga" and "Sioux"; and New Zealand warships the frigates "Pukaki" and "Tutira." Many U.S. warships were active in the Korean theatre, but their names were not so readily revealed officially. The U.S. destroyers "Brush" and "Mansfield" struck floating mines off North Korea on Sept. 27 and 30 respectively, but although both ships sustained underwater damage they made port. The U.S. mine sweepers "Magpie," on Oct. 1, and "Pirate" and "Pledge," both on Oct. 12, struck floating mines and sank off the Korean east coast.

**United States Naval Strength.**—The aircraft carrier "Oriskany" (modified from the original "Essex" class design while under deferred construction), which had been expected to be ready at the end of 1949, was commissioned on Sept. 25, and was reported to be about 3,000 to 4,000 tons heavier than her 27,100-ton sisters, 12 of which, including the "Essex," "Kearsage," "Lake Champlain" and "Wasp," were scheduled to be converted on similar lines to enable them to operate heavier aircraft. Late in 1950 only one U.S. battleship remained in full commission, namely the "Missouri," which saw action in Korea. The U.S. navy comprised 28 fleet aircraft carriers, 9 light fleet carriers, 66 escort carriers, 15 battleships, 2 large cruisers, 25 heavy cruisers, 44 light cruisers, 351 destroyers, 244 escort destroyers, 187 submarines, 217 mine layers and mine sweepers, 176 patrol vessels, 945 amphibious craft, 553 fleet auxiliaries, 1,724 service craft and 74 dry docks, a total of 4,660 vessels, of which 2,150 were in service, the remainder being in reserve.

**British Naval Strength.**—Late in 1950 there were six fleet aircraft carriers, six light carriers and one escort carrier. The large fleet aircraft carrier "Eagle" was nearing completion, and her sister ship "Ark Royal" was launched on May 3. Little progress had been made with the light fleet carriers "Albion," "Bulwark" and "Centaur," and the remaining ships of the class, the "Hermes," had not been launched. The light carriers "Hercules," "Leviathan" and "Powerful" were still suspended. Of the five surviving battleships none was in operational commission at the end of the year, the "Vanguard" being a training ship and the four of the "King George V" class relegated to reserve,





U.N. COMMANDOS stranded on the beach and on their grounded landing ship north of Pohang, on the east coast of Korea, during a diversionary action in Sept. 1950 to draw enemy attention from projected landings at Inchon. The small force withstood constant enemy fire for four days before being rescued by another landing ship

two being laid up in a state of preservation. There were 25 cruisers including one being converted into a trials ship. No building progress was made with the cruisers "Blake," "Defence" and "Tiger." Destroyers numbered 106. Three more of the eight large destroyers of the "Daring" class were launched. There were 162 frigates, not including the "Relentless" and "Rocket," the conversion of which from destroyers was nearing completion. As a result of scrapping, submarines were reduced to 57, not including 4 "midgets." Other vessels included 3 fast mine layers, 2 aircraft maintenance ships, 2 monitors, 60 fleet mine sweepers and many coastal craft, miscellaneous ships and auxiliaries.

**Commonwealth.**—Australia had a compact fleet of 1 light carrier (with a sister ship under construction in Great Britain), 3 cruisers, 10 destroyers (including 2 "Battle" class units completed in 1950 and 5 permanently transferred from Great Britain in June 1950 which were scheduled for conversion to fast anti-submarine escorts), 3 submarines lent from Great Britain, 14 frigates, 32 fleet mine sweepers and a number of small craft and auxiliaries.

Canada also had a well-balanced fleet of 1 light carrier, 2 cruisers, 11 destroyers, a submarine lent from the royal navy, 6 frigates (with 3 more under construction and 4 projected), 9 fleet mine sweepers and numerous smaller craft.

**U.S.S.R.**—The construction of one to three battleships of a new powerful type was persistently reported. The total available naval strength at the end of 1950 was 3 battleships, 14 cruisers, 2 coast defense ships, 70 destroyers, approximately 360 submarines, 70 escort vessels and numerous mine layers, mine sweepers, patrol vessels, torpedo boats and auxiliaries. On Feb. 25, by decree of the soviet government, there was created a new independent ministry of the navy no longer dependent on the ministry of armed forces.

**France.**—The battleship "Jean Bart" was completed, but the construction of the cruiser "De Grasse" was still suspended for

financial reasons and pending the study of new anti-aircraft equipment. The fleet comprised 1 light carrier, 1 escort carrier, 2 battleships, 8 cruisers, 4 coast defense ships, 17 destroyers, 12 submarines, 25 frigates and escort vessels and numerous patrol vessels, miscellaneous ships and auxiliaries.

**Italy.**—The fleet remained at the strength of 2 battleships, 4 cruisers, 4 destroyers, 16 torpedo boats and 20 corvettes, with a number of escort types, mine sweepers and auxiliaries, all that was allowed under the peace treaty.

**Other European Countries.**—Sweden had 4 cruisers, 3 coast defense ships, 13 destroyers, 2 older destroyers being converted into antisubmarine frigates, 6 torpedo boats (smaller destroyer type), 24 submarines, 2 mine layers and numerous other vessels.

The Netherlands had a well-balanced fleet of 1 light carrier, 2 cruisers, 5 destroyers, 7 submarines, 7 frigates (including 6 destroyer escorts acquired from the United States in 1950), 2 large gunboats and a number of other warships.

Spain had 6 cruisers, 16 destroyers, 6 submarines, 12 sloops or gunboats, 6 mine layers and 7 fleet mine sweepers, as well as many minor warships and auxiliaries.

Turkey possessed 1 old battle cruiser, "Yavuz" the only warship of this category remaining in the world, 10 destroyers, 11 submarines (including 2 more acquired from the United States in 1950) and numerous other warships and auxiliaries.

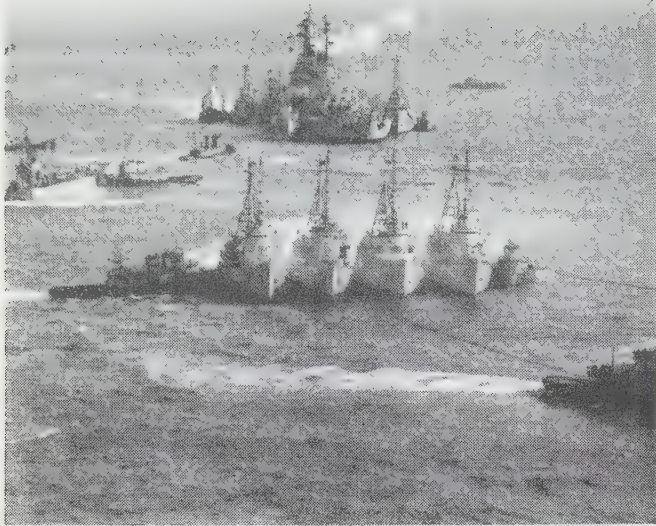
**South America.**—Argentina had 2 old battleships, 3 cruisers, 1 coast defense ship, 11 destroyers, 3 submarines, 4 escort destroyers, 5 frigates, 2 patrol vessels, 11 mine sweepers, and other craft.

Brazil possessed 1 old battleship, 9 fleet destroyers, 4 submarines, 8 frigates (escort destroyers), 6 trawler type corvettes, 8 submarine-chasers and numerous smaller craft.

Chile had 1 old battleship, 2 coast defense ships (including an obsolete cruiser), 6 destroyers, 7 submarines, 6 frigates and a number of small craft, miscellaneous ships and auxiliaries.

**Modern Types of Warships.**—The principal types of modern warships in the navies of the world were as follows:





TUGBOAT ARMADA straining to free the battleship "Missouri" which ran aground on a mudbank in Chesapeake bay near Norfolk, Va., in Jan. 1950

**Fleet Aircraft Carriers.**—"Midway" (U.S.), 45,000 tons, fourteen 5-in. guns, 137 aircraft, 200,000 s.h.p., 33 knots; "Essex" (U.S.), 27,100 tons, ten 5-in. guns, 90 aircraft, 150,000 s.p.h., 33 knots; "Implacable" (British), 26,000 tons, 60 aircraft, sixteen 4.5-in. guns, 148,000 s.h.p., 32 knots.

**Light Fleet Aircraft Carriers.**—"Saipan" (U.S.), 14,500 tons, 50 aircraft, light guns, 120,000 s.h.p., 33 knots; "Theseus" (British), 13,350 tons, 40 aircraft, light guns, 40,000 s.h.p., 25 knots; "Belleau Wood" (U.S.), 11,000 tons, 45 aircraft, light guns, 100,000 s.h.p., 32 knots.

**Battleships.**—"Iowa" (U.S.), 45,000 tons, nine 16-in., twenty 5-in. guns, 200,000 s.h.p., 33 knots; "Vanguard" (British), 44,500 tons, eight 15-in., sixteen 5.25-in. guns, 130,000 s.h.p., 30 knots; "South Dakota" (U.S.), 35,000 tons, nine 16-in., twenty 5-in. guns, 130,000 s.h.p., 28 knots; "Jean Bart" (French), 35,000 tons, eight 15-in., nine 6-in. guns, 150,000 s.h.p., 30 knots; "King George V" (British), 35,000 tons, ten 14-in., sixteen 5.25-in. guns, 110,000 s.h.p., 28.5 knots.

**Large Cruisers.**—"Alaska" (U.S.), 27,500 tons, nine 12-in., twelve 5-in. guns, 150,000 s.h.p., 33 knots.

**Heavy Cruisers.**—"Des Moines" (U.S.), 17,000 tons, nine 8-in., twelve 5-in. guns, 120,000 s.h.p., 33 knots; "Oregon City" (U.S.), 13,700 tons, nine 8-in., twelve 5-in. guns, 120,000 s.h.p., 33 knots.

**Light Cruisers.**—"Worcester" (U.S.), 14,700 tons, twelve 6-in., twenty 3-in. guns, 120,000 s.h.p., 32 knots; "Fargo" (U.S.), 10,000 tons, twelve 6-in., twelve 5-in. guns, 100,000 s.h.p., 33 knots; "Superb" (British), 8,000 tons, nine 6-in., ten 4-in. guns, 72,500 s.h.p., 31.5 knots; "Tre Kronor" (Swedish), 7,400 tons, seven 6-in. guns, 100,000 s.h.p., 33 knots; "Juneau" (U.S.), 6,000 tons, twelve 5-in. guns, 75,000 s.h.p., 35 knots; "Diadem" (British), 5,900 tons, eight 5.25-in. guns, 62,000 s.h.p., 32 knots.

**Destroyers.**—"Gearing" (U.S.), 2,425 tons, six 5-in. guns, 60,000 s.h.p., 35 knots; "Jutland" (British), 2,400 tons, five 4.5-in. guns, 50,000 s.h.p., 34 knots; "Sumner" (U.S.), 2,200 tons, six 5-in. guns, 60,000 s.h.p., 34 knots; "Battleaxe" (British), 1,980 tons, four 4-in. guns, 40,000 s.h.p., 31 knots; "Öland" (Swedish), 1,880 tons, four 4.7-in. guns, 44,000 s.h.p., 35 knots.

**Submarines.**—"Tench" (U.S.), 1,570 tons, one 5-in. gun, ten 21-in. torpedo tubes, 6,500 h.p., 20 knots (surface); "Amphion" (British), 1,120 tons, one 4-in. gun, ten 21-in. torpedo tubes, 4,300 h.p., 18 knots (surface); "Créole" (French), 820 tons, one 3.5-in. gun, ten 21-in. torpedo tubes, 3,000 h.p., 17 knots (surface); "K-1" (Russian), 1,500 tons, two 4-in. guns, ten 21-in. torpedo tubes, 18 knots (surface).

**Frigates.**—"Mounts Bay" (British), 1,600 tons, four 4-in. guns, 5,500 i.h.p., 19 knots; "Rudderow" (U.S.), 1,450 tons, two 5-in. guns, 12,000 s.h.p., 24 knots; "Amethyst" (British), 1,490 tons, six 4-in. guns, 4,300 s.h.p., 18 knots; "Edsall" (U.S.), 1,200 tons, three 3-in. guns, 6,000 b.h.p., 21 knots; "Brecon" (British), 1,175 tons, six 4-in. guns, three 21-in. torpedo tubes, 19,000 s.h.p., 25 knots. (See MUNITIONS OF WAR.)

FILMS OF 1950.—*Fighting Lady's Family* (United World Films, Inc.). (R. V. B. B.)

**Navy, U.S. Department of:** see GOVERNMENT DEPARTMENTS AND BUREAUS.

**N.E.A.:** see SOCIETIES AND ASSOCIATIONS.

**Nebraska.** The "Cornhusker state" is located in the west north central portion of the U.S. It was granted a territorial governor as a result of the Kansas-Nebraska act of 1854, and was admitted to the union in 1867. Land area 76,653 sq.mi.; water area 584 sq.mi.; pop. (1950) 1,325,510 by the official census determination, a gain of 0.7% since 1940. Capital, Lincoln with pop. 97,423; largest city, Omaha with pop. 247,408 (1950 preliminary census figures).

**History.**—Newly elected state officers for the 1951-53 period included: governor, Val Peterson (Rep.); lieutenant governor, Charles J. Warner (Rep.); attorney general, Clarence Beck (Rep.); auditor, Ray C. Johnson (Rep.); treasurer, Frank B. Heintze (Rep.); secretary of state, Frank Marsh (Rep.); state superintendent of public instruction, Freeman Decker (non-partisan); chief justice, Robert G. Simmons (nonpartisan).

Employing the referendum, the voters rejected in 1950 two tax measures passed by the legislature in 1949. One had increased the gas tax from five to six cents a gallon, the other had increased the registration fees for motor vehicles. A proposed constitutional amendment to the state constitution for increasing the salaries of the legislators and extending their term from two to four years was also defeated by the voters.

During the 1949-51 period the legislative council completed investigations on the following subjects which would be recommended to the 1951 session for action; reorganization of the state government, changes in the state constitution, laws relating to children, unfair employment practices, desirability of selling school lands, regulation and taxation of oil and natural gas production and the enactment of a uniform eminent domain statute. The state civil defense advisory committee selected a director for civil defense and recommended appropriations for implementation of a civil defense program.

**Education.**—There were 6,272 elementary and 570 high school districts by the end of 1949. The sum of \$26,750 was appropriated for 1949-51 for district reorganization. Total enrolment for elementary and secondary schools during 1949 was 225,516 and the teaching staffs numbered 11,716. Total expenditures for education during the 1948-49 period were \$40,437,775.05. The direction of elementary and secondary education remained primarily in the hands of local school districts with limited authority by the state superintendent of public instruction. Higher education was directed by the University of Nebraska at Lincoln, the college of medicine at Omaha and four state colleges. There were 19 private institutions of higher education.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The state appropriation for public assistance for the 1949-51 period was \$37,982,400 of which \$19,622,600 was federal funds. There were 1,200 cases resulting in 2,371 persons receiving general relief in Oct. 1950. Each individual received an average of \$36.06. During this same period a total of 8,492 dependent children received an average of \$35.18 monthly aid; 711 blind persons received a monthly average of \$58.55 and there were 23,507 recipients of old-age assistance who received a monthly average of \$48.13.

The state maintained a total of 17 charitable, mental, reformatory and penal institutions of which 7 were for children. Total population as of July 1, 1950, was 8,511. These institutions were under the supervision of the board of control to which the legislature appropriated \$18,669,850 in 1950.

**Communications.**—The total road mileage of Nebraska for 1950 was 105,729 mi. The state maintained a total of 9,506 mi. of which 1,348 mi. were paved, 2,866 mi. were oiled and 5,292 mi. were gravel. State appropriations for highway purposes during 1950 amounted to \$18,007,000 with an additional \$6,385,000 of federal funds.

There were 265 airports in Nebraska in 1950. This included 4 state, 2 CAA and 1 federal airport in addition to 70 municipally owned, 67 commercial-private and 125 private. There were 6,326 mi. of railroad in 1950. Radio stations numbered 20 of which 2 were television transmitters. There were also 21 daily and 280 weekly and semiweekly newspapers.

**Banking and Finance.**—State banks numbered 287 with assets of \$379,771,197.31, and total deposits of \$352,452,505.79 as of June 30, 1950. As of June 30, 1950, building and loan associations totalled 41 with assets of \$102,441,882.88. There were 7 trust companies with total assets of \$19,863,647.97; 68 residential co-operative credit associations with total assets of \$9,442,641.52; 11 occupational credit unions with total assets of \$537,137.03; 50 credit unions with total assets of \$2,195,367.91. Nebraska's gross debt for 1950 was \$612,000.

**Agriculture.**—The total acreage harvested in 1950 was 19,082,000 compared with 18,924,000 in 1949. Excluding government payments for sugar beets, the total value of production for 1950 was estimated at \$681,911,000 as compared with \$531,971,000 in 1949.

**Manufacturing.**—Nebraska's industry depends largely upon the agricul-

#### Leading Agricultural Products of Nebraska

Crop	1950	1949	Average 1939-48
Corn, bu. . . . .	250,675,000	239,330,000	194,409,000
Winter wheat, bu. . . . .	84,128,000	53,316,000	60,717,000
Spring wheat, bu. . . . .	660,000	1,092,000	1,018,000
Oats, bu. . . . .	66,100,000	49,720,000	55,740,000
Barley, bu. . . . .	4,864,000	5,833,000	20,295,000
Rye, bu. . . . .	2,415,000	1,606,000	3,799,000
Potatoes, bu. . . . .	11,700,000	8,840,000	10,731,000
Sugar beets, tons. . . . .	814,000	559,000	740,000
Alfalfa hay, tons. . . . .	2,540,000	2,442,000	1,581,000
Wild hay, tons. . . . .	2,255,000	2,255,000	1,961,000
Sorghum grain, bu. . . . .	3,822,000	1,592,000	2,248,000
Beans, dry (100-lb. bags) . . . . .	990,000	1,312,000	755,000



tural raw materials produced within the state. More than 500 factories processed food or related products. There were 1,000 manufacturing and processing establishments employing approximately 50,400 persons during 1950. The total pay roll for 1950 was estimated at \$130,000,000.

**Mineral Production.**—Nebraska has large deposits of clay, gravel, sand and building stone, most of which is consumed locally. Deposits of potash, gypsum and salt were available but were not under development in 1950. Many new deposits of gas and oil were made. Proven gas reserves as of Oct. 1950 amounted to 101,000,000 cu.ft. (est.) daily. Oil production for 1950 was estimated at 6,000 bbl. per day.

(S. J. HE.)

**Necrology:** see OBITUARIES.

**Negroes, American.** The report of the President's Committee on Equality of Treatment and Opportunity in the Armed Services resulted in rapidly increased integration of Negroes in the various services. Segregated army units of long standing were still retained during 1950, but new units were organized on a basis of complete integration of both officer and rank and file personnel. The 4th infantry division at Fort Ord, Calif., spearheaded the new policy, which pertained for all specialized army education. Occupation forces in Europe and the far east were criticized for not reorganizing on the basis of the new policy. In South Korea, the 24th infantry, an old Negro unit, suffered heavy reverses at the outset of the campaign, but retrieved its reputation in later action. The navy was enlisting for all ratings and services, including its air corps, without discrimination, and the air force, after disbanding the all-Negro 332nd fighter wing, abolished "all racial quotas for enlistment and selection for service schools," and had at the close of the year about 80% of its 25,000 Negro personnel in integrated units.

**Legal and Political Developments.**—On June 5 the U.S. supreme court, in ruling on the Heman Sweatt case, required the University of Texas, Austin, to admit Sweatt to its law school, and in the G. W. McLaurin case decided that segregated class status at the University of Oklahoma, Norman, was a violation of constitutional rights. A similar decision against the University of Maryland, College Park, was rendered on Oct. 9. The court also ruled that discriminatory recreation practices in Miami, Fla., were unequal and therefore unconstitutional. The federal district court in Washington, D.C. ruled that financial penalties in restrictive covenants could not be enforced in the courts. The Interstate Commerce commission on Nov. 10 ordered all southern railroads to cease discriminatory separate dining car facilities in interstate travel.

The November elections raised the number of Negroes in state legislatures to 26. In Arkansas the Democratic state convention voted to open its primaries to Negro voters, and South Carolina abolished the poll tax. Mrs. Edith S. Sampson was appointed an alternate on the U.S. delegation to the United Nations. The Southern Regional council included in its new program policy full franchise for Negroes and "partnership in public life, including appointment to all policy-making groups that concern the public welfare through public services."

Fair employment practice legislation had been passed by 10 states, and an increasing number of municipalities had enacted similar statutes. New Jersey's new antidiscrimination legislation brought almost complete liquidation of segregated schools, substantial gains in employment and housing and recreation facilities as well as changes in public and private hospital accommodations, including medical staff and nurse assignments. The Metropolitan Life Insurance company revoked its ban on Negro tenants in Stuyvesant Town in New York city, and the Federal Housing administration ruled that its mortgage insurance would no longer be available to property covered by restrictive covenants.

**Educational and Cultural.**—The *Crisis* annual survey reported 59,543 Negro college students, with a number of colleges



NEGRO AND WHITE TROOPS receiving radar training together at Keesler air base in Mississippi. Negroes were flying in integrated units throughout the air force in 1950, and on Jan. 16 all army field commanders were ordered to assign qualified Negroes to combat units

not reporting. Of these, 8,018 were graduated with bachelor's degrees, 458 with master's degrees, 230 in the professions and 8 with Ph.D. degrees. A number of southern state universities, following the supreme court decisions, decided to admit Negro students, especially to professional training, and a few to undergraduate training as well; Kentucky closed its Municipal College for Negroes at Louisville. Colgate W. Darden, Jr., president of the University of Virginia, urged the admission of Negro students to the graduate schools of all southern state universities, since the expense of duplicating equal facilities was prohibitive.

Ralph J. Bunche, director of the trusteeship division of the United Nations, was awarded the 1950 Nobel peace prize for his successful mediation of the Arab-Israeli controversy. The 35th Spingarn medal was awarded posthumously to Charles H. Houston, a civil rights lawyer. Ulysses Kay, a music fellow of the American academy in Rome, was given the Alice Ditson grant of the National Institute of Arts and Letters. Following the admission of Negro nurses to the American Nurses' association, the National Association of Colored Graduate Nurses, founded in 1909, was formally disbanded. The American Association of University Women adopted national legislation preventing any chapter from denying membership on racial grounds.

The season in major league baseball saw nine Negro players as members of three teams, and Sam Jethroe of the Boston Braves was chosen the "rookie of the year" in the National league by the Baseball Writers' Association of America. The American Bowling congress dropped its colour restrictions, and Althea Gibson, Negro tennis star, became the first Negro to compete in the national tennis tournament at Forest Hills, L.I., N.Y. (See also EDUCATION; LAW.)

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(A. L. R. L.)

**Nehru, Jawaharlal** (1889— ), Indian prime minister, was born at Allahabad, United Prov-



inces, Nov. 14. (For his early career see *Encyclopædia Britannica*.) He was one of the leaders of the Indian independence movement, and on Aug. 15, 1947, when the Indian subcontinent was partitioned, he became prime minister of India. In April 1949 he took part in the Commonwealth conference which evolved a formula whereby India could become a republic and at the same time remain within the commonwealth. In Jan. 1950 he attended the first Commonwealth Foreign Ministers' conference at Colombo, Ceylon, and was given an honorary doctorate of laws by the University of Ceylon. The Indo-Pakistan minorities agreement was signed by Nehru and Liaquat Ali Khan (*q.v.*) on April 8. On May 5, following resignations over the minorities agreement, he reformed his cabinet. In May and July he took part in talks with Sir Owen Dixon, U.N. mediator for Kashmir; at a press conference in August, however, he put the blame "one hundred per cent on Pakistan" for the Kashmir trouble. He addressed the 11th conference of the Institute of Pacific Relations at Lucknow in October. On the outbreak of the Korean war in June he sent peace appeals to Joseph Stalin and Dean Acheson (*qq.v.*), and later urged that U.N. troops should not advance north of the 38th parallel and that Communist China should be admitted to discussions on Korea. Speaking in the Indian parliament at Delhi on Dec. 6, Nehru said that the matter should not be considered in the United Nations in the formal way of passing condemnation on one another: "... on the verge of a world war it does not help in the slightest for people to call one another names, unless they wish that war should come sooner rather than later. ... The atomic bomb has become the symbol of incarnate evil. If the force of circumstances compels the world to use the bomb, it will mean that the world has surrendered to evil." (See also INDIA; PAKISTAN.)

**Nepal.** An independent kingdom in the Himalayas, Nepal lies between India and Tibet. Area: *c.* 54,000 sq.mi. Pop. (1949 est.): 6,910,000. Aboriginal stock is Mongolian with important Indo-Aryan admixture. Religion: Buddhism mixed with Hinduism. Capital, Kathmandu (pop. *c.* 110,000). The ruling family are Hindu Rajputs. Rulers in 1950, Tribhuvana Bir Bikram Jung Bahadur and (from Nov. 7) Gyanendra Jung Bahadur; prime minister and supreme commander in chief, Sir Mohan Shumsher Jung Bahadur Rana.

**History.**—Relations between the exiled members of the ruling Rana family with the hereditary prime minister, who was also a member of that family, had been unfriendly and the formation of the Nepalese congress (which had actually taken place in India) was giving some anxiety to the prime minister. The situation resulted in a political explosion in Nepal in Nov. 1950.

On Nov. 6 the king of Nepal, whose office since 1846 has been that of a *roi fainéant*, sought refuge with his family in the Indian embassy at Kathmandu. This move was followed the next day by an emergency session of the Nepalese parliament which unanimously proclaimed the second son of the crown prince, a boy three years old, as the new king. The deposed king left by air for Delhi, where he arrived on Nov. 11 with his family. On Nov. 10, armed supporters of the Nepalese congress crossed the frontiers and occupied Birganj after a brief fight with the government troops. The leader of the insurgents was said to be Maj. Gen. Subarna Shumsher Jung Bahadur Rana, one of the exiled Ranas, and his action was interpreted as being in sympathy with the refugee king.

The president of India received the refugee king of Nepal on Nov. 13, and the next day announced that his government desired to respect the independence of and maintain friendly relations with Nepal and see its people achieve political and economic progress. The government of India also put a strong ban on movements of troops and arms across the frontiers. Toward the end of November it appeared that the prime minister had

asserted his authority and the rebellion was reported virtually to have collapsed. (E. Hd.)

**Nervous System.** In June 1950 Reynold A. Jensen reported that scientists were just beginning to understand how devastating parental anxieties, whatever their source, were to the child's peace of mind. He further declared that many factors could be responsible for this state of affairs, such as radio, magazines, newspapers and books on child rearing. The books were contributory to the parents' feeling of inadequacy. These ideas were often reinforced by the conflicting opinions of "experts" regarding child rearing. A study in a well-known baby clinic revealed that 52 mothers out of 57 had complaints regarding their babies. In three of the remaining five mothers, maternal anxieties were interfering with the emotional development of the child. These mothers carried over in their relationships with their children unresolved conflicts in their relationships with their own mothers. Mental health in the children was made much more adjustable to their ecology if the parental insecurity was early recognized and treated.

A clinical study was made in the early part of the year on melancholia and revealed 50 cases treated for various and sundry diseases and not for melancholia. The patients with this syndrome were treated from 3 to 36 months after the onset of the illness and before the diagnosis of melancholia was made. The failure to recognize the nature of the illness of these persons caused considerable difficulties in the home and business life of the patients and called for unnecessary expenditure of money. Further, this treatment exposed these persons to many attempts at self-destruction. The prime reason for this study was to call the attention of the medical practitioners to these problems so that this syndrome would be recognized early, as treatment of melancholia results in an almost 100% recovery. The following signs of melancholia were found in this group of patients: (1) psychomotor retardation (slowness in walking, talking and response to questions); (2) no clouding of consciousness; (3) staring expression with glassy eye appearance and masked facial expression. The symptoms were anorexia, loss in weight, sleeplessness, nervousness (tension, agitation and panic), ideas of self-depreciation and self-accusation and last, but not least, the patients' feeling better in the late afternoon and evening. The above signs and symptoms were found in no disease except melancholia. Of these 50 cases, 48 made a complete recovery. (See also PSYCHOSOMATIC MEDICINE.)

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**Netherlands.** A kingdom of northwestern Europe, the Netherlands is bounded on the north by the North sea, east by Germany and south by Belgium. Area: 12,868 sq.mi. (not including the waterways and sheets of water larger than 185 ac. and minor acquisitions along the German frontier). Pop. (mid-1949 est.): 9,955,000. Language: Dutch. Religions (1947): Roman Catholic 38.50%, Dutch Reformed 31.03%, Reformed Churches 7.93%, nonchurch members 17.04%. Chief towns (pop., 1949 est.): Amsterdam (cap., 832,583); Rotterdam (671,901); The Hague (555,339); Utrecht (191,811); Haarlem (161,380); Eindhoven (139,320). Ruler: Queen Juliana; prime minister: Willem Drees.

**History.**—The transfer of sovereignty to Indonesia at the end of 1949 had left the political status of western New Guinea to be settled by negotiation between the Netherlands and the new sovereign republic of Indonesia within a year. With Dutch sovereignty continuing in the meantime, S. L. J. van Waardenburg was appointed Netherlands governor of the area early in



Jan. 1950. New methods of administration were introduced at the same time: a legislative New Guinea council, a judicial council and a number of lesser advisory bodies were established in the island, the arrangements following the general lines of the former Netherlands-Indies constitution. (See also *INDONESIA*; *NETHERLANDS NEW GUINEA*.)

Participation in western defense was made formal on Jan. 27, 1950, by the signing in Washington, D.C., of the Mutual Defense Assistance agreement between the United States and the Netherlands.

On April 4 D. U. Stikker, who had combined his post of Netherlands minister of foreign affairs with the office of political conciliator of O.E.E.C. (Organization for European Economic Cooperation) in Paris since the first days of February, was elected to the chairmanship of the organization. To make up for the partial loss of his services, the foreign office was strengthened by the appointment of N. S. Blom as secretary of state serving as right-hand man of the minister.

The Netherlands took part in the Paris conference on the Schuman plan in June, but would not be committed to the carrying out of the plan as it stood without amendment, thereby assuming a position between that of Great Britain and full acceptance of the Schuman proposals. (See also *EUROPEAN UNION*.)

The destroyer "Jan Evertsen" was ordered to Korea on July 6 as part of the Netherlands contribution to the United Nations forces. The creation of three new divisions to increase the country's defensive strength was announced in the first week of August. Recruiting of volunteers for a Dutch contingent in Korea began a few days later and resulted in the embarkation on Oct. 26 of a detachment of 650 men. In the middle of August 4,000 men who had been released in March after six months' partial training were recalled to the colours to complete their training.

A further extension of the country's military effort was announced on Sept. 7 in the form of supplementary estimates amounting to 150,000,000 florins to be added to the original sum of 859,000,000 florins in the 1951 budget. At the same time the government fixed the figure of 12,500 as the target number of recruits for the national reserve to be ready by the spring of 1951. It was also decided to create a defense council, to consist of the secretaries of state for defense and the navy, the secretaries general of both departments, and the chiefs of staff of the army, the navy and the air force under the chairmanship of the minister of defense. On the occasion of the parliamentary debates on the new defense measures, the responsible minister, W. F. Schokking, came under criticism in the second chamber, in consequence of which he tendered his resignation a few weeks later and on Oct. 11 was succeeded by H. L. s'Jacob.

The provincial council elections in April left the main political parties in much the same situation as before. The Catholic People's party increased its poll slightly, from 31.42% of the votes cast to 31.57%; the Labour party poll declined, equally slightly, from 25.81% to 25.69%; some of the small parties registered individually insignificant gains, all at the cost of the Communists whose votes decreased even in their stronghold of Amsterdam from 31.50% to 24.60%.

Early in September the government approved an all-round increase of 5% in wages for both male and female workers above the age of 23; also for those under 23 if they were married or were the main support of their families. To counteract inflationary tendencies the bank rate was raised on Sept. 26 from 2½% to 3%, and this was followed early in November by certain restrictions upon the commercial banks' freedom to use treasury paper as cover for their advances to industrial concerns.

(See also *NETHERLANDS ANTILLES*; *SURINAM*.) (F. H. Aw.)

**Education.**—Schools (1948): elementary 7,044, pupils 1,164,762, teach-

ers 34,353; secondary 1,366, pupils 228,033, teachers 11,393; technical 831, pupils 219,173; agricultural (1947) 236, pupils 50,380; teachers' training colleges 89, students 7,246, teachers 1,006; universities and institutions of higher education 10, students 26,379, professors and lecturers 1,057.

**Finance and Banking.**—(Florins) ordinary budget: (1950 actual) revenue 3,899,000,000, expenditure 3,201,000,000; (1951 est.) revenue 3,678,000,000, expenditure 2,594,000,000. National debt (Dec. 1949): 23,316,000,000, excluding war damage compensation, which was 3,261,000,000 florins in Dec. 1948. Currency circulation (July 1950): 2,949,000,000 florins. Gold reserve and foreign exchange of Central bank (Aug. 1950) U.S. \$551,000,000. Bank deposits (July 1950) 4,189,000,000 florins. Monetary unit: florin or guilder with an exchange rate of 3.805 florins to the U.S. dollar.

**Foreign Trade.**—(1949): Imports 5,352,000,000 florins; exports 3,852,000,000 florins. Main sources of imports (1949): U.S. 16.5%; Belgium-Luxembourg 14.3%; U.K. 11%; Indonesia 7.7%; France 7%. Main destinations of exports: U.K. 16.2%; Belgium-Luxembourg 13.4%; Germany 10.8%; Indonesia 10.3%; France 7%. Main imports (1948): cereals, seeds, pulses and flour 10.4%; vehicles, parts, tires 6.3%; rolled iron and tin plate 5.4%; yarn, rope and fabrics 5.3%. Main exports (1948): yarn, rope and fabrics 11.6%; milk, dairy products and eggs 10.6%; electrotechnical machinery and apparatus 7.1%; fresh and preserved vegetables and fruit 2.8%.

**Transport and Communications.**—Railways (1948): 2,080 mi.; passenger-miles (1949) 4,019,000,000; freight net ton-miles (1949) 1,730,000,000; freight carried (1949) 19,860,000 tons. Roads (Jan. 1949): main 1,724 mi.; secondary 2,694 mi.; third class 3,257 mi. Licensed motor vehicles (Dec. 1949): cars 110,612; commercial 73,719. Shipping (July 1949): merchant vessels more than 100 gross tons 1,501; total tonnage 2,994,399. Air transport (1949): passenger-miles 377,000,000; cargo net ton-miles 14,000,000. Telephones (1947): subscribers 575,995. Radio receiving set licences (Sept. 1950) 1,439,202.

**Industry.**—Industrial establishments (1948): 115,580; persons employed 1,227,297. Fuel and power (1949): coal 11,700,000 metric tons; lignite 204,000 metric tons; manufactured gas 1,452,000,000 cu.m.; electricity 4,680,000,000 kw.hr.; crude oil 621,000 metric tons. Raw materials (metric tons, 1949): pig iron 434,000; salt 335,000; tin metal 19,600; slab zinc 15,600. Manufactured goods (metric tons, 1949): cotton yarn 55,200; rayon filament yarn 19,200; rayon staple fibre 10,100; cement 565,000; wool yarn 27,000; building bricks 1,084,000,000 bricks; leather boots and shoes (1948) 11,501,000 pairs. Number of cycles manufactured (1948) 370,000.

**Agriculture.**—Main crops (metric tons, 1949 except as noted): wheat (1950) 320,000; barley 189,000; oats 424,000; rye (1950) 450,000; potatoes 4,605,000; sugar, raw value (1950) 360,000; dry peas 67,000; broad beans 12,000; flax fibre 20,800; linseed 18,000; rapeseed 59,000. Livestock: cattle (Dec. 1949) 2,517,000; sheep (May 1948) 425,000; pigs (Dec. 1949) 1,158,000; horses (May 1949) 304,000. Meat production (1949): total 288,000 metric tons. Dairy production (metric tons, 1949): milk, delivered, 4,428,000; factory butter 84,000; cheese 128,000. Fisheries: total catch (1949) 235,800 metric tons.

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**Netherlands Antilles.** The Netherlands Antilles consist of six islands in the West Indies, with a total area of 403 sq.mi. and a total pop. (est. 1950) of 165,000, of which more than one quarter are aliens. Three islands lie near Venezuela, Curaçao (210 sq.mi.), Bonaire (95 sq.mi.) and Aruba (69 sq.mi.). The other three islands, sparsely populated, lie 500 mi. to the northeast—the southern portion of St. Martin (17 sq.mi.), St. Eustatius (7 sq.mi.) and Saba (5 sq.mi.). The capital is Willemstad, on the island of Curaçao (pop. 47,000). The official language is Netherlandish, but a local patois of diverse origin is equally widespread. During 1950 the governor was L. A. H. Peters.

**History.**—At the end of Sept. 1950 the new constitution, provisional in character, was authorized by the Netherlands parliament after consideration over many months and lengthy debate. A considerable measure of responsibility for local government was delegated to the Antilles parliament, with veto power reserved to the governor only in issues affecting the sovereign rights of the crown. The fiscal and monetary powers of the colonial parliament, as in the case of Surinam, are extensive. The friction between Aruba and Curaçao, which had marked the life of the colonial legislature, continued throughout the discussion at The Hague of the new constitution, since Aruba was allotted only 8 seats to Curaçao's 12, the other islands retaining the same minimum representation they previously had.

Late in October the announcement was made at The Hague that in 1951 there would be a further review of the constitutional status of the islands. A few weeks later, the Netherlands government announced that the navy would henceforth have sole



responsibility for the defense of the Antilles, with marines replacing the army. By 1951 a maximum force of 500 marines was intended to be stationed there.

The Caribbean commission held a conference at Curaçao in December, devoted chiefly to the discussion of Caribbean agriculture. (C. Me.)

**Education.**—In 1950 there were 48 elementary schools with 15,926 pupils, 30 higher elementary schools with 11,501 pupils, and 2 secondary schools with 363 students.

**Finance.**—The monetary unit is the Netherlands Antilles guilder or florin, valued at \$0.530264 U.S. currency, official rate during 1950. The budget for the fiscal year 1950 estimated revenue at 57,289,635 f. and expenditure at 57,289,393 f. Actual revenue in 1949 was 61,172,216 f. The public debt on Jan. 1, 1951, was 9,016,000 f.; notes in circulation, 34,159,000 f.; gold reserve, 35,518,000 f.

**Trade and Communications.**—Exports in 1949 totalled 827,000,000 f.; imports were 963,000,000 f. More than 97% of the exports consisted of petroleum products and 80% of the imports consisted of crude petroleum from Venezuela. Total imports of crude petroleum in 1949 amounted to 37,800,000 metric tons (about 253,000,000 bbl.). The U.S. supplied about two-thirds of the nonpetroleum imports.

The highway mileages of the islands of the Netherlands Antilles in 1950 were as follows: Curaçao, 210; Aruba, 150; Bonaire, 32.5; St. Martin, 17; Saba, 4.5 and St. Eustatius, 2.5. On Jan. 1, 1950, 6,431 motor vehicles were in use on Curaçao and 4,012 on Aruba. Telephones (Jan. 1, 1950) totalled 3,114, of which 2,098 were on Curaçao.

**Agriculture.**—Farming was limited for the most part to subsistence crops, and much food had to be imported.

**Manufactures.**—The three refineries—Curaçaosche Petroleum Industrie Maatschappij, N.V. (Shell) on Curaçao and Lago Oil and Transport Co. (Standard Oil Company of New Jersey) and the Eagle Oil Co. (Shell) on Aruba—produced 34,210,000 metric tons of refined petroleum products in 1949, including 26,732 tons of heavy oils and 5,326,000 tons of gasoline.

**Mineral Production.**—Activity was limited to the exploitation of salt and phosphate deposits. The latter, located on Curaçao, produced for 1949 export 92,584 metric tons of rock phosphate and 200 tons of fine ground phosphate. (J. W. Mw.)

**Netherlands New Guinea.** The western part of New Guinea, second largest island of the world, with smaller adjacent islands, forms part of the territory of the kingdom of the Netherlands. Area: 151,789 sq.mi. Pop. (1949 est.): 1,000,000 of whom 275,000 were administered by the Dutch; of these 90,000 were Roman Catholic and 70,000 Protestant. The Papuans are the dominant stock in New Guinea, but there are also Melanesian and Negrito elements. Principal towns: Hollandia (cap.), Manokwari, Sorong and Merauke. Governor: S. L. J. van Waardenburg.

**History.**—The round-table conference in The Hague between the Netherlands and Indonesia in 1949, covering the transfer of sovereignty over the territory of the Netherlands Indies to the Republic of the United States of Indonesia, decided to maintain the *status quo* of New Guinea with the stipulation that within a year the question of the political status of this territory was to be determined through negotiations between the two countries.

To prepare a decision a joint commission was set up in March 1950, but the Indonesian and Dutch members arrived at diametrically opposed conclusions. The Indonesian standpoint was based mainly on the political argument that transfer of Irian (as New Guinea was called by them) was only a logical sequence of the transfer of sovereignty over the former Netherlands Indies of which it had formed an administrative part, and that no remaining "colony" of the Netherlands could be tolerated in the vicinity. The Dutch argument was that from the geographical, ethnological and social viewpoints New Guinea had no connections with Indonesia and the rest of Asia, but was to be considered as a part of the Pacific, in particular the Australian sphere.

The Indonesian claims were reinforced at home by violent agitation for its annexation of New Guinea, combined with the threat of reprisals against Dutch nationals and interests in Indonesia in case sovereignty was not transferred before Jan. 1, 1951; they found no active political support abroad, however, and clashed against the openly declared intention of the government of Australia not to allow any Indonesian territorial

encroachments on New Guinea. A conference between the Netherlands and Indonesian governments to deal with the issue was scheduled for Dec. 4 but was suspended on Dec. 15 for lack of a mutually acceptable basis.

As a last endeavour to prevent the apparent deadlock the Netherlands delegation proposed to transfer sovereignty over New Guinea to the Netherlands-Indonesia union and to establish a New Guinea council, in which the Netherlands and Indonesia would be represented on an equal footing; the council would issue the directives for the administration of the territory. The Indonesian delegation rejected the compromise proposal, the conference ended in deadlock on Dec. 27 and the Netherlands sovereignty and administration continued. (W. G. P.)

**Netherlands Overseas Territories:** see NETHERLANDS ANTILLES; NETHERLANDS NEW GUINEA; SURINAM.

**Neutrons:** see PHYSICS.

**Nevada.** A state of the mountain group of western states, Nevada was the 36th state to be admitted to the union, on Oct. 31, 1864; it is popularly called the "Sagebrush state." Land area 110,540 sq.mi.; water area 738 sq.mi. Pop. (1950 census): 160,083, a gain of 45.2% since 1940. The principal cities, with preliminary 1950 census figures are: Carson City, the capital, 3,069; Reno, 32,225; Las Vegas, 24,418; Sparks 8,172; Elko, 5,389; Ely, 3,500.

**History.**—The 1950 general election resulted in candidates from the Republican party winning the offices of governor and state controller. While Democratic registration outnumbered Republican registration in the state by approximately two to one, the Republican candidates won these two offices by substantial majorities.

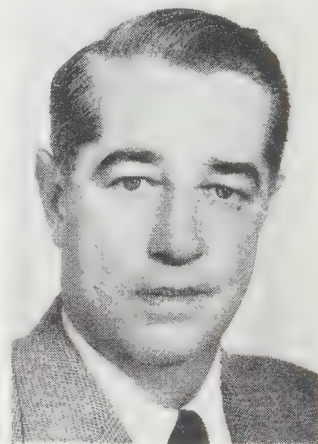
Democrats won all the other offices of the state government, three of which were uncontested. A new justice of the supreme court and three new members of the board of regents of the University of Nevada, Reno, were also elected. In addition, the people approved three amendments to the constitution of the state of Nevada.

On Jan. 1, 1951, state officers were: governor, Charles H. Russell; lieutenant governor, Clifford Jones; secretary of state, John Koontz; state controller, Peter Meriardo; state treasurer, Dan W. Franks; surveyor general, Louis D. Ferrari; inspector of mines, Mervin J. Gallagher; superintendent of state printing, J. A. McCarthy; clerk of supreme court, Ned A. Turner; superintendent of public instruction, Glenn A. Duncan; attorney general, W. T. Mathews.

Unprecedented floods involving the Truckee and Carson rivers caused heavy damage in Reno and the Carson valley; the damage in the city of Reno was estimated at \$3,000,000.

**Education.**—In 1950 Nevada had 166 elementary schools with a total enrolment of 21,051; teachers numbered 846. High schools totalled 38 with an enrolment of 6,416 and were staffed by 365 teachers. Kindergarten enrolment was 2,023 in 15 kindergartens with 35 teachers. Total school population was 29,490. Average salaries paid to high school teachers was \$3,389, and to elementary teachers \$2,956.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—For the fiscal year ending June 30, 1950, \$504,408.21 was expended by the state health and welfare departments. The state institutions, including the state prison, the mental hospital, the orphans' home and the school of industry, along with programs for the aid and care of the deaf, dumb and blind, expended \$671,271.73. Old-age assistance benefits amount-



CHARLES H. RUSSELL, Republican, elected governor of Nevada, Nov. 7, 1950



ed to \$1,650,917. On June 30, 1950, the state prison had 298 men and 5 women inmates; total expenditures for the fiscal year ending June 30, 1950, were \$260,988.74. The Nevada school of industry had 26 boys and 1 girl under school control; total expenditures for the fiscal year ending June 30, 1950, were \$37,150.22. The state hospital for mental diseases had 367 patients in average daily residence during the fiscal year 1949-50; expenditures for that fiscal year were \$241,220.61. The state orphans' home had 52 boy and 43 girl residents during the fiscal year 1949-50, and the cost to the state for that fiscal year was \$81,611.90.

**Communications.**—During 1950, 211 mi. of paved highways were constructed or reconstructed, with 165 under construction at the end of the fiscal year, and the total disbursements for highways were \$8,305,523. There were 3,560 mi. of road in 1950 in the designated state highway system, of which 3,278 mi. were of dustless paved surface and 282 mi. improved state highways. Railroad mileage totalled 1,704. Motor vehicle registrations in 1950 totalled 80,022, of which 78,989 were privately owned and 1,033 were publicly owned. There were 384 registered aircraft and 70 established airports. During the year, the Bonanza Airlines established daily air service between Reno and Las Vegas and intermediate points. The famous Virginia and Truckee railroad, one of the last of the short lines in the west, abandoned operation and the rails were removed.

**Banking and Finance.**—On July 1, 1950, there were 26 individual banking institutions in the state, of which 19 were branches, 5 were national banks and 3 were state banks. The resources of Nevada banks totalled \$179,204,871, and deposits were listed as \$167,425,005. The 1950 assessment for tax purposes amounted to \$312,536,414.

The credits of the state for the fiscal year ending June 30, 1950, amounted to \$26,581,680, the debits to \$25,797,769. There was a treasury balance of \$5,587,310.

The state had bonds outstanding July 1, 1950, in the amount of \$785,000 for construction of office and institutional buildings. This amount was more than offset by bonds and securities held by the state, income from which was \$155,570.

Table I.—Leading Agricultural Products of Nevada

Crop	1950	1949	Average 1939-48
Barley, bu. . . . .	1,050,000	972,000	735,000
Potatoes, bu. . . . .	468,000	396,000	518,000
Wheat, bu. . . . .	471,000	769,000	492,000
Hay, tons . . . . .	662,000	688,000	606,000
Oats, bu. . . . .	360,000	360,000	312,000
Corn, bu. . . . .	105,000	90,000	89,000

**Agriculture.**—The 1949 agricultural production was slightly less than in 1948. Total cash receipts from crops marketed in Nevada were \$45,078,000 in 1948. Cash received in 1949 from marketing of livestock was estimated at \$39,449,000.

Table II.—Mineral Production in Nevada

	1946	1947	1948
Gold . . . . .	\$ 3,173,800	\$ 3,117,205	\$ 4,047,400
Silver . . . . .	1,010,526	1,246,709	1,671,626
Copper . . . . .	15,751,584	20,833,260	19,552,320
Lead . . . . .	1,564,150	2,062,368	3,318,000
Zinc . . . . .	5,526,356	4,106,740	5,660,480
	\$27,026,416	\$31,366,282	\$34,249,826

**Mineral Production.**—According to preliminary figures, the value of copper, zinc, gold, lead and silver produced in Nevada during 1949 was \$29,779,731, or about 13% less than the value of the 1948 production. Of the total in 1949, copper contributed 49% of the value, zinc 18%, gold 15%, lead 12% and silver 6%. (J. E. SPR.)

**New Brunswick.** Second largest of the four Atlantic provinces of Canada, New Brunswick entered the confederation in 1867. Area: 27,985 sq.mi. Pop.: (1941) 457,401; (1950 est.) 522,000.

**History.**—The second session of the 41st legislature enacted a record 172 bills. The most important new law was the Social Services and Education act, a sales tax of 4% levied on a wide range of goods at retail level, which in the June 1, 1950-Oct. 31, 1950, period returned \$2,000,000 to the treasury. Enabling legislation permitted the province to participate in the 1950 federal-provincial-municipal housing project, and allowed municipalities to create municipal-employee pension schemes. The 1949 devaluation of the pound sterling continued to cut into lumber production and made the Nov. 1949-May 1950 period one of high unemployment. The 80-sq.mi. Fundy national park was opened July 29, and the provincial handicrafts office announced the park would be a centre of art and cultural as well as recreational industry, which by 1950 took fourth place in the province's economy in terms of value.

**Education.**—The provincial program for the expansion of education in terms of more school buildings, modern teaching techniques, training of teachers in health work, and special technical education was pressed forward, and 20 of the planned 50 rural high schools were in operation during 1950. Provincially controlled schools had in 1947 (latest figures available in 1950): total enrolment, 96,435; average daily attendance, 78,129; teachers, 2,873; total revenue, \$4,660,146.

**Transportation.**—Construction of 200 mi. of new roads during 1950 brought the total of surfaced roads to 1,400 mi. Enabling legislation permitted the province to participate in the federal-provincial trans-Canada highway project.

**Finance.**—The 1950-51 provincial supply vote was \$28,803,319; forecast revenue was \$30,221,531; and some \$19,000,000 was provided in money bills for capital expenditures. At the end of the 1950 fiscal year, on Oct. 31, total provincial debt stood at the all-time high of \$107,969,637.

**Agriculture.**—Grain crops of 1950 were better than average; the department of agriculture started a comprehensive scientific soil conservation and analysis service, continued efforts to build up the dairy and poultry industry, urged an increase of acreages to feed grain and forage crops, and co-operated with the federal government in the reclamation of marshlands. Potatoes continued to be the largest single cash crop, and to assist farmers the government organized a New Brunswick potato marketing board with wide control powers.

**Fisheries.**—During 1950 the government's fish-consumption campaign continued; the Shediac lobster festival became a major tourist attraction; the sardine catch fell off; clams reached a near \$1,000,000 industry; mechanical oyster dredging replaced the 300-year-old tong-fishing method. During 1949 fisheries production totalled \$18,000,000.

**Forestry.**—Lumber exports to the U.S. during Jan.-April 1950 were 30% greater than during the similar 1949 period, but total 1950 lumber exports were down 15% for the same period, because of the loss of the pit prop market in the United Kingdom. Pulp and paper demands increased, resulting in larger operations, with cordwood running to \$17 per cord at railway cars. A new 125-ton daily capacity bleached sulphate mill began operation at Newcastle. Total 1949 forest products stood at \$113,000,000, with pulp and paper at \$68,000,000.

**Industry.**—Increased freight rates curtailed the market for woodworking industries; rigid inspection of all tourist hotels, camps, motels and restaurants raised the province's catering standards and boosted the tourist trade (1949: peak of 128,000 travellers' vehicle entry permits); the New Brunswick electric power commission assured industrial electricity by pushing forward the \$5,600,000, 20,000-h.p. plant on Tobique river, and the \$4,000,000 steam plant at Grand lake, completion of which made a total of 141,000 h.p. available (1940: 27,000 h.p.).

**Minerals.**—With mining the fourth ranking primary industry, provincial authorities and private capitalists prospected actively in 1950. For the first time commercial quantities of gold, lead, zinc, copper and silver were discovered (in Gloucester county). There was also continued search for oil, and the Stoney creek field was expanded. During the year, gypsum production was increased. In 1949, total mineral production was worth \$7,386,000, the highest in New Brunswick history. (C. CY.)

**New Caledonia:** see PACIFIC ISLANDS, FRENCH.

**Newfoundland and Labrador.** A province of Canada. Area: Newfoundland 42,734 sq.mi.; Labrador c. 110,000 sq.mi. Population: Newfoundland (1947 est.) 321,897; Labrador (1947 est.) 5,639. Capital: St. John's (pop. 1947, 57,849). Lieutenant governor: Sir Leonard Outerbridge.

**History.**—From the suspension in 1934 of the dominion status, established under the statute of Westminster in 1931, Newfoundland, until March 31, 1949, was administered by a commission of government under the chairmanship of the governor and consisting of six commissioners, three of whom were Newfoundlanders, the other three being from the United Kingdom. The commission of government was responsible to the government of the United Kingdom.

A national convention, elected in 1946, to consider the future form of government, ended their deliberations in Jan. 1948. They recommended to the government of the United Kingdom that two forms of government; viz., the continuation of commission of government, and the restoration of responsible government, should be submitted to the people of Newfoundland in a national referendum. The United Kingdom government did not accept this recommendation. Instead, it decided to place three options on the ballot paper in the national referendum. These were as follows: (1) commission of government for a period of five years; (2) confederation with Canada; (3) responsible government as it existed in 1933.

A referendum, held on June 3, 1948, resulted as follows: 23,311 votes for (1); 64,066 votes for (2); 69,400 votes for (3). As no one choice obtained an absolute majority over the other two combined, it was necessary, under the provisions of the Referendum act, to hold a second referendum.

A second referendum was held on July 22, to decide between (2) and (3). The result was 78,323 for (2) and 71,336 for (3),



a majority of 6,987 for confederation with Canada.

On Dec. 2, 1948, at Ottawa, the terms of union were signed by representatives of the Canadian government and by a Newfoundland delegation. The terms were subsequently approved by the parliament of Canada and the Newfoundland commission of government. Confederation was duly consummated on March 31, 1949. Newfoundland became the tenth province of Canada and was entitled to be represented at Ottawa by seven members of the house of commons and six members of the senate.

As a result of the first provincial election (May, 1949), a Liberal government came into power under the premiership of J. R. Smallwood, the chief architect of confederation.

**Education.**—(June 1950) Schools, 1,196; pupils, 78,613; teachers, 2,528.

**Transport and Communications.**—Main highways, 1,800 mi.; secondary roads, 600 mi.; local roads, 3,000 mi. Motor vehicles (licensed), 10,477 cars, 4,327 trucks, 316 motorcycles, 342 buses, 97 trailers, 267 other commercial vehicles. Railway, 750 mi. Gander airport, Newfoundland, and Goose Bay airport, Labrador, were important stages between Europe and America for air lines of several countries on both sides of the Atlantic.

**Finance.**—The budget for the financial year 1950-51 (in Canadian dollars) was as follows:

Current account	
Expenditure, per estimates . . . . .	\$26,588,500
Revenue, per estimates . . . . .	26,446,000
Deficit, current account . . . . .	\$ 142,500
Financial surplus account	
Expenditure, per estimates . . . . .	\$12,049,400
Less provisions included therein for discharge of liabilities as of date of union . . . . .	577,900
	\$11,471,500
Revenue, per estimates . . . . .	\$3,209,400
Less amounts included therein in respect of loans, advances, receivables, etc., as of date of union . . . . .	1,236,400
	\$1,973,000
	\$ 9,498,500
Deficit, current account . . . . .	\$ 142,500
Net expenditure for extension of public services . . . . .	9,498,500
Total: chargeable against financial surplus account . . . . .	\$ 9,641,000

**Agriculture.**—Area under cultivation, producing hay and vegetables (mostly potatoes, turnips and cabbage) 88,500 ac. Area of rough and wild pasture used as summer grazing grounds for sheep and cattle 35,000 ac. Livestock (1951): horses, 14,500; cattle, 23,500; sheep, 85,000; pigs, 12,000; goats, 11,500; poultry, 350,000. (A. M. F.)

**New Guinea:** see NETHERLANDS NEW GUINEA; TRUST TERRITORIES.

**New Hampshire.** One of the New England states of the United States and one of the original group of 13, New Hampshire is popularly known as the "Granite state." Area: 9,304 sq.mi., including 280 sq.mi. of inland water. Population (1950 census) was 533,242, representing a gain of 41,718 over the population for 1940, or 8.5%. In 1940, 57.6% of the population was urban and 42.4% rural and there were 490,989 whites, including 422,693 native and 68,296 foreign-born. Capital: Concord, with pop. (1950 prelim.) of 27,984. Other cities: Manchester, 82,581; Nashua, 34,666; Portsmouth, 18,793; Berlin, 16,545; Dover, 15,911, and Keene, 15,631.

**History.**—The legislature met in special session from April 25 to May 18, 1950, and enacted legislation providing for a teachers' pension program; reclassification of state employees with wage increases aggregating \$1,150,000 under a state personnel commission; and a \$1,000,000 bond issue for highway improvements. On April 1 a timber tax exemption law, passed at a previous session, became effective, designed to return abandoned woodlands to productive use.

In the general election of Nov. 7, Sherman Adams (Republican) was elected governor over Robert P. Bingham (Democrat) by a vote of 108,907 to 82,258. For United States senator the vote was, for Charles W. Tobey (Republican), 106,142; Emmet J. Kelley (Democrat), 72,473; and Wesley Powell (Independent), 11,958. Chester E. Merrow and Norris Cotton (both Republican) were elected to congress from the first and second dis-

tricts, respectively. The election for members of the general court (to convene in Jan. 1951) resulted in substantial Republican majorities in both the senate and house of representatives. Six women were elected to the senate and 40 women to the lower house. Two amendments to the state constitution were approved, one abolishing the office of commissary general, and another striking out the provision that where sums of money were mentioned in the constitution, the value thereof should be computed in silver at six shillings and eight pence per ounce.

Admiral Miles R. Browning, U.S.N. retired, was appointed civil defense chief for the state and the organization of a system of local defense groups was begun.

State officers in 1950 were: governor, Sherman Adams; secretary of state, Enoch D. Fuller; state treasurer, F. Gordon Kimball; commissary general and adjutant general, Charles F. Bowen; attorney general, William L. Phinney, succeeded in March by Gordon M. Tiffany; commissioner of education, Hilton C. Buley; commissioner of agriculture, Perley I. Fitts. U.S. senators were H. Styles Bridges and Charles W. Tobey, both Republicans.

**Education.**—In 1949-50 there were 54,491 pupils enrolled in the 469 public elementary schools of the state, with 2,029 teachers. There were 18,823 students enrolled in the 83 public secondary schools, with 1,021 teachers. Total payments covering expenditures of school districts for 1949-50 amounted to \$17,360,481.28. In 1947-48, Catholic parochial elementary schools had a total registration of 18,783, while other private elementary schools had a registration of 672. The total number of students enrolled in approved public academies, accredited secondary schools and other private secondary schools in 1947-48 was 6,357.

Other state educational institutions were the University of New Hampshire, at Durham; Keene Teachers college, at Keene; and Plymouth Teachers college, at Plymouth.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—As of Sept. 1950 recipients of old-age assistance numbered 7,482 for the month, with expenditures of \$365,160. There were 1,654 families, representing 4,171 children, involved in the program of aid to dependent children, with expenditures of \$168,331. There were 324 cases of needy blind receiving aid to the amount of \$17,098. With a decrease in the direct relief case load from 3,141 in August to 3,045 in September there was a decrease in expenditures from \$126,908 in August to \$126,169 in September. There were in September 1,021 families involving 2,299 children who received child welfare services. In 1949, \$4,208,000 was collected in contributions for unemployment insurance and \$10,659,000 paid in benefits under state laws. Funds available for benefits at the close of 1949 amounted to \$22,069,000.

The net appropriation by the legislature for the operation of the state prison at Concord for the fiscal year ending June 30, 1951, was \$236,736.50; and for the Industrial School for Committed Minors at Manchester, \$181,228.20.

**Communications.**—At the end of 1947 there were 12,522 mi. of rural roads in New Hampshire, including highways under state, local and federal control. Disbursements from state highway funds for the year 1948 amounted to \$13,893,000. In 1948 there were 938 mi. of steam railways owned within the state as compared with 1,002 mi. in 1940. At the close of 1948 there were 35,587 business and 104,053 residential telephones in operation.

**Banking and Finance.**—As of June 30, 1950, there were in New Hampshire 51 national banks with deposits of \$175,176,000 and resources of \$196,322,000, as compared with 51 banks with deposits and resources, respectively, on June 30, 1949, of \$168,099,000 and \$188,714,000. Fifty-eight state chartered banks had deposits of \$360,628,387 and resources of \$409,565,741 as compared with 58 institutions reporting deposits and resources, respectively, of \$356,009,406 and \$402,973,571, on June 30, 1949. There were 24 state chartered building and loan associations with assets of \$25,366,493.55 as compared with 25 institutions with assets of \$23,887,294.18 for the previous year. State chartered savings banks and savings departments of trust companies reported deposits of \$344,932,569.40 as of June 30, 1950, an amount \$4,106,750.01 more than the total for June 30, 1949, and an all-time high. The Lacombe Federal Savings and Loan association reported assets of \$3,144,491.56 on June 30, 1950, as compared with \$1,934,159 for the previous year, and the Manchester Federal Savings and Loan association reported assets of \$20,802,626.01, as compared with \$18,047,810.40 for the previous year. State savings institutions held \$185,314,429.25 in U.S. government securities on June 30, 1950, a reduction of \$3,326,921.67 as compared with the previous year.

Cash receipts of the state treasury department for the fiscal year ending June 30, 1950, were \$94,888,917; cash disbursements \$94,290,374.01. Cash balance, June 30, 1950, was \$4,021,271.18; cash balance, July 1, 1949, was \$3,422,728.19. Gross fixed bond and note debt, June 30, 1950, \$8,910,000; net bonded debt, \$5,662,947.96.

**Agriculture.**—The estimated acreage from which crops were harvested or hay cut, or which was planted in orchards, amounted to 383,000 in 1949. Cash receipts from farm marketings in 1949 amounted to \$63,413,000 with an additional \$399,000 received in government payments, as against \$67,717,000 in cash receipts and \$495,000 in government payments in 1948. Cash receipts from major items in 1949 were as follows: poultry, \$28,335,000; dairy products, \$17,056,000; hay, \$1,096,000; ap-



## Leading Agricultural Products of New Hampshire

Crop	1950	1949	Average 1939-48
Corn, bu. . . . .	630,000	528,000	538,000
Oats, bu. . . . .	210,000	185,000	243,000
Hay, tons . . . . .	410,000	391,000	428,000
Potatoes, bu. . . . .	980,000	968,000	1,108,000
Apples, bu. (commercial) . . . . .	1,100,000	1,056,000	732,000
Maple syrup, gal. . . . .	48,000	41,000	51,000
Maple sugar, lb. . . . .	15,000	11,000	18,000

ples, \$1,851,000; truck crops, \$1,578,000; cattle and calves \$3,999,000. Lumber production in 1947 amounted to 322,509,000 bd.ft., including 34,480,000 ft. of hardwood and 288,029,000 ft. of softwood.

**Manufacturing.**—There were 1,124 manufacturing establishments in New Hampshire in 1947, employing an average for the year of 74,752 persons. The value added by manufacture was \$306,932,000 as compared with \$104,453,000 for 1939. Total of salaries and wages paid in connection with manufactures was \$177,479,000 in 1947. It was estimated that in 1947 and 1948, 167 new industries manufacturing 49 different products were established in the state.

**Mineral Production.**—Principal mineral resources were feldspar, mica, building stone (chiefly granite), brick clays, and sand and gravel. Value of mineral products in 1948 was \$1,732,000. (W. E. Ss.)

**New Hebrides.** This group of about 30 islands, and many islets and rocks, in the western Pacific was from 1906 jointly administered as an Anglo-French condominium. Total area: 4,633 sq.mi. Pop: Melanesian with some admixture of Polynesian blood, (1949 est.) 49,000. Religion: mainly pagan. Capital: Vila. Resident commissioners: British, R. D. Blandy; French, P. Anthonioz. Both are subordinate to their respective superiors: Sir Leslie Brian Freeston, British high commissioner for the western Pacific, and Pierre Cournarie, French commissioner general for the Pacific ocean.

The islands continued during 1950 to experience an acute shortage of manpower resulting from ravages among the natives attributable to European colonization.

**Finance.**—British sterling and French francs are both legal tender. Common budget (1948): revenue £96,440; expenditure £83,691. These figures exclude entirely revenue and expenditure from the British and French national services.

**Foreign Trade.**—(pound sterling, 1948): Imports £520,000; exports £1,498,152.

**Agriculture.**—Main crops (1949, metric tons): copra 21,000; coffee 100; cacao 800. (C. A. J.)

**New Jersey.** New Jersey, the "garden state," is located along the middle Atlantic coast of the U.S. It was the third state to be admitted to the union. It has a total area of 8,204 sq.mi. The official 1950 census determination placed the population at 4,835,329, a gain of 16.2% since 1940. In 1940, 81.6% of the total population was urban, 16.7% was foreign-born white and 5.4% was Negro. Largest cities according to 1950 preliminary census include Trenton (capital), 127,867; Newark, 437,857; Jersey City, 300,447; Paterson, 139,423; Camden, 124,543 and Elizabeth, 112,675.

**History.**—The principal officers in 1950 included Alfred E. Driscoll, governor; Lloyd B. Marsh, secretary of state; Theodore Parsons, attorney general; Walter T. Margetts, Jr., state treasurer; and Arthur T. Vanderbilt, chief justice.

Governor Driscoll approved 344 bills passed by the 1950 legislature. Among the significant measures enacted were: greater maximum benefits for those covered by unemployment compensation or cash sickness insurance; standby rent control, in the event federal control ceased; new regulations and penalties for commercial vehicles; creation of a Delaware river port authority, contingent upon the concurrence of Pennsylvania; amendment of the public utility strike law to permit the governor to intercede in a public emergency and to take possession of a utility; and a series of acts pertaining to municipal reorganization which included optional charter plans, methods of election and the regulation of persons holding key positions in municipalities.

**Education.**—Pupil enrolment (1950): elementary 389,743; junior high 125,751; high 112,769; special schools 4,679. Day school teachers: 27,006. One-room schools numbered 129. Colleges numbered 9, junior

colleges 11, universities 4, total full time students 27,836; state teachers' colleges 6, enrolment 4,258; professional and technological schools 10, enrolment 6,005. The total cost for all day schools, exclusive of bonded indebtedness and capital outlay, for 1949-50, was \$149,940,105. The state commissioner of education was John H. Bosshart.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—For the fiscal year ending July 1950, the state's welfare system cared for 12,588 in hospitals for the mentally ill, 6,103 in institutions for the mentally deficient and epileptics, 2,633 in tuberculosis sanatoria, 222 in soldiers' homes, 4,226 in institutions for adult offenders and 696 in training schools for juvenile delinquents. Also under the care of the state were 22,518 dependent children. Recipients of old-age assistance, July 1950 numbered 24,533. The gross expenditure for old-age assistance for the fiscal year ending June 30, 1950, totalled \$12,480,000. Assistance to the blind for July 1950 averaged \$54.09, with 762 receiving aid. During the 1949-50 fiscal year ending July 1, 1950, 301,000 persons received unemployment compensation insurance payments, which totalled \$87,385,096.

State penal and correctional institutions numbered eight. These institutions contained 4,645 inmates and cost \$4,367,893 to maintain during the 1950 fiscal year.

**Communications.**—The 27,000-mi. highway system in New Jersey consisted in 1950 of 1,700 mi., state; 6,000 mi., county; and 19,300 mi., municipal roads. In 1949, there were 27 railroads with 6,132 mi. of trackage in the state, which was the most concentrated trackage per square mile in the United States. More than 100 active airports and 1,400,000 telephones were in service.

**Banking and Finance.**—Deposits in the 147 banks and savings banks totalled \$2,835,362,000 on June 30, 1950, an increase of \$143,784,000 from June 30, 1949. Government deposits increased \$24,489,000 during the period. Of 124 commercial banks, 74 with 75.4% of total deposits were members of the federal reserve system. Government securities made up 48.4% of the total assets (\$3,093,201,000) of all banks compared with 49.9% the year before. The total of banking plants and real estate in the commercial banks showed a ratio of 17.9% of total capital accounts as compared with 18.5% in June 1949. The comparable ratio for the savings banks showed 5.8% of surplus and reserve as against 6.2% a year before.

**Agriculture.**—In 1949, the total value of agricultural production was \$302,027,000. Cash income from crops amounted to \$112,983,000, from livestock \$179,437,000, and from government payments \$629,000.

Table I.—Leading Agricultural Products of New Jersey

	1950	1949	Average, 1939-48
Corn, bu. . . . .	9,558,000	8,145,000	7,676,000
Wheat, bu. . . . .	1,677,000	1,992,000	1,355,000
Hay, short tons . . . . .	467,000	430,000	417,000
White potatoes, bu. . . . .	12,980,000	8,554,000	11,142,000
Sweet potatoes, bu. . . . .	2,890,000	2,400,000	2,176,000
Cranberries, bbl. (100 lb.) . . . . .	98,000	67,000	77,500
Asparagus fresh, crt., doz. bunches . . . . .	2,385,000	2,932,000	—
Green peppers, bu. . . . .	2,185,000	1,620,000	—
Tomatoes for fresh market, bu. . . . .	1,900,000	1,575,000	—
Chickens, Jan. 1, number, about . . . . .	13,201,000	11,000,000	—
Egg production, eggs . . . . .	1,580,000,000	1,493,000,000	—
Milk production, lb. . . . .	1,139,000,000	1,100,000,000	—

**Manufacturing.**—During July 1950, 708,200 persons were employed in 10,349 establishments engaged in manufacturing. Average weekly earnings in July 1950 for persons employed in manufacturing was \$60.74. The leading industries, according to the value added by manufacture, were chemicals, electrical machinery, food and kindred products, machinery (except electrical) and textile mill products.

**Mineral Production.**—The total value of mineral production in 1949 was \$59,380,000, an increase of \$8,200,000 over 1948. A potential source of a rare metal, germanium, was discovered in eastern Middlesex county. This metal is widely used in electronic equipment.

Table II.—Principal Mineral Products of New Jersey, 1949

	Quantity	Value
Zinc ore, short tons . . . . .	50,984	\$14,443,062
Crushed stone, short tons . . . . .	4,070,790	7,896,619
Sand and gravel, short tons . . . . .	5,555,121	6,981,862
Iron ore, long tons . . . . .	448,489	4,468,575
Clay, raw, short tons . . . . .	537,480	1,314,186

(A. J. Gs.)

**New Mexico.** Fourth largest state in the southwestern United States, popularly known as the "Sunshine state"; admitted to the union in 1912. Area: 121,666 sq.mi. (121,511 sq.mi. land, 155 sq.mi. water); pop.: (1940) 531,818; rural 355,417; urban 176,401; native white 477,065; Negro 4,672; foreign-born 15,247. The 1950 census showed a population of 681,187, an increase of 28.1% since 1940. Capital, Santa Fe (pop. 1950 census, prelim. fig., 27,547). Other cities: Albuquerque (97,012); Roswell (25,572); Carlsbad (17,915); Clovis (17,168); Hobbs (13,801); Las Cruces (12,280).

**History.**—The first Republican governor in 20 years took office in 1951. Otherwise the administration, legislature and congressional representation were Democratic. The chief officers



of the state elected in the 1950 elections were: governor, Edwin L. Mechem; lieutenant governor, Tibo J. Chavez; secretary of state, Beatrice Bassett Roach; auditor, Robert Donald "Bob" Castner; treasurer, R. R. Crissom; attorney general, Joe L. Martinez; superintendent of public instruction, Tom Wiley; commissioner of public lands, Guy Shepard.

The constitution was amended to provide for one state senator from each of the 31 counties and 55 representatives elected by districts. A permanent five-member bipartisan state highway commission was appointed for overlapping six-year terms, and a five-member bipartisan board of regents for institutions of higher education was appointed for overlapping six-year terms. A probate court of record was set up for each county.

**Education.**—For the school year 1949-50, 37,871 students in rural schools were taught by 1,358 teachers who received an average salary of \$2,861.79; over-all expenditures were \$9,236,486.61. There were 111,107 students in municipal and independent schools who were taught by 3,550 teachers who received an average annual salary of \$3,216.12; over-all expenditures were \$24,028,700.42 for municipal schools only.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—During the calendar year 1950, \$1,969,451 was paid out for civilian unemployment benefits; for unemployed veterans \$193,710; and for self-employed veterans \$7,585.

On June 30, 1950, \$1,138,128 had been spent for old-age and survivors insurance, and \$7,975,000 for public assistance.

The penitentiary appropriation was \$272,000 for 718 inmates (Sept. 1); insane asylum \$800,000, 1,069 inmates (December); Los Lunas Mental hospital \$85,000, 110 inmates; industrial school \$102,500, 142 inmates (December); Girls' Welfare home \$190,000, 122 inmates (December).

**Communications.**—New Mexico had an estimated 53,818 mi. of unsurfaced and 9,584 mi. of surfaced roads in 1950. The state highway department expended \$22,712,921. Steam railway companies operated 2,495 mi. of main track. There were 99 airports; 1,705 mi. of controlled civil airways; and four scheduled air carriers. There were about 112,609 telephones.

**Banking and Finance.**—On June 30, 1950, there were 26 national banks with deposits of \$245,066,000; loans \$80,819,000; investments \$99,587,000; and 25 state banks with deposits of \$87,060,000; loans \$32,768,000; investments \$35,722,000. Total resources of 11 building and loan associations in 1949 were \$10,994,334 and of 7 federal savings and loan associations \$16,444,801.

The total of all state receipts for the fiscal year ending June 20, 1950, was \$82,502,406.54. The total bonded debt \$19,991,000.

**Agriculture.**—The total value of agricultural production in 1950 was \$85,775,000 (est.); acreage harvested 1,405,000 (est.). Livestock was valued at \$169,593,000. Jan. 1, 1950.

Table I.—Leading Agricultural Products of New Mexico

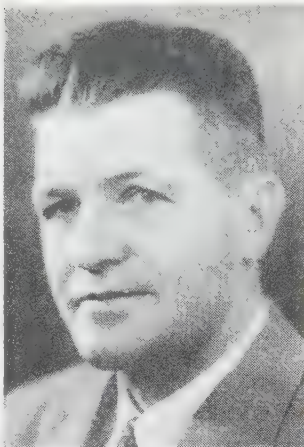
Crop	1950	1949	Average 1939-48
All hay, tons . . . . .	540,000	506,000	466,000
Grain sorghums, bu. . . . .	7,985,000	8,684,000	2,890,000
Winter wheat, bu. . . . .	645,000	5,172,000	3,665,000
Corn, bu. . . . .	1,414,000	2,160,000	2,403,000
Beans, bags . . . . .	205,000	590,000	654,000
Cotton, bales . . . . .	190,000	276,000	133,000
Cottonseed, tons . . . . .	77,000	109,000	54,000
Forage sorghum, tons . . . . .	140,000	109,000	231,000

**Manufacturing.**—Manufactured products were valued at \$55,486,000 in 1947; an average of 7,590 employees received \$18,222,000 in wages.

Table II.—Principal Mineral Products of New Mexico

Mineral	Value, Year ending June 30, 1950	Value, Year ending June 30, 1949
Copper . . . . .	\$20,428,114	\$27,391,922
Potash . . . . .	23,787,475	33,529,132
Coal . . . . .	3,775,405	7,069,591
Zinc . . . . .	2,177,974	10,545,320
Lead . . . . .	190,967	3,322,009
Silver . . . . .	115,172	425,735
Molybdenum . . . . .	448,568	650,483
Iron-Manganese . . . . .	220,000	266,250
Gold . . . . .	77,838	99,711

**Mineral Production.**—Potash was New Mexico's chief mineral in 1950. For the year ending June 30, 1950, 44,769.603 bbl. of oil, valued at \$109,117,465 were produced. (F. D. R.)



EDWIN L. MECHEM, Republican  
elected governor of New Mexico, Nov.  
7, 1950

**Newspapers and Magazines.** **U.S. Newspapers.**—While the Korean war held the front pages of U.S. newspapers as a daily war story in 1950, the rest of the news budget was typically peacetime. The "ten biggest news stories of 1950," as selected by United Press editors, were: (1) war breaks out in Korea; U.N. and then Chinese Communists intervene; (2) Puerto Rican assassins try to kill Pres. Harry S. Truman at Blair House; (3) off-year elections unseat Democratic leadership in senate; (4) U.N. attempts to solve Korean crisis; (5) Brink's armoured car service robbed of more than \$1,000,000 in Boston, Mass., holdup; (6) congress starts drive against Communists in the U.S.; (7) western powers rearm against communism; (8) Alger Hiss tried and convicted of perjury; (9) pope proclaims Assumption dogma to climax Holy Year; (10) Hermann Sander, physician, tried and acquitted of "mercy killing" of woman cancer patient.

Acclaimed "the best reported war in history," the United Nations action in Korea recruited at least 320 reporters and photographers at the front, while 60 others covered the Pentagon in Washington, D.C. As newsmen worked close to action, at least 32 were killed, wounded, missing, captured or lost in plane accidents. Confusion over censorship in the early weeks led to a voluntary system like that of World War II. Slow communication over military radio via Tokyo caused complaint, but use of a press wireless mobile transmitter proved unfeasible. The intensive war coverage included a notable array of human interest stories.

Newspaper income reached an all-time high in 1950 but, for the fourth year, labour and paper costs rose faster, reducing profits. Circulation, after hitting a record peak of 52,845,551 daily copies in 1949, continued to rise, with afternoon papers leading. More than 1,500 dailies reached a five-cent copy price. After attaining an all-time high in 1949, advertising lineage continued to gain during every month in 1950, with August leading with a 9.4% increase. Exceeding the 1949 total of \$445,015,000 in national advertising, newspapers led all other media. Because of higher costs, advertising rates were increased generally.

Paper supply caused much concern as production threatened to fall behind increased consumption. Paper needs for the year exceeded 5,900,000 tons—an increase of 6.5% over 1949 and an all-time record. After falling behind in early months, Canadian mills later speeded output to 103% of rated capacity. The price of paper, which had averaged \$101 a ton base rate since World War II, rose in the fall; a threatened rise of \$10 was later reduced to \$6. The new southern pine mills at Coosa River, Ala., and Lufkin, Tex., produced 220,000 tons. Except for 950,000 tons from U.S. mills and 175,000 tons from Europe, all U.S. newsprint came from Canada.

Sale of the 116-year-old *New York Sun* to the Scripps-Howard *World-Telegram* on Jan. 3 led a series of at least 16 mergers and suspensions blamed on rising costs. Among them were: *Oakland Post-Enquirer* (Calif.) and *San Diego Journal* (Calif.) suspended; *Birmingham Post* and *Age-Herald* (Ala.) merged; *Ft. Wayne News-Sentinel* and *Journal-Gazette* (Ind.) merged plant operations; *Atlanta Journal* and *Constitution* (Ga.) combined operations; *Bloomington Herald* and *World-Telephone* (Ind.) merged. The *Portland Oregonian* (Ore.) was sold on Dec. 11 for \$5,250,000 to Samuel I. Newhouse, owner of ten eastern newspapers. New plants were opened by the *Washington Post* (D.C.), *Denver Post*, *New York Mirror* Brooklyn plant, *Hartford Courant* (Conn.), *Wilkes-Barre Record* and *Times-Leader-News* (Pa.), and WGN radio station of the *Chicago Tribune*.

The most notable newspaper strike was the 11-week suspension of the *New York World-Telegram and Sun* from June 12 to Aug. 28 because of American Newspaper guild picket lines. A strike of mailing employees shut all Pittsburgh, Pa., dailies for 47 days



from Oct. 2 to Nov. 17. Among some 47 daily newspapers that had resorted to photoengraving during printers' strikes were: *Meriden Record and Journal* (Conn.), *Lorain Journal* (O.), *Monroe World and News-Star* (La.), *Texarkana Gazette* (Ark.) and *Waukesha Freeman* (Wis.). About 250 United Press tele-typers struck in May. After celebrating its centennial on May 10, honouring Horace Greeley as its first president, the International Typographical union on July 15 re-elected Woodruff Randolph to his fourth two-year term as president. Most new union contracts raised wage scales, including a \$5 a week increase in New York city and \$4 in Philadelphia, Pa.

The leading newspaper lawsuit of 1950 was the prosecution of the *Lorain Journal* (O.) by the federal department of justice for violation of the Sherman Antitrust act in refusing advertisements of merchants who used a competing radio station. The trial resulted in October in an injunction forbidding rejection of advertising—the first verdict of its kind. An antitrust suit was also brought against two New Orleans dailies for a combination advertising rate. A local newspaper licensing tax was successfully contested by the *Turlock Journal* (Calif.). Detroit tried a "nuisance rule" to bar the Communist *Daily Worker* from newsstands. The U.S. supreme court overruled the Baltimore "gag rule" on criminal news. The Langer bill to ban liquor advertising died in the senate committee. A Los Angeles judge found that the Fair Labor Standards act minimum wage rules applied to weekly newspapers. A proposed international code of ethics for the press of the world was again debated in a United Nations subcommittee without agreement.

Convening in Madison, Wis., the three national groups of journalism teachers merged into one Association for Education in Journalism. A "content study" of the Associated Press report, made by the A.P. Managing Editors association, criticized "wordiness" but denied a charge of "bias." Research in mechanics, conducted by a laboratory endowed by the American Newspaper Publishers association, developed refinements in offset printing, stereotyping and photoengraving. The Pulitzer prizes in journalism were opened to weekly newspapers for the first time. The 11th annual Newspaper week in October enlisted newspapers to fight soviet propaganda. The American Newspaper guild considered a plan of launching daily newspapers. More than 200 editors from many countries gathered in New York city on Oct. 9 for an inter-American press conference, the first since 1926.

**U.S. Magazines.**—Magazines, reaching a record total of 7,000 titles, faced business problems like those of newspapers. Advertising increased as much as 14% to a record peak of \$475,000,000, and rates were generally raised. Paper grew scarcer, and prices rose 5% to 25%. The cost per page was above any year except 1949, with paper taking 25%. Gross income was the highest on record, but profits were smaller. Tabulations showed 1,747 na-

tional advertisers spending more than \$25,000 each in magazines early in 1950, as compared with 666 in 1939; during the same years magazine circulation rose 30%. At least 1,000 new magazines appeared late in the year, many of them picture books for wartime newsstand sale. Men's magazines—*Argosy*, *True*, *Esquire*—were decidedly up; women's magazines were slightly up; romance and movie magazines were down. More pocket-size magazines appeared, and teen-age books boomed. Negro magazines—*Ebony*, *Negro Digest*, *Tan Confessions*—greatly increased. Comics came back strongly after attack and promoted a "better schools" campaign. Sunday magazines of 122 newspapers passed a weekly circulation of 55,000,000. *Harper's* celebrated its centennial in October. *Fortune* started a pocket-size digest. *Quick* passed the 1,000,000 mark and led newsstand sales, but *Flair*, also a Cowles Magazines, Inc. venture, was suspended after 111 issues. *Liberty* was sold and revamped. (G. M. Hy.)

**Canada.**—Much interest centred on the activities of the American Newspaper guild (C.I.O. affiliate) in Canada during 1950. In January it was announced that 63% of the employees of the Canadian Press news service (owned co-operatively by 21 of Canada's 100 dailies) had signed up for guild membership and had applied to Ottawa for certification. The application was opposed by the Canadian Press, and the Canada Labour Relations board ruled that the provisions of the Industrial Relations and Disputes Investigations act applied.

Other newspaper developments included the following: the Roy Thomson chain of dailies expanded to 13 with the purchase of the *Port Arthur News-Chronicle*; price increases in newsprint were reflected by rises in the subscription rates of the *Vancouver Sun*, and the *Toronto Star Weekly* broke with a long-standing Canadian newspaper tradition by charging 10 cents per copy in Ontario and Quebec and 15 cents in all other parts of Canada; the *Midland Free Press-Herald* was voted the best Canadian weekly newspaper of 1950.

Number of Daily Newspapers in the World, 1949-50

(Except as indicated, the following data were derived from *World Communications: Press, Radio, Film*, published in May 1950 by the United Nations Educational, Scientific and Cultural organization, Paris, as Publication No. 700.)

Afghanistan . . . . .	15	Germany . . . . .	162	Nigeria . . . . .	8
Alaska* . . . . .	7	Gibraltar . . . . .	1	Norway . . . . .	209
Albania . . . . .	12	Gold Coast . . . . .	4	Pakistan . . . . .	34
Algeria . . . . .	10	Greece . . . . .	60	Panamá* . . . . .	6
Anglo-Egyptian Sudan . . . . .	8	Greenland . . . . .	1	Paraguay* . . . . .	6
Angola . . . . .	3	Guatemala* . . . . .	5	Peru* . . . . .	52
Argentina* . . . . .	193	Haiti* . . . . .	7	Philippines, Republic of the* . . . . .	13
Australia* . . . . .	50	Hawaii* . . . . .	4	Poland . . . . .	32
Austria . . . . .	36	Honduras* . . . . .	6	Portugal . . . . .	21
Azores . . . . .	7	Hong Kong . . . . .	5	Portuguese India . . . . .	2
Bahama Islands . . . . .	2	Hungary . . . . .	53	Puerto Rico* . . . . .	6
Balearic Islands . . . . .	5	Iceland . . . . .	6	Réunion . . . . .	2
Barbados . . . . .	2	India . . . . .	300	Rhodesia, Southern . . . . .	3
Belgian Congo . . . . .	5	Indochina . . . . .	30	Rumania . . . . .	35
Belgium . . . . .	46	Indonesia . . . . .	81	Salvador, El* . . . . .	8
Bermuda . . . . .	2	Iran . . . . .	35	Saudi Arabia . . . . .	2
Bolivia* . . . . .	7	Iraq . . . . .	21	Scotland† . . . . .	15
Brazil . . . . .	294	Ireland, Northern† . . . . .	5	Sierra Leone . . . . .	3
British Guiana . . . . .	3	Ireland, Republic of† . . . . .	8	Singapore . . . . .	13
British Honduras . . . . .	1	Israel . . . . .	15	South Africa, Union of . . . . .	23
Bulgaria . . . . .	10	Italy . . . . .	92	Spain . . . . .	110
Burma . . . . .	35	Jamaica . . . . .	3	Surinam . . . . .	1
Canada* . . . . .	95	Japan§ . . . . .	119	Sweden . . . . .	137
Canary Islands . . . . .	6	Jordan . . . . .	6	Switzerland . . . . .	117
Ceylon . . . . .	7	Kashmir . . . . .	7	Syria . . . . .	35
Channel Islands . . . . .	5	Kenya . . . . .	5	Tanganyika . . . . .	2
Chile* . . . . .	70	Korea, South . . . . .	48	Tangier . . . . .	2
China† . . . . .	450	Lebanon . . . . .	40	Thailand . . . . .	22
Colombia* . . . . .	34	Leeward Islands . . . . .	4	Togoland . . . . .	1
Costa Rica . . . . .	7	Luxembourg . . . . .	5	Trieste . . . . .	5
Cuba* . . . . .	48	Macao . . . . .	1	Trinidad . . . . .	3
Curaçao* . . . . .	4	Madagascar . . . . .	4	Tunisia . . . . .	9
Cyprus . . . . .	7	Madaira . . . . .	5	Turkey . . . . .	72
Czechoslovakia . . . . .	20	Malaya, Federation of . . . . .	20	Union of Soviet	
Denmark . . . . .	131	Malta . . . . .	4	Socialist Republics† . . . . .	350
Dominican Republic* . . . . .	5	Man, Isle of . . . . .	1	United States (continental)   . . . . .	1,894
Ecuador* . . . . .	30	Martinique . . . . .	1	Uruguay* . . . . .	33
Egypt . . . . .	50	Mauritius . . . . .	8	Vatican City . . . . .	1
England† . . . . .	131	Mexico* . . . . .	104	Venezuela* . . . . .	18
Fiji Islands . . . . .	1	Morocco . . . . .	11	Virgin Islands* . . . . .	2
Finland . . . . .	64	Mozambique . . . . .	3	Wales† . . . . .	4
France . . . . .	190	Netherlands . . . . .	133	Windward Islands . . . . .	3
French Equatorial Africa . . . . .	2	New Caledonia . . . . .	1	Yugoslavia . . . . .	17
French Somaliland . . . . .	1	New Zealand . . . . .	50		
French West Africa . . . . .	5	Nicaragua . . . . .	10	Total . . . . .	6,931

\*Editor & Publisher International Year Book, 1950.

†Estimate. Four-day-a-week papers are omitted.

‡Willing's Press Guide, 1949-50 (London, 1950).

§The Japanese Press, Past and Present (Tokyo, 1949).

||N. W. Ayer & Son's Directory of Newspapers and Periodicals, 1950. Data on U.S. newspapers in Editor & Publisher International Year Book are limited to English-language dailies of general circulation. The Editor & Publisher total for U.S. dailies was 1,780. (F.L.M.T.)





## CONTEST WINNERS

Prize-winning photographs chosen at the eighth annual international "News Pictures of the Year" competition, sponsored jointly by the *Britannica Book of the Year* and the University of Missouri School of Journalism. With more than 90 additional "best-of-show" prints from the competition, these pictures were published in book form by Louis Mariano, Chicago. Filmstrips of the outstanding competition pictures were presented by the sponsors of the competition to major colleges and schools of journalism as study material for classes in photo-journalism

# "NEWS PICTURES OF THE YEAR"

Above: "Drummer Boy," by Alfred Eisenstaedt of *Life* magazine, part of a photo sequence taken at the Army-Michigan football game and included in his first-prize PORTFOLIO. Eisenstaedt was chosen "Photographer of the Year," making a *Life* photographer winner of the competition's highest award for the second consecutive year



Right: Dean D. Conger of the *Denver Post* won first prize in the SPORTS category with this picture of a collegiate rodeo rider taking a spill





Above: Tied for first place in the NEWS category was, left: "Big Ditch" by Don Ultang of the *Des Moines Register and Tribune*. Flying his own plane, Ultang photographed this Missouri valley farm with the dike plowed around it to protect barn and crops from floodwaters. Sharing first honours was, right: "Abdication Riots," taken by Mark Kauffman of *Life* magazine, showing Belgian police breaking up an anti-Leopold demonstration in Brussels

Below: "Welsh Coal Miners," by W. Eugene Smith of *Life* magazine, was awarded first prize in the FEATURE category





The 350,000-circulation *National Home Monthly* (founded 1936) went from tabloid to digest size and then suspended publication; the pocket-size Canadian-printed *Magazine Digest* was bought by the St. John Publishing company, New York city. (C. Cy.)

**Great Britain.**—At the beginning of 1950 newspapers were considered to have reached, if not passed, the peak of daily sales. As the year advanced, the newsprint position steadily worsened, until by December the dailies were back on a war-time tonnage ration and Great Britain had the smallest newspapers, in size, of any of the free countries of the world.

The equalized price of newsprint which at the start of the year was £33 5s. a ton had reached £41 a ton by October, chiefly because of the increased cost of Scandinavian pulp. The high price of newsprint became a major factor in production costs. Several newspapers advanced their advertising rates and it was feared that a movement to increase selling prices of newspapers might follow any further rise in newsprint prices.

The control of paper for periodicals and magazines which had been substantially relaxed during 1949 was entirely lifted from the beginning of March 1950. The restrictions on new publications were withdrawn at the same time. In effect, the periodicals were free to use as much paper as they could obtain from the limited supplies available, but these supplies fell a good deal short of needs. With the aid of intensive advertising campaigns the circulations of many popular periodicals soared, particularly those devoted to women's interests.

Two new publications for children, *Eagle*, a strip cartoon paper, and *School Friend*, for schoolgirls, both quickly attained huge sales. Casualties among periodicals included the *Strand Magazine*, a pioneer in monthly magazines, which suspended publication because of rising costs and problems of production.

**Commonwealth and Europe.**—Freedom of the press was the principal theme of the seventh Imperial Press conference which met in Canada during June with Col. J. J. Astor as president. The conference recommended the appointment of a standing telecommunications committee to collect up-to-date information on technical and scientific research which might lead to faster and cheaper transmission of news; it was also proposed that the committee should press for publication and distribution of newspapers by electronic or other means and urge the authorities to provide frequencies for such services. The colonial press laws also came up for discussion and it was recommended that the Empire Press union should offer its services to the colonial office whenever a question arose of alleged irresponsible publication.

In South Africa the Union government appointed a commission of inquiry into the press of South Africa under the chairmanship of Justice J. W. van Zyl. In Cyprus the editor and the printer of the weekly paper *Ephemeris* were sentenced to imprisonment and the newspaper was suspended for two years for publishing an article with intent to bring the government of the colony into hatred and contempt. A new press law gave the government of Singapore power to suspend publication of newspapers publishing matter "calculated to foment opposition to the prosecution to a successful issue of any warlike operation" on which British forces were engaged or committed by reason of a resolution of



ALFRED EISENSTAEDT of *Life* magazine, "Photographer of the Year" for 1950

the Security council of the United Nations.

In western Germany the British transferred control of *Die Welt* to German hands. *Die Welt* first appeared in 1946 and at one time had a circulation of nearly 1,000,000. At the time of transfer its circulation was 350,000. During August several of the Communist newspapers, including all seven in the British zone, were banned by the Allied High commission and their printing works closed for three months.

In Moscow R. Dalglish, assistant editor of the foreign office newspaper in Moscow, *British Ally*, resigned because of the alleged antisoviet attitude at the embassy. *British Ally*, which had been subjected by the soviet authorities to deliberate restrictions on its circulation, was forced to close down later in the year.

Cyril Ray became staff correspondent in Moscow for the *Sunday Times*. Reuters' representative in Poland, the sole remaining British correspondent there, was expelled because of "un-objective" reporting. The only two British correspondents remaining in Prague were the representatives of Reuters and the *Daily Worker*. The British sold the Vienna evening newspaper *Weltpresse* to the Austrian Socialist Publishing company which had been responsible for its printing and distribution under British control.

From Italy came the news of the appearance in Rome of a new daily newspaper with neofascist sympathies. It took the same name, *Popolo di Roma*, as one of Mussolini's newspapers. (See also ADVERTISING.) (D. HN.)

The University of Missouri school of journalism, in its 21st annual presentation, gave awards for distinguished service in journalism to the following during the university's journalism week, May 2-6, 1950: The *Nieuwe Rotterdamse Courant*; the *St. Louis Star-Times*; Oveta Culp Hobby, executive vice-president of the *Houston Post* (Tex.); Joe Alex Morris, reporter and news bureau manager; Arthur Hays Sulzberger, publisher of the *New York Times*; and James Todd, publisher of the *Moberly Monitor-Index* (Mo.).

FILMS OF 1950.—*Newspaper Story* (Encyclopædia Britannica Films Inc.); *Police Reporter* (Ohio State University, Bureau of Educational Research).

**New York.** New York, one of the original 13 states, has been known since 1784 as the "Empire state." It covers an area of 49,576 sq.mi., of which 1,647 are water. According to the 1950 U.S. census, the state retained its position as the most populous, with a population of 14,830,192, a 10% increase over that of 1940. The principal cities and their 1950 populations (preliminary census figures) were: New York 7,835,099; Buffalo 577,393; Rochester 331,252; Syracuse 220,067; Yonkers 152,533; Albany (State capital) 134,382; Utica 101,479; Schenectady 92,070; Niagara Falls 90,875; Binghamton 81,132.

**History.**—Of the 1,172 bills passed by the 1950 legislature, 825 received the approval of Gov. Thomas E. Dewey and became law. Among the most important measures enacted into law were the bill creating the New York State Thruway authority and the bill which resulted in the transfer of residential rent control from federal to state jurisdiction.

The Thruway authority was empowered to construct and operate a multiple-lane highway connecting New York city and Buffalo, with branches extending to New England, the largest physical development ever undertaken by the state. It was planned to finance the project by the sale of Thruway authority bonds to be repaid by licence fees charged for use of the highway.

In accordance with the rent control bill signed by the governor on March 29, control of residential rents in New York state was transferred to state authority. Under the new law, residential rents were frozen at levels actually paid on March 1, 1950. Increases for extra services might be permitted by the adminis-



trator after July 1, 1950. Increases for demonstrated out-of-pocket losses or gross inequities might be permitted after Dec. 1, 1950. In areas that had been decontrolled under the federal law, the administrator was empowered to impose reconrol if rents should become too burdensome to the community. The law exempted public housing, transient hotels (except as to permanent guests) and tourist homes. It did not apply to new housing completed after Feb. 1, 1947, and new housing created through remodelling after May 1, 1950.

Another measure, providing for the creation of a civil defense commission in the executive department, established a state body responsible for civil defense in the event of war.

Thomas E. Dewey was re-elected for a third term as governor on Nov. 7, 1950. Other state officials elected at that time were: Lieutenant Governor Frank C. Moore, Comptroller J. Raymond McGovern and Attorney General Nathaniel L. Goldstein.

**Education.**—At the close of the school year, June 1949, there were 5,159 elementary public schools with 1,316,940 school children, 137,833 pupils in 162 junior high schools and 831 public high schools with 489,903 students. There were also 1,110 private and parochial schools with 380,000 pupils in the elementary grades, and 83,104 students in 294 secondary schools. Enrollment at the 114 universities, colleges and institutions of higher learning in 1949 totalled 261,045, excluding 171,737 summer and extension students. Special state schools included 7 Indian schools; 6 agricultural and technical institutes; 135 schools for nursing, 3 institutes for the blind; and 6 institutes for the deaf.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The 1,186,000 persons given assistance, care or service at public expense in 1949 represented an increase of 126,000 persons over 1948. During 1949 expenditures for public assistance totalled \$376,745,216. Of this sum the federal government's share was \$66,699,611, the state's share \$146,666,829 and the local government's share \$163,378,776. An additional 2,407,000 persons were given assistance or care in New York state as private charges.

Between June 1, 1949, and Jan. 1950, the state paid approximately 942,897 unemployment insurance claims totalling \$249,621,789. At the end of 1949 the New York State Unemployment Insurance Trust fund had a balance on hand of \$877,033,127. The state department of correction administers 16 institutions. In 1949 the average yearly population of the state's correctional institutions was 17,256.

The state has seven maximum security prisons, a medium security prison and a prison for women; two reformatories for males and one for females; two institutions for male defective delinquents and one for females; and two hospitals for the criminal insane. During 1949 the average cost for the care and maintenance of institutional inmates was \$137.72 per person.

**Communications.**—New York state had 86,552 mi. of roads on Jan. 1, 1950, of which 14,300 were state highways (exclusive of through ways, parkways, city and village streets) and 72,252 mi. of county and town roads. Hardsurfaced roads totalled 66,013 mi. The 41 railroads in the state operated 7,639 mi. of tracks. The state maintains a system of more than 500 mi. of canals. Including the rivers and lakes which are part of the New York State Barge Canal system, the total length is more than 800 mi. New York state leads the nation in air passenger traffic, domestic air cargo and value of air-borne imports and exports. During 1949 the three major commercial airports of the New York metropolitan area (La Guardia, Newark and New York International) handled a combined volume of 4,341,000 passengers.

The state department of commerce reported 62 seaplane bases and 259 airports operating in the state during the year, including 49 municipal, 200 privately owned, 7 military, 2 CAA intermediate fields and 1 glider field. There were 4,472 civil aircraft and 26,040 licensed pilots registered as of Jan. 1, 1950.

**Banking and Finance.**—At the end of 1949 there were 773 banks with total resources of \$46,800,670.576.90 and deposits of \$41,919,595.235.87 operating in the state. In addition there were 237 savings and loan associations with \$1,274,428,000 of total assets and \$1,130,000,000 due private shareholders.

For the fiscal year ending March 31, 1950, the financial status of the state was as follows: general revenue \$857,354,503; expenditures \$886,438,840; total operating deficit \$9,085,337; state debt \$681,013,685. Capital Construction Fund (formerly Postwar Construction Fund) reserve for postwar construction and reconstruction, appropriations in force April 1, 1950, \$432,094,905.43. About 58% of general fund expenditures were for state aid to local governmental units. This totalled \$513,000,000, an increase of about \$100,000,000 over the previous fiscal year and largely accounted for by a \$67,000,000 increase in state aid to education.

Table I.—Leading Agricultural Products of New York

Crop	Production 1950	Production 1949	Average 1939-48
Corn, bu. . . . .	30,340,000	29,610,000	24,241,000
Wheat, bu. . . . .	12,585,000	11,760,000	7,854,000
Oats, bu. . . . .	33,841,000	22,591,000	23,966,000
Barley, bu. . . . .	2,550,000	1,800,000	2,949,000
Buckwheat, bu. . . . .	1,273,000	1,360,000	2,137,000
All hay, tons . . . . .	6,100,000	4,878,000	5,836,000
Beans, dry (100-lb. bags) . . . . .	1,349,000	1,638,000	1,307,000
Tobacco, lb. . . . .	700,000	650,000	1,154,000
Potatoes, bu. . . . .	34,315,000	30,660,000	31,686,000
Apples, bu. . . . .	17,625,000	20,090,000	14,399,000
Peaches, bu. . . . .	1,023,000	1,428,000	1,330,000
Pears, bu. . . . .	1,066,000	1,195,000	841,000
Grapes, tons . . . . .	74,100	48,400	54,990

**Agriculture.**—Gross sales of agricultural products totaled \$841,561,000 in 1949. In addition, government payments to farmers were \$4,475,000 compared with payments of \$5,159,000 in 1948. The sale of milk and cream in 1949 amounted to \$348,032,000. The total harvested acreage in that year, excluding orchards and vineyards, was 6,396,000 ac. The value of livestock and poultry on farms, as of Jan. 1, 1950, was \$440,168,000. This included 2,226,000 head of cattle, 17,759,000 chickens, 145,000 horses, 2,000 mules, 212,000 hogs and 178,000 sheep. The number of turkeys raised in the state in 1950 was 890,000.

**Manufacturing and Industry.**—Approximately 67% of the country's total output of women's dresses, coats and blouses and 94% of women's furs are produced in New York state, as are 42% of men's and boys' tailored clothes. The state also leads all others in printing and publishing and the rug and carpet industry, and produces 66% of the photographic goods manufactured in the nation. In 1947 the state's manufacturing firms added \$9,666,588,000 in value to the raw and semifinished material they purchased for processing, according to the U.S. census of manufactures.

Table II.—Value Added by Manufacture and Number of Employees in Ten Leading Manufacturing Industries, New York State, 1947

Industry	Value added, (in millions)	Number employed
Apparel and related products . . . . .	\$2,009	382,486
Printing and publishing industries . . . . .	1,128	166,492
Food and kindred products . . . . .	977	135,296
Primary metal industries and fabricated metal products . . . . .	830	165,858
Machinery (except electrical) . . . . .	679	137,556
Chemicals and allied products . . . . .	596	69,066
Electrical machinery . . . . .	459	101,861
Textile mill products . . . . .	429	91,637
Transportation equipment . . . . .	408	89,803
Paper and allied products . . . . .	374	65,026

Source: U.S. bureau of the census.

In 1950 an all-time high total of 580,000 business firms in the state was reached. New incorporations in 1949 numbered 21,000. In 1949 there were 5,502,800 persons employed in the state exclusive of agricultural workers, proprietors, domestic workers and personnel of the armed forces. Average weekly factory earnings in 1949 were \$57.47. Construction in 1949 totalled \$1,536,614,000, about 34% more than in 1948. Retail sales in the state in 1949 were estimated at \$13,365,097,000.

**Mining.**—New York state in 1948 produced \$156,140,000 in mineral products. The amounts and values of minerals are given in Table III.

Table III.—Principal Mineral Products of New York

Mineral	Production	Value
Portland cement . . . . .	12,299,226 bbl.	\$26,071,417
Gypsum, crude . . . . .	1,228,358 short tons	3,294,973
Iron ore . . . . .		
crude . . . . .	7,865,937 long tons	
concentrates . . . . .	2,932,442 long tons	24,384,648
Lead . . . . .	1,231 short tons	440,698
Limestone . . . . .	11,140,000 short tons	14,367,974
Natural gas . . . . .	4,705,000 million cu. ft.	1,040,000
Petroleum . . . . .	4,621,000 bbl.	22,975,000
Salt . . . . .	3,065,831 short tons	13,056,542
Sand and gravel . . . . .	16,369,303 short tons	13,382,370
Stone . . . . .	12,687,970 short tons	17,261,486
Talc . . . . .	119,716 short tons	2,671,935
Zinc . . . . .	34,566 short tons	9,194,556

**New York City.** The population of the city of New York, according to the 1950 census (preliminary figures), was 7,835,099. On Nov. 7, 1950, Vincent R. Impellitteri was elected the city's 101st mayor, to fill out the remaining three years of the unexpired term of William O'Dwyer, who resigned as chief executive on Sept. 1, 1950.

In the last six months of 1950 the city initiated preparations to meet the dangers of atomic war. Arthur W. Wallander, a former police commissioner, was appointed director of civil defense. It was expected that the civil defense organization, when it reached full strength, would command more than 400,000 trained municipal employees and volunteers.

Completion of two new hospitals in 1950 and the return of another from the federal government provided 900 additional hospital beds. The two new hospitals were the first built under the city's \$192,000,000 hospital construction program. They were the Francis Delafield Hospital for Cancer, which was affiliated with the Columbia-Presbyterian Medical centre, and the James Ewing hospital, also devoted to cancer patients and affiliated with the Memorial Cancer centre and the Sloan-Kettering Research institute.

The public housing construction program maintained a high level of achievement. During the first ten months of the year, 11,343 apartments were completed.

During the first six months of 1950, 11 school projects were completed, and before the end of the year the number was expected to reach 16.





NEW YORK CITY SKYLINE as it looked in 1950 with the addition of the United Nations secretariat building (right)

The Brooklyn Battery tunnel was opened in May 1950. It was the longest tunnel in the United States, constructed at a cost of \$80,000,000. A total of 7,841,023 cars passed through it in the first five months of operation.

The department of commerce of the city of New York, in a report issued Jan. 1, 1951, disclosed that the city had 235,000 business establishments, including 41,400 manufacturers. These concerns employed more than 3,000,000 persons and had a total annual pay roll of approximately \$11,000,000,000. The average annual production was valued at more than \$13,000,000,000. There were approximately 17,000 firms engaged in manufacturing wearing apparel, employing 370,000 persons and with a dollar volume of production of more than \$3,500,000,000. The city's consumer market was the largest in the world with an annual retail sales volume of about \$10,500,000,000.

About 4,500 New York firms are engaged in foreign trade. The annual dollar volume of exports exceeds \$5,000,000,000 while imports total \$3,000,000,000. The total annual water-borne commerce handled in the port of New York exceeds 125,000,000 tons. (See also MUNICIPAL GOVERNMENT.) (F. L. Do.)

**New Zealand.** A self-governing member of the Commonwealth of Nations, New Zealand consists of two large and several small islands in the South Pacific. Area: dominion proper, 103,416 sq.mi.; other islands, 523 sq.mi. Pop. dominion proper (1949 est.): 1,881,000, including c. 115,000 Maoris. Cook and other Pacific islands (pop., 1949 est.): 20,000. Western Samoa, a trusteeship, has an area of 1,133 sq.mi.; pop. (1949 est.): 73,000. Language: English. Religion: mainly Christian. Chief cities (April 1949 est.): Wellington (cap., 186,000); Auckland (289,000); Christchurch (164,000); Dunedin (88,800); Palmerston North (30,100). Governor general: Lieut. Gen. Sir Bernard Cyril Freyberg; prime minister: Sidney George Holland.

**History.**—The new administration began the year 1950 with a thorough inquiry into the finances of the country. While all the economic controls which had been instituted by the previous government as a result of its policy or because of wartime measures could not immediately be abolished, many controls were swept aside; in particular, land sales control on house

property and many price controls. The measure which caused the greatest discussion was the removal or reduction for the year of about £7,000,000 of government subsidies. This affected such items as butter, tea, bread, flour, eggs, milk and wool and the railways. To offset the rise in prices, cost-of-living bonuses were immediately granted.

Arrangements were furthered to establish compulsory military training for 18-year-olds after the national referendum of 1949. New Zealand joined Great Britain as the only country in the commonwealth to have a compulsory military training scheme.

New Zealand offered full co-operation to the Colombo plan for commonwealth aid to southeast Asia. The U.N. Trusteeship council accepted the New Zealand report on Western Samoa. The government called again for an early decision on the peace treaty with Japan and stressed the need for definite assurances that a military regime would not be allowed to dominate the Pacific. When the United Nations was challenged by Communist forces in Korea immediate aid was offered. Naval units and an artillery force made up entirely of volunteers were made available.

In the economic field the swiftly rising level of prices for raw wool created an element of boom prosperity. Wool reached all-time record prices. This factor, with the removal of subsidies, was reflected in rising prices. Adjustments to social security benefits, wages and salaries followed. With the market for raw materials generally buoyant throughout the world and with the improvement of the sterling area's dollar pool, New Zealand also found its dollar position considerably eased. To offset boom conditions and the inflationary effect of wool prices, one-third of the proceeds from the sale of wool was frozen in growers' bank accounts. This action, to be reviewed after a year, froze about £50,000,000 of the expected £150,000,000 wool receipts. This record sum was £90,000,000 more than in 1949.

The abolishing of import licences for many articles implemented the new free enterprise policy of the government and bids were also called for the purchase by private enterprise of the national airways. The sale of state houses, the restoration of capital punishment, the raising of a new internal loan of £20,000,000, the provision of secret ballots for unions on the issue of compulsory unionism and suspensory loans for home builders were features of the government's policy. Others were the removal of the power of direction of the reserve bank from the minister of finance to parliament, and the handing back of workers' compensation to private insurance companies. A notable constitutional feature was the abolition of the legislative council, New Zealand thus becoming the first member of the commonwealth to have a unicameral legislature.

A split was seen in organized trade unionism. The more militant unions, led by the waterside workers, broke away from the Federation of Labour to form the Transport Workers' federation. Disruption of water front labour by disputes continued to harass overseas shipping, notably in Auckland, and a royal commission to inquire into the water front industry was set up. (A. T. CL.)

**Education.**—(Dec. 1948) Primary schools 1,932, pupils 233,008, teachers 7,251; Maori village schools 160, pupils 13,254, teachers 399; secondary schools 47, pupils 21,373, teachers 1,036; district high schools 100, pupils 6,665, teachers 376; Maori district high schools 7, pupils 200, teachers 13; technical schools 28, pupils 12,136, teachers 755; private secondary schools 83, pupils 9,495, teachers 505; teachers' training colleges 5, students 1,847; agricultural colleges 2, students 1,461; University of New Zealand (four colleges), students 11,380.

**Finance and Banking.**—Budget (consolidated fund and social security fund, excluding war expenses account): (1949–50 actual) revenue £N.Z.168,800,000, expenditure £N.Z.167,100,000; (1950–51 est.) revenue £N.Z.181,800,000, expenditure £N.Z.180,200,000. Gross national debt (March 1950): £N.Z.670,000,000. Currency circulation (Sept. 1950): £N.Z.48,400,000. Gold and foreign exchange (Sept. 1950): U.S. \$153,400,000. Monetary unit: New Zealand pound with an exchange rate of £N.Z.0.362 to U.S. \$1.

**Foreign Trade.**—(1949) Imports £N.Z.119,800,000; exports £N.Z.146,-



\$800,000. Main sources of imports (nine months of 1949): U.K. 52%; U.S. 11%; Australia 11%. Main destinations of exports: U.K. 72%; France 6%; U.S. 3%.

**Transport and Communications.**—Railways (1949): 3,528 mi.; passenger journeys 26,000,000; freight net ton-miles 1,028,000,000; freight tons carried 10,000,000. Roads, main (1949): 12,708 mi., of which arterial roads 5,234 mi. Licensed motor vehicles (Dec. 1949): cars 230,664; commercial 75,938. Shipping (July 1949): number of merchant vessels over 100 gross tons 164, total tonnage 190,910. Air transport (1949): passenger-miles 78,000,000; cargo net ton-miles 1,650,000. Telephones (March 1949): subscribers 238,292. Radio receiving set licences (Sept. 1949) 442,506.

**Agriculture.**—Main crops (metric tons, 1949-50): wheat 128,000; barley 54,000; oats 59,000; potatoes 120,000; dry peas (1948-49) 33,000. Livestock: cattle (Jan. 1949) 4,723,000; sheep (April 1949) 32,845,000; pigs (Jan. 1949) 545,000; horses (Jan. 1949) 209,000. Meat production (1949-50) 524,000 metric tons. Dairy production (metric tons): factory butter (1949) 168,000; factory cheese (1949) 100,800; milk (1949-50) 4,535,000. Wool production, greasy basis (1949-50): 167,000 metric tons. Fisheries, total catch (1946): 32,047 metric tons.

**Industry.**—Industrial establishments (1948) 35,579; persons employed 438,480. Fuel and power (1949): coal 948,000 metric tons; lignite 1,908,000 metric tons; manufactured gas 157,000,000 cu.m.; electricity 2,565,000,000 kw.hr. Raw materials (metric tons, 1949): superphosphates 624,000; cement 253,000.

**Nicaragua.** A republic in Central America, Nicaragua is situated between Honduras on the north and Costa Rica on the south. Area: 57,145 sq.mi., of which 3,475 sq.mi. are water. Pop. (prelim. tabulation, 1950 census), 1,503,189, of whom 688,373 were rural residents. Capital: Managua (1948 pop. est.: 146,819). Other urban centres are Chinandega (26,112), Granada (39,643), Jinotega (41,065), León (53,277), Masaya (38,761) and Matagalpa (53,118). Language: Spanish; religion: predominantly Roman Catholic. Presidents in 1950: Víctor M. Román y Reyes and (from May) Gen. Anastasio Somoza.

**History.**—Political developments during 1950 centred on the presidential election and attempts at a reconciliation of party differences.

A mutual agreement between the National Liberal (administration) party and the "genuine" Conservative party was reached at Managua on March 29, when Gen. Anastasio Somoza, the minister of war, and Gen. Emiliano Chamorro, chief of the Conservative party, agreed that there would be no foreign supervision of the national elections, the Conservatives would participate in the elections and the defeated party would be guaranteed one-third of the seats in the new constituent assembly. The Independent Liberal party and the Civil Conservatives remained aloof from the compromise.

A new crisis developed when Pres. Víctor M. Román y Reyes, who had left the country in March for treatment in a U.S. hospital, died on May 6. General Somoza, who had been previously named as the presidential candidate of the National Liberal party, was designated by the congress on May 7 as acting president.

Opposing General Somoza in the presidential campaign was Emilio Chamorro Benard, representing the "genuine" Conservative party. The elections transpired peacefully on May 21, and on May 28 the national election council ruled that General Somoza had been elected over Chamorro Benard, 153,297 to 49,401.

The national constituent assembly was installed on June 4 with a National Liberal majority, and on Oct. 18 approved a new constitution. The main changes effected were provisions for women's suffrage, minority representation in congress, social security legislation and liberty of commerce.

In July the minister of foreign affairs informed the United Nations that Nicaragua would support the U.N. forces engaged in the Korean crisis. The aid offered included 5,000 volunteer troops, foodstuffs and raw materials. The failure of the U.S. senate to provide necessary funds for the building of the Managua-El Rama highway, as required by the 1939 revision of the Bryan-Chamorro treaty, caused a slight strain in the rela-

tions between Nicaragua and the United States during the latter part of the year.

**Education.**—During the 1948-49 school year there were 1,302 primary schools with 2,918 teachers and 89,991 students; 78 secondary schools with 556 teachers and 10,891 students; and two universities with 620 students. For the same year the national budget provided 7,764,390 córdobas for public education.

**Finance.**—The monetary unit is the córdoba, officially maintained at 20 cents U.S. The 1949-50 national budget provided for expenditures of 54,303,730.16 córdobas, a 14% reduction from the previous year. As of Dec. 31, 1949, the foreign debt amounted to approximately \$4,300,000; the internal debt, \$8,860,000. At the end of 1948 there were six banks with capital and reserves amounting to 9,963,000 córdobas and current deposits of 42,534,490.53 córdobas. Gold and foreign exchange holdings totalled \$366,499.84; bills in circulation, 50,601,000 córdobas.

**Trade and Resources.**—Exports during 1949 were valued at approximately \$23,700,000 (\$26,682,000 in 1948); imports, \$21,300,000 (\$24,134,000 in 1948). The U.S. supplied 85.5% of the imports and took 43.8% of the exports in 1948. The leading export commodity is coffee (346,136 bags of 132 lb. from the 1949-50 crop, valued at approximately \$14,000,000). Other exports (with 1948 volumes) include gold (182,964 troy ounces), bananas (678,598 stems) and sesame seed (26,565,633 lb.).

**Communications.**—In 1949 railroads measured 236.2 mi.; surfaced highways, 417.5 mi.; all-weather dirt roads 79.4 mi.; telegraph lines 3,183.8 mi.; and telephone lines (1946) 4,748 mi. There were 2,000 telephones, 26 radio broadcasting stations and about 8,000 receiving sets. On Jan. 1, 1949, there were 1,443 automobiles, 672 trucks and 151 buses registered in the country. As of Dec. 31, 1949, there were four ships totalling 8,000 tons in the national merchant marine.

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**Nickel.** World production of nickel, as reported by the U.S. bureau of mines, is shown in Table I.

Table I.—World Production of Nickel

	(In short tons)				
	1945	1946	1947	1948	1949
Canada . . . . .	122,565	96,062	118,627	131,740	128,328
Cuba . . . . .	12,015	12,391	2,220	—	—
Finland . . . . .	992	662	?	—	—
Japan . . . . .	717	?	—	—	—
New Caledonia . . . . .	4,771	3,063	3,687	5,381	3,716
Norway . . . . .	569	61	—	—	—
South Africa . . . . .	550	548	583	505	681
U.S.S.R. (est.) . . . . .	14,800 <sup>a</sup>	22,000 <sup>a</sup>	27,500 <sup>a</sup>	27,500 <sup>a</sup>	27,500 <sup>a</sup>
United States . . . . .	1,155	352	646	883	790
Total . . . . .	160,000	135,500	154,000	166,000	161,100

**United States.**—The United States has practically no domestic source of nickel; imports from Canada form the major source of supply. The important features of the domestic supply, as reported by the U.S. bureau of mines, are shown in Table II.

Table II.—Nickel Supply in the United States

	(In short tons)				
	1945	1946	1947	1948	1949
Production . . . . .	1,155	352	646	883	790
Secondary recovery . . . . .	6,483	8,248	9,541	8,850	5,680
Imports* . . . . .	122,528	104,734	88,408	106,939	97,144
Exports* . . . . .	3,876	7,977	12,037	8,184	4,503
Consumption . . . . .	96,252	80,105	80,757	93,558	68,326

\*Includes gross weight (not nickel content) of ore, matte, oxide and alloys.

**Canada.**—Production declined from 131,740 tons in 1948 to 128,328 tons in 1949 and 79,059 tons in the first eight months of 1950. (G. A. Ro.)

**Niger:** see FRENCH UNION; FRENCH WEST AFRICA.

**Nigeria:** see BRITISH WEST AFRICA.

**NLRB:** see NATIONAL LABOR RELATIONS BOARD.

**Nobel Prizes.** The Nobel prizes, for literature, physics, chemistry, medicine and peace, first awarded in 1901, were established by the Swedish industrialist, Alfred Bernhard Nobel (1833-1896). Each award consists of a gold medal and a sum of money which fluctuates with the income from the fund but was reported in 1950 to be about \$31,700. Bertrand Russell, British writer, philosopher and mathematician, received the 1950 literature prize. William Faulkner, Amer-



ican novelist, received the literature prize held over from 1949, at which time no candidate was agreed upon. The award for physics went to a British nuclear scientist, Cecil Frank Powell, for his development of photographic methods for studying nuclear processes and his discoveries concerning the meson, an elementary cosmic ray particle. The prize in chemistry was divided between Otto Diels and his former pupil, Kurt Alder, German organic chemists, for their discovery and development of diene synthesis, which enables scientists to study the structure of organic matter. The prize in medicine was awarded jointly to Philip S. Hench and Edward C. Kendall of the Mayo clinic, Rochester, Minn., and Tadeusz Reichstein of Basle, Switz., for their work with cortisone and other adrenal hormones. The peace prize was awarded to Ralph J. Bunche, U.S.A., director of the United Nations trusteeship division, for his work as United Nations mediator between Israel and the Arab states. (R. E. Bs.)

**Norfolk Island:** see COMMONWEALTH OF NATIONS.

**North Atlantic Community.** The North Atlantic community consists of the nations which concluded the North Atlantic treaty in Washington, D.C., in April 1949: Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom and the United States. These nations constitute a cultural, geographical and strategic unit which has achieved a measure of political and economic organization through the Organization for European Economic Cooperation (O.E.E.C.), the Council of Europe<sup>1</sup>, and the North Atlantic treaty, as well as through membership and close co-operation in the United Nations.

The North Atlantic treaty grew out of the Brussels and Rio pacts of 1948 and 1947, and operates as a regional security arrangement of the United Nations under the provisions of article 51 of the U.N. charter. It is a mutual aid pact binding for ten years, and thereafter subject to renewal. The signatory powers agree, in the words of the treaty, "by means of continuous and effective self-help and mutual aid [to] maintain and develop their individual and collective capacity to resist armed attack." In the event of armed attack against any member, all members are pledged to assist the victim by all necessary measures, including the use of military force. To implement the treaty, the North Atlantic Treaty organization was established. It consists of the North Atlantic council, composed of the foreign ministers of participating nations; a defense committee, made up of the respective ministers of defense; the military committee of the respective chiefs of staff; a "Standing Group" on defense comprised of specially designated representatives of the United States, the United Kingdom and France; and five regional bodies for defense planning. Further to implement the treaty, a military defense assistance program, designed to make military equipment and materials available to Atlantic treaty countries in need of such aid, was introduced to the United States congress in July 1949 by the Harry S. Truman administration. The program, calling for approximately \$1,000,000,000 in aid, was passed by the congress and signed by the president on Oct. 6, 1949 (Mutual Defense Assistance act).

The congress stipulated that of the \$1,000,000,000 appropriation, \$900,000,000 should become available only after agreements had been concluded between the United States and countries availing themselves of the aid program, and after the president had approved the general defense plan prepared by the defense committee. During the latter part of 1949 the various agreements were negotiated, and by the beginning of 1950 the stage was set

for action under the Mutual Defense Assistance program.

On Jan. 27, 1950, President Truman signed the Mutual Defense Assistance agreements and approved the defense plan which previously had been approved on Jan. 6, 1950, by the North Atlantic council. Therefore, in accordance with the terms of the congressional appropriation, the full \$1,000,000,000 of allotted military aid was made available. The first shipment of military equipment was sent from the United States to France on March 13, and similar shipments continued throughout 1950. Specific information on the content of these shipments was not released, but it was known that B-29s were sent to Great Britain, and that in addition to aircraft furnished France and other countries, equipment provided included tanks, armoured cars, radar and signal devices, anti-tank guns, harbour defense guns, ammunition, submarines and light naval surface craft. It was anticipated that Marshall plan aid—including counterpart funds—would be made available for broad purposes of western European defense, including the development in France and elsewhere of industries which would produce military equipment or could, if necessary, be converted to war production.

Further steps were taken to strengthen the treaty organization at the fourth meeting of the North Atlantic council in May 1950. It was decided to appoint foreign ministers' deputies to a permanent North Atlantic council. The council of deputies, sitting in London, was to be particularly responsible for "the direction of common defense, the division of financial responsibilities, and the adaptation and development of the necessary forces." It was further agreed that, in order to avoid duplication of military and industrial effort, participating nations should "concentrate on the creation of balanced collective forces in the progressive build-up of the defense of the North Atlantic area." Accordingly, for example, Great Britain would concentrate its defense effort on certain weapons, such as jet tactical aircraft and naval vessels, while France would be more concerned with light artillery and infantry weapons. In this way an effective division of resources could be developed. In addition, the council indicated the need for examining military preparations and financial cost as one problem, emphasizing that as far as possible defense preparations should not impair economic and social progress.

After June 25, 1950, when the Communist invasion of South Korea intensified the need for speedy defense preparations, the program for North Atlantic defense entered a new phase demanding greater and more rapid defense efforts by the members of the North Atlantic community. Accordingly, President Truman, who on July 26 had given his approval to a \$1,000,000,000 grant comprising the Mutual Defense Assistance program appropriation for the fiscal year 1950-1951, recommended on Aug. 1 that an additional \$4,000,000,000 grant be allocated to the program. This recommendation accompanied proposals for increased United States defense expenditures over the next three years, and it was followed by a note from the United States to Atlantic treaty countries requesting information on their future defense plans. Within the week, British and French proposals for increased rearmament programs were announced. The British proposals called for a total defense expenditure of \$9,420,000,000 over the next three years, an increase of about 50% above the former rate of expenditure. The main portion of this increased defense budget was to be directed to "the production of defense equipment." The French plan called for a three-year expenditure of about \$5,500,000,000, an increase of about 30% over previous defense estimates, which would enable the French to continue their program for domestic manufacture of war materials, and, in addition, allow for the formation of 15 new, fully equipped divisions. These proposals, together with those made by the other Atlantic treaty nations, were forwarded to the council of deputies who

<sup>1</sup> The United States and Canada are, of course, not members of the Council of Europe. However, virtually all of the other signatories of the Atlantic pact are members, and the council has actively concerned itself with the organization of the defenses of western Europe.



announced on Aug. 11 that they were considering plans for integration of the increased defense efforts.

On Sept. 15, after the United States and Great Britain had agreed to increase their forces in Europe, the North Atlantic council met in New York to consider the deputies' report on the new integrated program for rearmament. In the first meetings of the North Atlantic council, agreement was reached on the proposals to create "in the shortest possible time an integrated military force adequate to defend Europe." This decision, perhaps the most important yet made by the council, meant, of course, a North Atlantic army stationed in Europe. There was some disagreement, however, on the composition of the proposed army. The United States plan for the inclusion of west German troops within the new force met stiff opposition from the French, who were supported by Norway and Belgium, and the council recessed in order to allow representatives to consult their home governments on the issue. On Sept. 26, the council reconvened, and although no final agreement was reached on German participation, it was announced that Germany would be allowed to "contribute" to the common defense. The final communiqué also stated that the North Atlantic army would be headed by a single supreme commander and an international general staff authorized to raise and train national contingents of troops. Strategic direction of the force was vested in the standing group of the military committee of the North Atlantic Treaty organization.

After the September meeting, the North Atlantic treaty nations worked out the practical implications of the momentous decisions made by the council. The committee of deputies began to study the contributions of financial credits and industrial production to be made by member countries. The military committee considered the structure of military command of the projected North Atlantic force, and the defense committee concerned itself with the problem of apportioning the various military responsibilities and forces. In October, French and United States officials reviewed the projected U.S. contribution to the implementation of the French rearmament program. The U.S. government agreed that the allotment to France of the anticipated Mutual Defense Assistance program appropriation of \$5,000,000,000 would be in excess of \$2,000,000,000. It also agreed to make immediately available to the French \$200,000,000 out of the \$1,000,000,000 Mutual Defense Assistance program appropriation previously approved by congress.

More definitive and extensive arrangements, however, were held up by the uncertainty regarding the role of the west German troops within the North Atlantic force. A step toward the resolution of this issue was taken when on Oct. 24 Premier René Pleven presented to the French national assembly a plan for the incorporation of German troops into a European army which, in its turn, would be made available to the North Atlantic forces. The Pleven plan, conceding the principle of German rearmament within the framework of European union, provided that "the contingents supplied by the participating countries would be incorporated within the European army in the smallest possible units." Under this arrangement, German troops would be merged with the troops of other nations on the company level; limitation of the size of German units, it was felt, would forestall the revival of a German military power capable of pursuing independent political objectives.

The Pleven plan was debated by the defense and military committees of the North Atlantic Treaty organization when they met in Washington, D.C., at the end of October. Apparently the Pleven proposal was rejected as militarily unfeasible in the immediate situation, but no alternative plan was announced. On Dec. 6, however, after long and tense negotiations and under the pressure of United Nations reverses in Korea, the French cabinet agreed to accept rearmament of German units of regi-

mental combat team strength within the North Atlantic force, but the possible formation of an integrated European army was left open for future decision. The German combat teams would be integrated into mixed divisions with not more than one German team in any one division.

The day after the decision of the French cabinet had been revealed, the council of deputies announced that it had reached agreement on a plan for the immediate formation of an integrated North Atlantic military force, to include west German troops. Despite this agreement, however, a good deal of uncertainty remained with respect to German participation in the defense of western Europe. As early as the September meeting of the North Atlantic council, the west Germans had indicated reluctance to rearm unless they were given full equality as a nation, which meant the termination of all occupation controls, and unless some guarantee of their territory was afforded. The strength of this German opposition to unconditional rearmament was revealed in November when the Social Democratic party, campaigning on its opposition to unconditional rearmament, made large electoral gains in Hesse, Württemberg-Baden and Bavaria. On Dec. 7, the French acceptance of the inclusion within the North Atlantic force of west German units of combat team strength was met by a statement from Chancellor Konrad Adenauer that the Germans could agree to rearmament only if they were allowed units of divisional strength.

The problem of German rearmament was still further complicated by the attitude of the Soviet Union. On Oct. 18, the soviet government warned the United States, Great Britain and France, in the most categorical terms, that it would "not tolerate" measures "aimed at reviving the German regular army in West Germany." Furthermore, on Dec. 16, the soviet foreign minister charged that the rearmament of western Germany would be a violation of the Franco-Soviet and British-Soviet treaties of alliance, and that France and Britain must bear "all responsibility for the situation which has arisen." Whether these two warnings were mere bluff or were solemn notice that German rearmament would be regarded by the U.S.S.R. as a possible *casus belli* was, of course, a matter of conjecture. But that these warnings could not be altogether ignored was made apparent by the grave concern they caused in France, and to a lesser extent in Great Britain, the Low Countries, and even the United States.

Nevertheless, on Dec. 18 and 19 the North Atlantic council, toward which the Russian warnings were obviously directed, met in Brussels, Belg., to consider the deputies' plan for an integrated North Atlantic force with German contingents. At the conclusion of its meetings, the council announced that it had "completed arrangements initiated in September . . . for the establishment of an integrated force under a centralized control and command." The council approved the appointment of Gen. Dwight D. Eisenhower as supreme commander. And, despite Russian warnings, the "Council reached unanimous agreement regarding the part which Germany *might* assume in the common defense." (Italics ours.) It was not quite clear to what degree this phraseology involved an element of caution. That there would be further delay was assured, for the council "invited the governments of France, the United Kingdom, and the United States to explore this matter with the Government of the German Federal Republic." In view of the announced attitude of Chancellor Adenauer, influenced by the stand of Kurt Schumacher, leader of the powerful Social Democratic opposition, negotiations with the Bonn government were unlikely to be expeditious. Hence, at the end of 1950, it appeared as if the effective defense of the North Atlantic community would depend principally upon the prompt mobilization of the military resources of Great Britain, France, Canada and the United States.

What was indisputably clear was the fact that continued Com-



munist pressure, including armed aggression in Korea, had led to a strengthening of the political and military organization of the North Atlantic community. There was recorded agreement that a North Atlantic force stationed in Europe was vital to the common security, and steps had been taken to establish the executive machinery for the force, and to apportion the respective contributions thereto of the participating nations. (See also ARMIES OF THE WORLD; EUROPEAN RECOVERY PROGRAM; EUROPEAN UNION; FAR EASTERN UNITY; MIDDLE EASTERN UNITY.)

(Ed. M. E.; J. Kt.)

**North Borneo:** see BRITISH BORNEO.

**North Carolina.** A south Atlantic coast state, popularly known as the "Old North state" or the "Tar Heel state." North Carolina is one of the original 13 states of the union; area: 52,712 sq.mi. (49,142 sq.mi. land, 3,570 sq.mi. water); pop. (1940): 3,571,623, of which 974,175 (27.3%) were urban, 2,597,448 (72.7%) rural and 1,005,501 (28.2%) nonwhite. The official 1950 census determination gave the state a population of 4,061,929, an increase of 13.7% since 1940. Capital: Raleigh, with pop. (1950 preliminary) 65,123; other cities: Charlotte (133,219); Winston-Salem (86,816); Greensboro (73,703); Durham (70,307); Asheville (52,208).

**History.**—The most important political event in North Carolina in 1950 was the defeat of Frank P. Graham, liberal university president appointed by Gov. W. Kerr Scott in 1949 to the United States senate, by Willis Smith, conservative Raleigh attorney, for the Democratic nomination for the senate. The vote in the first primary, May 27, was: Graham, 303,605; Smith, 250,222; former Sen. Robert R. Reynolds, 58,752; and Olla Ray Boyd, 5,900—a record vote in a Democratic primary in the state. The heated second primary campaign between Graham and Smith involved state rights and the social, economic and civil rights policies of the Harry S. Truman administration. The Negro issue was of major importance for the first time since the white supremacy campaign of 1900. The vote in the second primary, June 24, was Smith 280,798 and Graham 262,123. In the November election Smith defeated his Republican opponent E. L. Gavin, 364,912 to 177,753.

In the November election five constitutional amendments were approved: raising the pay of legislators from \$10 to \$15 per day for a maximum session of 90 days; forbidding use of funds in the teachers' and state employees' retirement fund for any except retirement purposes; permitting persons represented by counsel to waive grand jury indictment in all but capital cases; permitting the election of more than one superior court judge within a judicial district; and transferring from the governor to the chief justice of the supreme court the authority to assign superior court judges.

Governor Scott's Go Forward program of rural road construction, rural electrification and telephone service, public education, and public health and welfare made great progress in 1950. By Oct. 1, with funds from the \$200,000,000 state bond issue approved in 1949, 4,658 mi. of rural roads had been paved (39% of the 12,000-mi. goal) and 6,826 mi. had been stabilized (20% of the 35,000-mi. goal). By July 1, 88.6% of the 287,412 farms in the state had electric service and 83,007 new telephones had increased the total number in the state to 526,749. The counties, aided by \$50,000,000 of state funds, were engaged in extensive construction and repair of schoolhouses. A hospital, four-year medical school, dental school and nursing school were under construction at Chapel Hill.

Principal state officers in 1950 were W. Kerr Scott, governor; H. P. Taylor, lieutenant governor; Thad Eure, secretary of state; Henry L. Bridges, auditor; Brandon P. Hodges, treasurer; Clyde A. Erwin, superintendent of public instruction;

Harry McMullan, attorney general; W. P. Stacy, chief justice.

**Education.**—In 1948-49 there were 2,970 public elementary schools with 20,392 teachers and principals and 694,003 enrolled pupils, and 965 public high schools with 7,287 teachers and principals and 170,151 enrolled pupils; these schools were operated at a cost of \$99,637,550, including \$10,889,514 of federal funds. About three-fourths of the operating cost, excluding federal funds, was contributed by the state government. The average daily attendance in the public schools was 769,405; the number of inhabitants of school age 1,071,220. Not including principals or vocational teachers, the average salary for elementary teachers was \$2,308 and for high school teachers \$2,348.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—In Oct. 1950 public grants amounting to \$1,383,340 were made to 61,898 persons for old-age assistance; \$671,698 to 15,685 families for aid to dependent children; \$144,970 to 4,250 blind persons; and \$63,094 for general relief in 4,039 cases. During the year ending June 30, 1950, the total amount of public relief funds distributed was \$24,555.850 and during the first 11 months of 1950 unemployment benefits amounted to \$15,969,521. In 1950 the state maintained 12 charitable institutions with 11,550 inmates on Oct. 1; five correctional institutions with 751 inmates; and state highway prison camps with 9,014 prisoners.

**Communications.**—In 1950 the state highway and public works commission maintained 11,534 mi. of state highways, of which 10,836 mi. were hardsurfaced; and 52,887 mi. of county roads of which 7,039 mi. were hardsurfaced. There were 4,519 mi. of railroads, 870 mi. of city bus routes and 11,912 mi. of passenger bus routes in 1950. There were 526,749 telephones in use in the state on June 30, 1950.

**Banking and Finance.**—On June 30, 1950, there were 64 national banks and branches with assets of \$472,144,000 and 360 state banks and branches with deposits of \$1,174,305,697 and assets of \$1,295,872,715. On Jan. 1, 1950, there were 148 building and loan associations operating under state charters with 183,589 members and total assets of \$184,992,828 and 27 federal savings and loan associations with total assets of \$99,836,361. In 1949-50 state receipts were \$508,136,822; disbursements \$428,009,258. On June 30, 1950, the state gross bonded debt was \$200,959,500, less \$62,030,968 of bonds invested in sinking funds. The assessed value of property was \$4,104,215,804 in 1949. In the state general fund there was a cash surplus of \$14,516,611 at the end of 1950.

**Agriculture.**—North Carolina farmers in 1950 enjoyed another favourable year for the production of all crops except cotton.

Table I.—Leading Agricultural Products of North Carolina

Crop	1950	1949	Average 1939-48
Tobacco, lb. . . . .	857,150,000	731,530,000	696,707,000
Cotton, bales . . . . .	180,000	466,000	578,000
Corn, bu. . . . .	81,955,000	77,525,000	55,385,000
All hay, tons . . . . .	1,242,000	1,384,000	1,219,000
Peanuts, lb. . . . .	248,040,000	243,080,000	315,847,000
Wheat, bu. . . . .	5,438,000	5,421,000	6,809,000
Sweet potatoes, bu. . . . .	6,785,000	6,554,000	7,403,000
Irish potatoes, bu. . . . .	10,368,000	8,127,000	9,302,000
Oats, bu. . . . .	11,859,000	11,820,000	8,417,000
Soybeans, bu. . . . .	5,117,000	4,224,000	2,675,000
Lespedeza seed, lb. . . . .	26,400,000	46,200,000	32,480,000
Peaches, bu. . . . .	548,000	1,428,000	2,167,000
Apples, bu. . . . .	1,296,000	448,000	982,000
Pecans, lb. . . . .	2,047,000	2,924,000	2,483,000

The acreage of crops harvested was 6,750,000. The cash income of North Carolina farmers in 1949 was \$559,661,000 from crops; \$145,985,000 from livestock and livestock products; and \$7,557,000 from government payments. The value of the lands and buildings on the 287,412 farms in 1945, 42.6% of which were operated by tenants, was \$1,002,983,012.

**Manufacturing.**—In 1947 manufacturing establishments numbering 5,322 employed 350,207 wage earners at wages of \$641,966,000 and added value by manufacture of \$1,646,673,000. Value added by 939 establishments in textiles was \$846,280,000; by 69 establishments in tobacco \$257,986,000; and by 372 establishments in furniture and fixtures \$102,447,000. Estimated industrial production in 1948 was \$3,091,000,000 and electric power production was 9,353,600,000 kw.hr.

Table II.—Principal Mineral Products of North Carolina

Mineral	Value, 1948	Value, 1947	Value, 1946	Value, 1945
Stone . . . . .	\$7,713,859	\$7,561,167	\$6,835,448	\$3,044,135
Clay products . . . . .	10,615,000	8,314,976	6,241,000	3,471,219
Sand and gravel . . . . .	3,522,403	2,956,800	2,933,711	1,517,203
Feldspar . . . . .	1,116,825	1,081,514	1,200,638	863,740
Mica . . . . .	1,036,981	928,361	1,023,406	952,392
Talc and pyrophyllite . . . . .	1,455,691	1,186,463	—	—

**Mineral Production.**—The mineral production in 1948 was \$27,885,000, ranking North Carolina 36th among the states. (A. R. N.)

**North Dakota.** A west north central state of the United States, North Dakota was admitted to the Union Nov. 2, 1889. Popular name, "Flickertail state." Land area: 70,054 sq.mi.; water area: 611 sq.mi. Pop. (1950 census): 619,636, a loss of 3.5% since 1940. Capital, with preliminary 1950 census figures, Bismarck (18,544); chief cities: Fargo (37,981); Grand Forks (26,617); and Minot (21,924).

**History.**—State officers elected in 1950 with terms beginning Jan. 1, 1951 were: governor, Norman Brunsdale; lieutenant governor, Ray Schnell; secretary of state, Thomas



Hall; auditor, Berta Baker; treasurer, Albert Jacobson; attorney general, E. T. Christianson; commissioner of insurance, A. J. Jensen; commissioner of agriculture and labour, Math Dahl; public service commissioner, E. H. Brant; and state superintendent of public instruction, G. B. Nordrum. State tax commissioner John Gray continued in office.

The \$750,000 federal lignite research laboratory was completed at Grand Forks adjacent to the University of North Dakota campus, and research to improve the utilization of the 500,000,000 tons of available lignite in the state was under way. The Garrison dam reached the one-third mark of completion with \$30,969,000 being allocated by the federal government for the fiscal year ending June 30, 1951. Also completed during the year were the Heart Butte dam on the Heart river and the Dickinson dam. Theodore Roosevelt National Memorial park located in the Badlands opened for its first full year of operation.

**Education.**—School teaching positions for the year ending June 30, 1949, were 6,349; enrolment 112,917 (elementary, 86,370; high school 26,547); types of schools, one-room, 2,580; graded elementary 243; fully accredited 156; minor accredited 87; consolidated four-year high schools 105; three-year high schools 6; two-year high schools 42; one-year high schools 1. Schools in session 3,219. Total enrolment in ten institutions of higher learning and two junior colleges in Nov. 1950 was 7,507 full-time and part-time students; faculty, 516.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Public assistance in the year to June 30, 1950, was \$9,224,139; contributed by federal agencies 41.8%; state 33.9%; county 24.3%. Types of aid: old-age \$5,098,857, with an average of 8,883 persons aided per month; care of dependent and foster home children \$2,348,626, with 5,178 persons; blind \$73,367, with 117 persons; general assistance \$850,736, with 1,384 persons; welfare services \$167,963; and administrative expense \$684,590. Cost of operating four charitable and four correctional institutions, biennium to June 30, 1951, \$4,806,788. Number of patients as of June 30, 1950, was: feeble-minded 995; blind 40; deaf 90; tubercular 284; state mental hospital 2,121; penitentiary 237; training school 245 and state farm 24. Additional appropriations for improvements, repairs, new buildings and equipment, biennium ending June 30, 1951, \$1,523,120.

**Communications.**—Highway mileage: state 6,839; rural 107,593; hard-surfaced state 2,074, rural 33. Spent for construction of state highways, year ended June 30, 1950, was \$12,627,502 including \$6,416,620 of federal funds; spent for maintenance of state highways \$2,757,232, and for operation \$408,307. Additional amounts appropriated to counties were: motor fuel taxes \$1,218,372; and motor vehicle licence fees \$2,652,768. Six railroad companies operated 5,259 mi. of road.

**Banking and Finance.**—On June 30, 1950, the Bank of North Dakota and 108 other state banks had resources of \$322,799,175; deposits \$301,657,657. Resources of 41 national banks (4 with trust powers) \$256,264,700; deposits \$241,523,000. On Dec. 31, 1949, 56 state-chartered credit unions had resources of \$4,003,202 and share capital of \$3,790,888. State treasury collections, year to June 30, 1950, were \$65,045,183; payments \$88,378,862 and a bonded debt of \$42,358,250.

**Agriculture.**—The 1950 acreage in farm crops was 20,139,000. Gross farm income in 1950 was estimated at \$509,000,000, or 20% higher than the 1949 gross of \$425,000,000. Over-all production of corn, wheat, oats, barley and rye was 28% greater than in 1949 and 7% less than the ten-year average (1939-48).

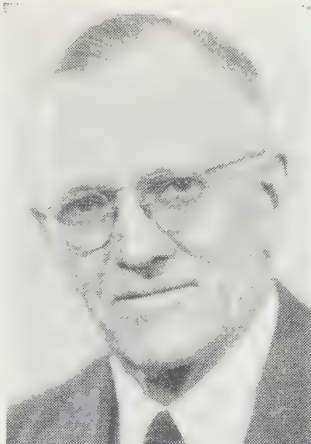
Production of creamery butter totalled 43,372,000 lb. in 1949. The ten-year average (1938-47) was 55,414,000 lb.

**Manufacturing.**—The estimated number of employees in nonagricultural establishments in North Dakota as of June 30, 1950, was 114,400.

#### Leading Agricultural Products of North Dakota

Crop	1950	1949	Average 1939-48
Spring wheat (other than durum), bu..	89,418,000	78,897,000	102,415,000
Durum wheat, bu. . . . .	31,306,000	34,012,000	31,813,000
Corn, bu. . . . .	25,042,000	23,790,000	25,303,000
Oats, bu. . . . .	59,528,000	37,474,000	64,168,000
Barley, bu. . . . .	50,688,000	25,776,000	48,836,000
Rye, bu. . . . .	2,808,000	2,748,000	5,777,000
Flaxseed, bu. . . . .	16,102,000	13,522,000	8,617,000
Potatoes, bu. . . . .	22,230,000	21,645,000	18,665,000
Hay, tons. . . . .	3,440,000	3,002,000	3,018,000

a decrease of 12% from 1949. In manufacturing there were 6,080 employees, an increase of 1% since 1949. The estimated annual wage per



C. NORMAN BRUNSDALE, Republican, elected governor of North Dakota, Nov. 7, 1950

worker in manufacturing was \$2,730 in establishments of eight or more, an increase of 3%.

**Mineral Production.**—Production of lignite coal for the year ending June 30, 1950, was 3,212,534 tons; value \$7,875,800; employment 475 miners, 176 others; new mines 13; reopened 2; number of licensed mines in operation 104; natural gas from 28 wells to Nov. 30, 1950, was 544,896,000 cu.ft.; yield from 19 wells for 11 months in 1949 was 339,908,000 cu.ft. (L. R. MA.)

**Northern Ireland:** see IRELAND, NORTHERN.

**Northern Rhodesia:** see RHODESIA, NORTHERN.

**Northwest Territories.** The Northwest Territories comprise the mainland portion of Canada lying north of the 60th parallel of latitude between Hudson bay on the east and the Yukon territory on the west, together with the islands lying between the mainland of Canada and the north pole, including those in James bay, Hudson bay and Hudson strait. Area: 1,304,903 sq.mi.; pop. (1941 census): 12,028, including 2,284 whites, 4,334 Indians and 5,404 Eskimos; estimated pop. (June 1950): 16,000.

For purposes of organization and administration, the territories were divided, by order in council dated March 16, 1918, into the provisional districts of Mackenzie (527,490 sq.mi.), Keewatin (228,160 sq.mi.) and Franklin (549,253 sq.mi.). The Northwest Territories act, 1905, as amended, provides for the government of the territories by a commissioner (who is deputy minister of the department of resources and development) under instructions from time to time given by the governor in council or the minister of resources and development. A council of six (one of whom is deputy commissioner) aids the commissioner in the administration of the territories. The Northwest Territories council in 1950 was composed as follows: Maj. Gen. H. A. Young (commissioner, who succeeded H. L. Keenleyside in Oct. 1950), R. A. Gibson (deputy commissioner), L. C. Audette, H. B. Godwin, D. M. MacKay, J. G. McNiven and S. T. Wood; J. G. Wright was secretary of the council.

**Education.**—The education of white, native and half-breed children in the Northwest Territories was carried on during 1950 at residential and day schools operated by missions of the Church of England and of the Roman Catholic Church with financial assistance from the federal government, at territorial day schools operated by the Northwest Territories administration and at Indian day schools operated by the Indian affairs branch of the department of citizenship and immigration.

The only organized school district in the Northwest Territories was at Yellowknife, where a nine-room school was in operation. In conjunction with this school, a school of opportunity provided secondary education for promising students from the outlying parts of the Mackenzie district. In addition, the Northwest Territories administration made correspondence courses available free of charge to any child whose parents requested this service, and to adults who desired to enroll.

**Public Services and Welfare.**—During 1950 there were in operation eight mission hospitals, two company hospitals and one community hospital, with professional services provided by seven government medical officers, two company doctors and two private physicians. There were one private dental practitioner and one government dental surgeon continuously in the territories with additional medical and dental services on the supply ship in the eastern arctic. Medical teams conducting examinations, X-ray surveys and preventive inoculations reached each settlement. In 1950 there were also in operation eight nursing stations or health centres.

The duties of the Royal Canadian mounted police stationed throughout the Canadian arctic include not only law enforcement but the administration of public affairs—vital statistics, family allowances, relief, old-age allowances and any other governmental measures that are required to safeguard the welfare of the population.

**Transportation and Communication.**—The Mackenzie district and the western arctic are served by water and air transportation. The new all-weather Mackenzie highway from Grimshaw, Alta., to Hay River settlement on Great Slave lake, which was opened in 1948, was used extensively during 1950. Commercial passenger services by bus over the highway and between Hay River and Yellowknife by boat were established during the year. Regular mail, passenger and express services were maintained by air throughout the year to many points in the Mackenzie district.

Radio communication between important settlements and trading posts in the territories and outside points was maintained through government and private radio stations.

**Eastern Arctic Patrol.**—In 1950 the annual eastern arctic patrol, which carries replacement personnel as well as mail and supplies to Royal Canadian mounted police detachments and to medical centres, radio and weather stations, trading posts, missions and schools, was carried out by the new government vessel the "C. D. Howe" assisted by vessels belonging to the Hudson's Bay company and the missions. Officers of the administration also covered certain portions of the Canadian arctic by air.



investigating such matters as Eskimo economy, food and health conditions, trading, administration of family allowances, relief and old-age allowances, education and social conditions, vital statistics and other items of general administration.

The Canadian Handicrafts guild, assisted by a grant from the administration, was attempting to supplement the income of the natives by organizing a handicraft industry. In 1950 Eskimos produced for successful sales in Montreal, Que., carvings in soapstone, ivory and wood and articles made of various skins and furs.

**Agriculture and Fisheries.**—Limited agricultural and horticultural operations were carried on in 1950 at most of the settlements in the Mackenzie district. Experimental substations operated by the federal department of agriculture carried on field work during the year.

Commercial fishing on Great Slave lake, inaugurated in 1945, produced a catch of 3,722,783 lb. during the winter of 1949-50, principally whitefish and lake trout. The catch in the summer of 1950 amounted to 3,961,640 lb., all species.

**Fur Trade.**—Fur production in the territories during the year ended June 30, 1949 (latest complete figures available), was valued at \$1,535,461, with a total of 922,136 pelts taken during that period. Trapping continued to be the chief occupation of the native population, and was strictly controlled by regulation. Reindeer herding in the Mackenzie delta region was continued.

**Production and Industry.**—Mineral production in the Northwest Territories for the year 1949 was valued at \$6,801,729, of which gold accounted for \$6,389,748. The new hydroelectric power development on the Snare river, a federal government project 94 mi. N.W. of Yellowknife, which was officially opened in 1948, assisted in the development of the mining industry during 1950. Crude oil production was continued by Imperial Oil Limited at Norman Wells on the Mackenzie river. After being processed at the Norman Wells refinery the oil was shipped to Yellowknife and other points in the territories. (H. A. Y.)

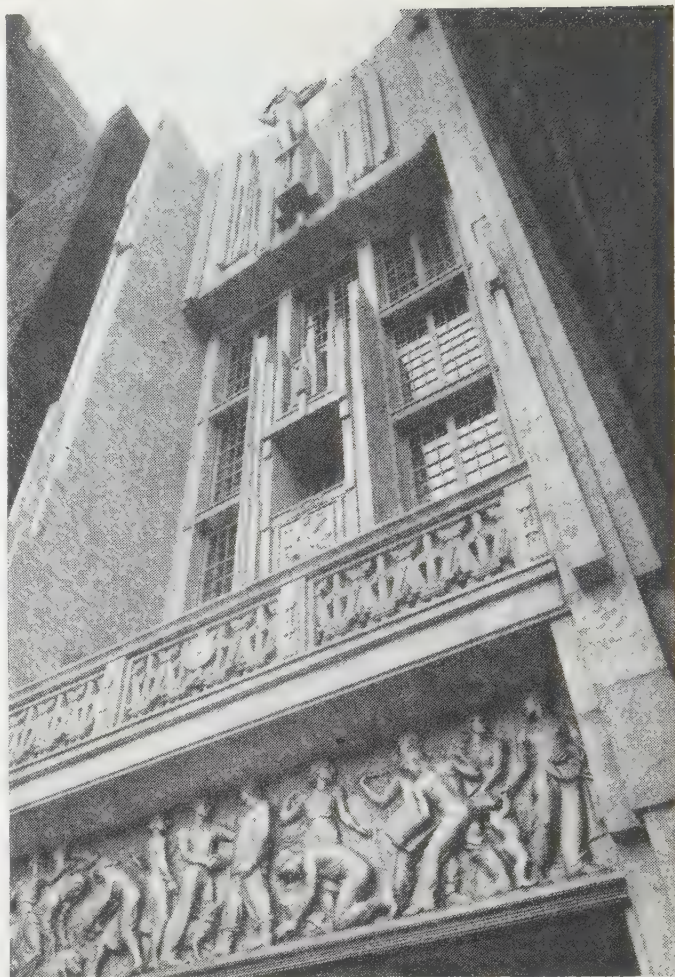
**Norway.** A democratic monarchy of northern Europe, Norway is bounded north by the Arctic ocean, east by Finland, the U.S.S.R. and Sweden and west by the North sea. Area 125,182 sq.mi.; pop. (Dec. 3, 1946, census) 3,094,873; (1949 est.) 3,233,000. Capital, Oslo (1946: 285,844; 1948, after extension of city limits, about 420,000). Other principal cities with 1946 census figures are Bergen (107,293); Trondheim (56,522) and Stavanger (49,173). Religion, Lutheran Christian. Ruler in 1950: King Haakon VII. Prime minister: Einar Gerhardsen.

Spitsbergen (Svalbard), Norwegian since 1925, is an archipelago lying about midway between northern Norway and the north pole. Area 23,979 sq.mi. Population in 1949 was about 1,600 Norwegians and an estimated 2,350 Russians.

**History.**—Celebration, reconstruction and defense were the chief topics in Norway in 1950. Celebration centred in the 900th anniversary of the city of Oslo, and the official dedication of its new city hall. The massive two-towered structure had long been building on Oslo's waterfront; now its huge and colourful murals were opened to the public, the great clock was installed, and ceremony followed upon ceremony. It was a proud achievement of national architecture and crafts, and a veritable museum of modern Norwegian art. A few days after the main occasion Mrs. Franklin D. Roosevelt spoke to a crowd of 25,000 from the balcony, and on June 7 unveiled a statue of former President Roosevelt a short distance away.

Reconstruction was proceeding vigorously throughout the country. In the far north, only two miles from the border with the U.S.S.R., a grant of \$5,000,000 from the Economic Cooperation administration was helping to rebuild an iron mine. At Mo i Rana rapid progress was being made on the pig iron and steel plant which was to be operated almost wholly by electricity, and was scheduled to open in 1953. Both these were government projects. Norsk Hydro, partly government and partly private in ownership, the country's largest industrial concern, was producing nitrates and other materials worth more than \$30,000,000 per year, most of it for export. As of March 31, 1950, the total Marshall plan aid to Norway amounted to \$117,000,000, and had been a vital factor in enabling Norway to achieve more than 150% of its prewar industrial production.

Prices, however, could not be held down, and early in the year an eight-point rise in the cost-of-living index was frankly passed on to the consumer. The government determined that



DETAIL of the Town Hall dedicated at Oslo in May 1950, opening jubilee festivities on the 900th anniversary of the Norwegian capital

it could not increase its price-control subsidies beyond the current 600,000,000-kroner rate. It recognized that wage adjustments might have to be made, but emphasized the need of sacrifice and economy, and Prime Minister Gerhardsen pointed out that "it is no sacrifice to do what is necessary to safeguard peace and freedom."

Another disappointment in the drive toward economic rehabilitation was that the coal production of Spitsbergen (Svalbard) could not find sufficient markets, and had to be cut back to about 350,000 tons (from 400,000 tons in 1949 and a planned 500,000 tons).

Norway joined the European Payments union and hoped for freer and greater trade as a result. In January Norway joined in an agreement with Denmark, Sweden and Great Britain (Uniscan) which made easier international payments within that bloc. But a Scandinavian customs union was no nearer accomplishment. Internal labour peace was assured for the coming year by the decisive vote of the Federation of Trade Unions, in November, to accept a general adjustment of wages to meet cost-of-living increases.

Norway was vitally conscious of the problem of defense and, after the Korean war began, doubled its budget for military purposes. Norway was receiving 35,000 tons of arms and munitions from the U.S., chiefly cars, guns and material. It did not take offered planes and ships, because it preferred to continue use of British Mosquito type aircraft and British type destroyers, in order not to complicate the technical equipment with too much variety. A proposed revision of the penal code extended and modernized the definition of treason, aimed particularly at thwarting fifth-column activity.



King Haakon announced that he expected to abdicate in 1952, on reaching the age of 80, when Crown Prince Olav would succeed him.

(F. D. S.)

**Education.**—Government schools (1946-47): elementary 5,626, pupils 289,449, teachers 10,766; secondary 277, pupils 42,112, teachers 5,090. Technical schools: day 9, pupils 1,805, teachers 233; apprentice 84, pupils 8,481, teachers 940; workshop 144, pupils 2,810, teachers 330. Nongovernment schools (1946-47): elementary 42, pupils 1,510; secondary 11, pupils 2,244. Teachers' training colleges (1947-48) 10, students 1,555. Universities (1948) 2, students 9,115. Institutions of higher education (1948) 8, students 1,327.

**Foreign Trade.**—Imports (1949) kr. 4,218,000,000; exports kr. 2,138,000,000, expenditure 2,531,000,000; (1950-51 est.) balanced at 2,562,000,000. National debt (Dec. 1949) kr. 12,472,000,000, including foreign kr. 1,287,000,000. Currency circulation (Sept. 1950) kr. 2,136,000,000. Gold and foreign exchange (Sept. 1950) \$109,700,000. Deposit money (Aug. 1950) kr. 2,905,000,000. Monetary unit: krone (pl. kroner) with an exchange rate of kr. 7.15 to the U.S. dollar.

**Foreign Trade.**—Imports (1949) kr. 4,218,000,000; exports kr. 2,138,000,000.

**Transport and Communications.**—Roads (June 1949) 27,495 mi. Licensed motor vehicles (Dec. 1949): cars 60,700; trucks 51,300. Railways (1949): 2,484 mi.; passenger-miles (1948-49) 1,017,000,000; freight net ton-miles (1948-49) 782,000,000. Shipping (July 1949): number of merchant vessels of 100 gross tons and over 2,071; total tonnage 4,917,226. Air transport (1949): miles flown 4,100,000; passenger-miles 83,700,000; freight net ton-miles 2,100,000. Telephones (1948) 400,200. Radio receiving set licences (1949) 709,116.

**Agriculture and Fisheries.**—Main crops (metric tons, 1949): wheat 67,000; barley 86,000; oats 163,000; rye 2,000; potatoes 1,072,000. Live-stock (June 1949): cattle 1,222,000; sheep 1,808,000; pigs 419,000; horses 198,000; chickens 3,700,000. Food production (metric tons, 1949): milk 1,545,000; butter 10,700; cheese 20,900; meat 81,000. Fisheries (1949): total catch 1,165,700 metric tons worth kr. 332,000,000.

**Industry.**—Industrial establishments, excluding electrical plants, construction and building industries (1948): 5,911; persons employed: 32,273 salaried staff and 189,067 workers; gross value of production, kr. 6,399,400,000. Fuel and power (1949): coal 455,000 metric tons; manufactured gas, 43,500,000 cu.m.; electricity 15,183,000,000 kw.hr. Raw materials (metric tons, 1949): pig iron 230,000; pyrites 745,000; ferrosilicon, calculated 45% basis, 65,900; other ferroalloys 103,400; aluminum 35,000; copper 9,000; nickel 9,900; zinc 41,000; sulphur 81,200; woodpulp, wet basis, 623,000. Manufactured goods (metric tons, 1949): cellulose, dry basis, 429,000; cement 592,000. Merchant vessels of 100 gross tons and upward launched (1949) 47; total tonnage 59,213.

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**FILMS OF 1950.**—*Norwegian Children*; *Scandinavia* (Encyclopædia Britannica Films Inc.).

**Nose:** see EAR, NOSE AND THROAT, DISEASES OF.

**Nova Scotia.** Second smallest of the maritime provinces of Canada, Nova Scotia entered confederation in 1867; area: 21,068 sq.mi.; pop. (1941) 577,962, (1950 est.) 658,000; capital: Halifax, pop. (1943) 126,480.

**History.**—A 1950 by-election, won by the Progressive-Conservatives, increased their legislative representation to 8, and reduced the Liberals to 27. The Socialists held two seats. In a move unprecedented in Canada, the Nova Scotia legislature passed an act to give pensions to cabinet ministers after ten or more years of service and after reaching the age of 60, on a contributory basis (8% of salary). The government announced a large-scale public works program, including roads, bridges, rural high schools and additions to provincially-owned hospitals. Total government expenditures for 1950 ran to \$75,000,000 for current and capital account, the highest on record.

**Education.**—In 1950, educational expenses ran to \$10,000,000 per year, with the province sharing 51% of the cost (1932: 25%). Provincially controlled schools in 1947 (latest statistics available): total enrolment, 122,211; average daily attendance, 102,099; teachers 3,838; total revenues, \$7,697,408.

**Agriculture.**—The government undertook to expand the farming population, offering Dutch immigrants land at two-thirds cost and livestock at half cost. More than 17,000 ft. of new dyke was built and more than 25,000 ft. of old dyke was rebuilt to reclaim roughly 40,000 ac. of rich farm marshlands. In 1949 total cash and kind farm income came to \$51,000,000 with 71% of the cash from dairy products, cattle, sheep, hogs, poultry and eggs. The 1949 Annapolis valley apple crop totalled 1,250,000 bbl., of which 500,000 bbl. were shipped to the United Kingdom under federal government arrangement.

**Fisheries.**—A provincial bait freezing plant was put in operation in northern Cape Breton island during 1950. Fish processing and exporting plants totalled 334 by mid-1950.

**Forestry.**—In 1949 forest exports were valued at \$19,000,000, and 2,000,000 Christmas trees were shipped to the U.S. market.

**Industry.**—During 1950 the \$4,000,000 provincial loan fund, created in 1949 for establishing new industries and expanding old ones, was drawn upon, and knitted goods, cutlery, aircraft, electronic equipment, refrigerators, clothes lockers, margarine and concrete blocks were among the products made for the first time in Nova Scotia. The government tightened up its regulations respecting restaurants, which helped improve the tourist industry (1949: 20% more tourists than in 1948). In Sept. 1950 the employment index stood at 114.8 (June 1941: 100; Sept. 1949: 122.5) and weekly wages averaged \$37.43 (Sept. 1949: \$37.63).

**Minerals.**—In 1949, 6,196,000 tons of coal were mined (1948: 6,412,000 tons). Nova Scotia was Canada's main source of gypsum in 1949: 2,559,000 tons.

(C. Cy.)

**Nursing:** see HOSPITALS.

**Nutmegs:** see SPICES.

**Nutrition, Experimental.** A new concept relating nutrition to disease, evolved on the basis of experimental nutrition, was called genetotrophism. A genetotrophic disease was defined in 1950 by Roger J. Williams, Ernest Beerstecher, Jr., and L. Joe Berry as one which occurs if a diet fails to provide a sufficient supply of one or more nutrients required at high levels because of the characteristic genetic pattern of the person concerned. This concept was believed to be the basis for many diseases, including alcoholism.

Alcoholism was studied in its relation to individuality in metabolism. The craving for alcohol was assumed to have a physical and genetic basis similar to that of other special appetites that are under physiologic control. Experiments with rats and mice demonstrated that consumption of alcohol by laboratory animals is a genetotrophic phenomenon. Ordinary laboratory animals subsisting on stock diets, given a choice between 10% alcohol and water, reacted variously as teetotalers, as moderate steady drinkers, as spasmodic drinkers or as drinkers with mounting appetites. The drinking patterns appeared on a constant diet to be wholly under genetic control, but experiment demonstrated that they could be shifted by nutritional means from one extreme to the other. On marginal diets all of the rats eventually consumed large amounts of alcohol; on abundantly adequate diets none of the animals consumed more than a small amount, even though a considerable appetite for alcohol had been developed previously. Different strains, highly inbred and otherwise, gave results in line with the genetic hypothesis. Unless a member of a highly inbred strain, each animal indicated possession of a distinctive metabolic pattern based presumably on its own partial genetic blocks and on consequent augmented requirements for specific vitamins, amino acids or minerals without which deficiencies developed. The urge on the part of the animals to consume alcohol was conditioned by the existence of nutritional deficiencies.

The relationship of serum cholesterol and arteriosclerosis in man has been poorly understood. Attempts to increase the cholesterol in blood serum have, in nearly all cases, failed or been difficult to interpret. William J. Messinger, Yetta Porosowska and J. Murray Steele reported an increase in the serum cholesterol of human subjects by feeding large amounts of egg-yolk powder, amounts far in excess of those eaten by the normal man, whereas feeding of cholesterol did not produce a change in serum levels. Fifteen men and 4 women from 46 to 69 years of age, known to have arteriosclerosis of considerable degree, consumed a hospital diet providing, on an average, 70 g. of fat daily. The concentration of cholesterol in blood serum was determined at weekly intervals during feeding experiments and control periods. In two experiments, a total of 18 subjects were given powdered egg yolk, 10 received 150 g. daily and 8 had 100



g. daily for 42 days. In each case the serum cholesterol was observed to increase with the ingestion of egg yolk powder. Each subject had a higher average concentration of cholesterol during feeding of powdered egg yolk than in the control period and there was reversion toward lower levels after discontinuance of the feeding. However, an analysis of variance should have been applied in evaluation of the data.

An attempt was made to ascertain the effect of cholesterol fed in different forms and quantities to five male subjects, 45 to 65 years of age. In a control period the subjects were fed the hospital diet containing 70 g. of fat. This was followed by the administration of 30 g. of crystalline cholesterol daily for 29 days. No important change in serum concentration of cholesterol occurred with this relatively large intake of cholesterol. In a third experimental period the diet was supplemented with 200 ml. of 40% cream daily for 20 days without producing a change in concentration of serum cholesterol. When, however, 30 g. of crystalline cholesterol were added to 200 ml. of cream and fed daily for 66 days, there was an increase in serum cholesterol levels in four of the five subjects. The greatest increase was 75 mg. per 100 ml. above serum values observed in earlier experiments. The cream and cholesterol feedings were discontinued and 150 g. of egg-yolk powder were given daily for 50 days. In all an increase in serum cholesterol exceeding that which occurred with the supplement of cream and cholesterol was demonstrated. The concentration of cholesterol in the serum of each subject decreased after the supplement of egg-yolk powder was discontinued. Values reverted to those observed in the initial control period. The egg-yolk powder contained 2.5% cholesterol. Therefore, the daily dietary intake provided 2.5 and 3.7 g. cholesterol when 100 and 150 g., respectively, of the powder were ingested. This would seem to be a relatively small dietary supplement. It was suggested, therefore, that egg-yolk powder was effective in producing an increase in serum cholesterol because it contained an as yet unidentified substance which alters the disposition of cholesterol.

An entirely new vista in experimental nutrition was opened by the discovery of rates in growth of animals far in excess of rates achieved on what had been considered as optimum natural rations, by the use of rations containing inexpensive plant proteins supplemented with vitamin B<sub>12</sub> and one or another antibiotic. E. L. R. Stokstad and T. H. Jukes observed growth-promoting effects for chicks by fermentation residues from *Streptomyces aureofaciens* (the organism used for the production of aureomycin). Supplements of dried whey or fish meal produced no such effects. The magnitude of the growth effect was shown by the following average weights of individual chicks after 25 days on the experimental ration (soybean meal base): basal ration plus vitamin B<sub>12</sub>, 281 g.; basal ration plus vitamin B<sub>12</sub> plus aureomycin residue, 360 g. Chemical fractionation of the "growth factor" in the aureomycin residue revealed it to have properties similar to those of aureomycin itself. Consequently, pure crystalline aureomycin was tested and found to produce growth responses of the same type, and of nearly the same magnitude, as those produced by the crude aureomycin residues. That the observations, made with chicks, may have general validity in animal nutrition was indicated by the result of collaborative work between T. H. Jukes, E. L. R. Stokstad and R. R. Taylor at Lederle laboratories, Pearl River, N.Y., and T. J. Cunha, H. M. Edwards and G. B. Meadows at the University of Florida, Gainesville. These workers showed that additions of crystalline aureomycin (100 mg. per kilogram of ration) to a vitamin B<sub>12</sub>-containing ration produced the same type of extra weight gains in pigs that had been observed in chicks. Mixtures of crystalline vitamin B<sub>12</sub> and crystalline aureomycin duplicated the growth-promoting effect of the crude aureomycin

residues in this animal. Again, the effect of aureomycin was not specific, for R. W. Luecke, W. N. McMillen, and F. Thorp, Jr., reported that with mixtures of pure vitamin B<sub>12</sub> and streptomycin the growth-promoting effect for pigs of the supplement derived from *Streptomyces aureofaciens* fermentation could be duplicated. As illustrative of the magnitude of the effect in pigs, the following figures, representing the average daily gain in pounds over a six-week period (six animals per group) were cited: basal ration (soybean oil meal as protein) alone, 0.88; basal ration plus vitamin B<sub>12</sub>, 0.98; basal ration plus vitamin B<sub>12</sub> plus streptomycin, 1.48; basal ration plus aureomycin residue, 1.43. (See also VITAMINS.)

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**Nuts.** The estimated U.S. 1950 pecan crop of 112,503,000 lb. was less than the 128,174,000 lb. of 1949 and the ten-year average of 120,555,000 lb. and only two-thirds as much as the record 177,667,000-lb. 1948 crop. Production of improved varieties (a little less than one-half of the total) was slightly larger than in 1949. The leading states were Georgia (35,750,000 lb.), Texas (35,000,000 lb.) and Alabama (9,805,000 lb.).

Walnut production, in California and Oregon, was only 64,000 tons, compared with a record of 88,100 tons in 1949. The walnut crop of the Mediterranean basin was estimated at 65,900 tons, almost the same as in 1949.

California almond production was estimated at 36,600 tons, compared with a record crop of 43,300 tons in 1949 and only 23,310 tons as the ten-year average. Almond production of the Mediterranean basin and Iran in 1950 was forecast at 87,700 tons, compared with 60,300 tons in 1949. Italy, the leading producer, had a large crop, 45,000 tons.

Filbert production in Oregon and Washington was estimated at 6,120 tons, far below the record 11,140 tons of 1949. The Mediterranean basin crop was estimated at 91,600 tons, as compared with 148,200 tons in 1949.

Nut prices in 1950 to producers were 50% to 100% higher than in 1949, a result of the generally short crop and high consumer demand. (See also PEANUTS.) (J. K. R.)

FILMS OF 1950.—*Filbert Valleys* (Northwest Nut Growers).

**Nyasaland.** A British protectorate in central Africa. Area: 47,949 sq.mi. Pop.: (1949 est.) c. 2,182,000. Religion: Africans mostly pagan, a large minority Christian. Chief towns: Zomba (cap.), Blantyre, Limbe. Governor: Sir Geoffrey Colby.

**History.**—Nyasaland was to be represented at the conference on closer association with the Rhodesias in London early in 1951. It agreed in 1950 to take part in the Rhodesia-Nyasaland secretariat and interterritorial conference to replace the Central African council.

The Colonial Development corporation completed plans to plant 18,000 ac. of tung trees in northern Nyasaland. The first 1,000 ac. would be planted by 1952 and thereafter at the rate of 3,000 ac. a year. Full production was expected in 1961, when the annual output of oil was estimated at 6,250 tons. (See also RHODESIA, NORTHERN.)

**Finance and Trade.**—Budget (1950 est.): revenue £3,119,629; expenditure £3,235,677. Foreign trade (1949): imports £5,682,100; exports £4,681,733. Principal exports (1949 totals): tobacco £2,250,000, tea £1,171,000. (G. R. MN.)



**Nylon:** see RAYON AND OTHER SYNTHETIC FIBRES.

**Oats.** The U.S. oat crop of 1,465,134,000 bu. in 1950 was the fourth largest on record; production was 10% larger than in 1949 and 15% more than the pre-World War II average. Favourable weather prior to harvest resulted in a yield of 34.9 bu. per acre, compared with a 1939-48 average of 32.8 bu. As in most years, Iowa (264,737,000 bu.), Minnesota (188,737,000 bu.) Illinois (166,218,000 bu.) and Wisconsin (141,814,000 bu.) led in production, with more than half of the total.

U.S. Oat Crops

	1950	1949	1948	Average 1939-48
Total production (thousands of bushels)	1,465,134	1,329,473	1,493,304	1,274,474
Acres harvested (thousands)	42,027	40,440	40,198	38,762
Yields (bushels per acre)	34.9	32.9	37.1	32.8

Oat prices during 1950 averaged fully 15% higher than in 1949. Average prices to farmers rose from about 70 cents per bushel early in the year to about 81 cents in June, declined to about 71 cents with a moderate post-harvest movement, then, along with other feed grains, rose to a level above 80 cents per bushel. Average price for the crop was preliminarily estimated at 77.9 cents per bushel, compared with 66 cents for the previous year. The nonmandatory government price support loan averaged 71 cents per bushel at the farm, or 75% of the July 1, 1950, parity price, but was not greatly utilized because of higher market prices. On July 1 the carry-over from previous crops was only 218,000,000 bu., compared with a record 295,200,000 bu. in 1949.

The estimated 1950 world oat crop of 4,230,000,000 bu. was 5% higher than the 4,020,000,000 bu. crop of 1949, but somewhat below the prewar average. The Canadian crop of 420,328,000 bu. was almost one-third larger than the 317,916,000 bu. harvested in 1949, or the prewar average. The European and U.S.S.R. production was somewhat lower than in 1949. (J. K. R.)

**Obituaries.** The following is a selected list of prominent men and women, of the United States and other countries, who died during the year 1950.

**Albizzati, Carlo**, Italian archaeologist (b. Milan, It., Feb. 14, 1888—d. Milan, Oct. 14, 1950).

**Alessandri Palma, Arturo**, former president of Chile (b. Linares, Chile, Dec. 20, 1868—d. Santiago, Chile, Aug. 24, 1950), studied at the University of Chile and practised law. He was elected as a deputy from Curicó, and later re-elected five times. His public service also included terms as minister of industry and public works, minister of finance, minister of the interior and senator from Tarapacá.

His terms as chief executive (1920-25 and 1932-38) were marked by turbulence, but by economic progress as well. He was first elected president in the economic slump following World War I, when labour troubles had arisen after Chile's nitrate industry was adversely affected.

He lost support of his congress in 1924, and for a time ruled by fiat of a military junta, which eventually dissolved congress and ruled by decree. Alessandri resigned, but when the junta was overthrown in 1925 he returned, prepared a new constitution, which was adopted, and led in liberalizing the forms of government.

In his next term he again sponsored economic and social reforms. Chilean nazis and Communists became of increasing concern to the government, and Alessandri was granted extraordinary powers to cope with them.

**Alexander, Grover Cleveland**, U.S. baseball player (b. St. Paul, Neb., Feb. 26, 1887—d. St. Paul, Nov. 4, 1950), was the fourth pitcher voted into baseball's Hall of Fame at Cooperstown, N.Y., the others being Christy Mathewson, Walter Johnson and Denton T. (Cy) Young. After only a

brief stay in the minor leagues he went to the Philadelphia National league club in 1911, and in his first year with the Phillies he won 28 games. He set a record by winning 30 or more games during three successive years—31 in 1915, 33 in 1916 and 30 in 1917. For the Phillies, Chicago Cubs and St. Louis Cardinals he pitched 696 games, and won 373 of them. For six years he led the league in complete games pitched; scored 16 shutouts in 1916; shut out rival teams 90 times in his career; and set other pitching marks still unsurpassed.

He served overseas during World War I and returned to the Cubs in 1919, remaining with them until 1926 when, sent on waivers to the Cardinals, he made an amazing comeback. He won 12 out of 22 games, and became the hero of the 1926 world series by beating the New York Yankees in two successive games, then clinching the performance by halting a threatening Yankee rally in the seventh game. In 1927 he won 21 games, losing 10, for the Cardinals; he scored 16 victories in 1928, then in 1929 returned to the Phillies, from which he was released in 1930. He ended his professional career by pitching occasional exhibition games, appearing in sideshows and the like.

**Alexander, William Anderson**, U.S. football coach (b. Mud River, Ky., June 6, 1889—d. Atlanta, Ga., April 23, 1950).

**Aliyah**, queen mother of Iraq (b. Hejaz, 1912?—d. Baghdad, Iraq, Dec. 21, 1950).

**Allen, Frank G.**, U.S. industrialist and banker, former governor of Massachusetts (b. Lynn, Mass., Oct. 6, 1874—d. Boston, Mass., Oct. 9, 1950).

**Allen, Henry Justin**, former U.S. senator and governor of Kansas (b. Warren City, Pa., Sept. 11, 1868—d. Wichita, Kan., Jan. 17, 1950).

**Allgood, Sara**, Irish-born stage and screen actress (b. Dublin, Ire., Oct. 31, 1883—d. Hollywood, Calif., Sept. 13, 1950), began her stage career with the Abbey players in Ireland. For almost 30 years she appeared with that group before playing in her first motion picture in 1929. Among the pictures in which she appeared were *Blackmail*, the first British talking picture, made in 1929; *Jane Eyre*, *The Spiral Staircase*, *My Wild Irish Rose*, *Thai Hamilton Woman*, *How Green Was My Valley*, *Mother Wore Tights*, *Mourning Becomes Electra* and *Cheaper by the Dozen*.

**Ames, Oakes**, U.S. botanist (b. North Easton, Mass., Sept. 26, 1874—d. Ormond, Fla., April 28, 1950).

**Andross, Elmer E.**, U.S. Seventh-day Adventist leader (b. Ottawa, Minn., 1868?—d. Tacoma Park, Md., Aug. 22, 1950).

**Annand, Percy Nicol**, U.S. entomologist (b. Telluride, Colo., Nov. 16, 1898—d. Washington, D.C., March 29, 1950).

**Anzilotti, Dionisio**, Italian legal scholar, former president of the Permanent Court of International Justice (b. Pescia, It., Feb. 20, 1869—d. Pescia, Aug. 24, 1950).

**Arnold, Henry Hartley ("HAP")**, U. S. army officer (b. Gladwyne, Pa., June 25, 1886—d. Sonoma, Calif., Jan. 15, 1950), graduated from the U.S. Military academy at West Point in 1907. He reported early in 1911 to Wilbur and Orville Wright, who were operating a flying school near Dayton, O., and later that year became the 29th pilot to be licensed in the U.S.

When the U.S. entered World War I, he was on duty in Panamá, where he commanded the air defense before being sent overseas to serve during part of 1918. He graduated from the U.S. Army Industrial college in 1925 and from the Command and General Staff school at Fort Leavenworth, Kan., in 1929. He was serving as commanding officer of the first wing, G.H.Q. air force, on the west coast, when he was appointed in 1938 chief of the army air corps.

During World War II the air establishment he led grew from 22,000 officers and men, with 3,900 planes, to 2,500,000 officers and men, with planes eventually produced at the rate of 145,000 a year. In May 1941 he was made deputy chief of staff in charge of the air corps, advancing to the rank of permanent major general. In 1943 he was named a full general, and in Dec. 1944 was one of four army leaders named general of the army—a five-star rank.

General Arnold was noted for his foresighted warnings on the importance of strategic bombing, and he himself kept supervision of the B-29s of the 20th air force that bombed Japan in a full-scale execution of his strategic concepts. It was under his direction that the air force assumed coequal status with the army and navy in the postwar unification reorganization. He retired because of ill health in 1946.

**Arthur, Julia** (IDA LEWIS, MRS. BENJAMIN P. CHENEY), Canadian-born actress (b. Hamilton, Ont., Can., March 3, 1869—d. Boston, Mass., March 28, 1950).

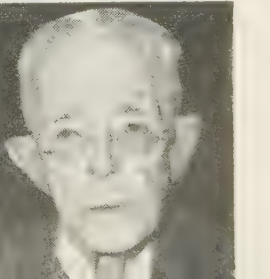
**Ashby, George Franklin**, U.S. railway official (b. Mt. Airy, N.C., Sept. 3, 1885—d. Las Vegas, Nev., May 15, 1950).

**Attwood, Martha** (MRS. GEORGE R. BAKER), U.S. opera singer and teacher (b. Wellfleet, Mass., 1886?—d. Hyannis, Mass., April 6, 1950).

**Babcock, Howard Edward**, U.S. agricultural organizer and educator (b. Gilbertsville, N.Y., Feb. 23, 1889—d. New York, N.Y., July 12, 1950).

**Babkin, Boris Petrovitch**, Russian-born British physiologist (b. Koursk, Russia, Jan. 17, 1877—d. at sea, May 3, 1950).

**Bacheller, Irving Addison**, U.S. novelist (b. Pierpont, N.Y., Sept. 26, 1859—



1950 OBITUARIES: Henry H. Arnold, U.S. army officer; William Rose Benét, U.S. poet; Léon Blum, French statesman; Evangeline C. Booth, U.S. religious leader; Gustav V, Swedish monarch



- d. White Plains, N.Y., Feb. 24, 1950), was reared on a farm, worked as a telegraph operator and clerk, and attended St. Lawrence university in Canton, N.Y. In 1883 he began newspaper work in New York city, and in 1893, having earlier founded what he considered to be the first U.S. newspaper syndicate, he serialized *The Red Badge of Courage* and introduced its author, Stephen Crane, to fame. Bachelor in 1898 became an editor of the *New York World*, and two years later produced the novel *Eben Holden*, perhaps the best known of his works. His books also included *D'ri and I*, *Silas Strong*, *A Man for the Ages* and *The Light in the Clearing*.
- Bacigalupi, James Augustus**, U.S. banker (b. Santa Clara, Calif., Aug. 2, 1882—d. San Jose, Calif., July 27, 1950).
- Bagshawe, Sir Arthur William Garrard**, British authority on tropical medicine (b. St. Leonards-on-Sea, Sus., Eng., July 29, 1871—d. Cardiff, Glam., Wales, March 24, 1950).
- Baker, Frank M.**, U.S. clergyman and social service director (b. Providence, R.I., 1880?—d. Cleveland, O., April 5, 1950).
- Baker, Hugh Potter**, U.S. educator (b. St. Croix Falls, Wis., Jan. 20, 1878—d. Orlando, Fla., May 24, 1950).
- Bangor, Maxwell Richard Crosbie Ward**, 6TH VISCOUNT, speaker of the senate of Northern Ireland (b. May 4, 1868—d. Downpatrick, County Down, N. Ire., Nov. 17, 1950).
- Banks, Monty** (MARIO BIANCHI), Italian-born film producer and actor (b. Italy, 1897—d. Arona, It., Jan. 7, 1950).
- Bardoloi, Gopinath**, prime minister of Assam (b. 1890?—d. Gauhati, Assam, Aug. 6, 1950).
- Barker, Sir Herbert Atkinson**, British manipulative surgeon (b. Southport, Lancs., Eng., April 21, 1869—d. Lancaster, Lancs., July 21, 1950).
- Baylinson, A. S.**, Russian-born painter (b. Moscow, Russia, Jan. 6, 1882—d. New York, N.Y., May 6, 1950).
- Beall, Almon L.**, U.S. engineer (b. New York state, 1889?—d. Packanack Lake, N.J., June 17, 1950).
- Bechdolt, Frederick Ritchie**, U.S. novelist (b. Mercersburgh, Pa., July 27, 1874—d. Carmel, Calif., April 12, 1950).
- Beckmann, Max**, German-born expressionist painter (b. Leipzig, Ger., Feb. 12, 1884—d. New York, N.Y., Dec. 27, 1950).
- Beers, Norman Ritner**, U.S. meteorologist and editor (b. Trimble, Mo., Aug. 18, 1911—d. Brooklyn, N.Y., June 27, 1950).
- Bell, Aubrey FitzGerald**, British-born writer and scholar in Iberian literature (b. Aug. 20, 1881—d. Victoria, B. C., Can., May 7, 1950).
- Bell, William Brown**, U.S. chemical manufacturing executive (b. Stroudsburg, Pa., Feb. 16, 1879—d. Marrakesh, Fr. Morocco, Dec. 20, 1950).
- Benét, William Rose**, U.S. author, editor and poet (b. Fort Hamilton, New York harbour, Feb. 2, 1886—d. New York, N.Y., May 4, 1950), was graduated in 1904 from the Albany, N.Y., academy and in 1907 from the Sheffield scientific school at Yale university. He was a free-lance writer for some time, but went to work for the *Century* magazine in 1911, and from 1914 to 1918 was an assistant editor of that magazine. In 1919 and 1920 he was an assistant editor of the *Nation's Business*, and from 1920 to 1924 an associate editor of the *Literary Review* of the *New York Evening Post*. In 1924 he became an associate editor of the *Saturday Review of Literature*, and a contributing editor in 1929. For some years before his death he conducted the column "The Phoenix Nest" in the *Saturday Review of Literature*. He was a brother of the poet Stephen Vincent Benét (1898-1943), and like his brother, who won the Pulitzer prize in poetry in 1929, William Rose Benét won the Pulitzer poetry award in 1942 for his autobiographical poem, *The Dust Which Is God*. His volumes of poetry included *Merchants from Cathay*, *The Falconer of God*, *The Great White Wall*, *Day of Deliverance*, *Golden Fleece* and *The Stairway of Surprise*. With Norman Cousins he edited *The Poetry of Freedom* and in 1948 he edited *The Reader's Encyclopedia*, a survey of world literature and the arts.
- Bennett, Frederick Augustus**, BISHOP OF AOTEAROA, Anglican bishop of the Maori people in New Zealand (Aotearoa) (b. Ohinemutu, N.Z., 1872—d. Wellington, N.Z., Sept. 16, 1950).
- Berg, Albert Ashton**, U.S. surgeon and philanthropist (b. New York, N.Y., Aug. 10, 1872—d. New York, N.Y., July 2, 1950).
- Berners, Gerald Hugh Tyrwhitt-Wilson**, 9TH BARON, British author, painter and composer (b. Sept. 18, 1883—d. London, Eng., April 19, 1950).
- Bertner, Ernest William**, U.S. cancer specialist (b. Colorado, Tex., 1889—d. Houston, Tex., July 28, 1950).
- Bigelow, Harry Augustus**, U.S. law educator (b. Norwood, Mass., Sept. 22, 1874—d. Chicago, Ill., Jan. 8, 1950).
- Birge, Edward Asahel**, U.S. educator and limnologist (b. Troy, N.Y., Sept. 7, 1851—d. Madison, Wis., June 9, 1950).
- Birks, William Massey**, Canadian merchant and philanthropist (b. Montreal, Que., Can., Oct. 25, 1868—d. Mount Bruno, Que., July 5, 1950).
- Blackwell, Alice Stone**, U.S. woman-suffrage leader (b. East Orange, N.J., Sept. 14, 1857—d. Cambridge, Mass., March 15, 1950).
- Blum, Léon**, French statesman (b. Paris, Fr., April 9, 1872—d. Jouy-en-Josas, near Paris, March 30, 1950), after attending the Lycée Charlemagne, went on to the École Normale Supérieure and there came under the influence of Lucien Herr, librarian of the school and an ardent Socialist, by whom he was introduced in 1896 to Jean Jaurès. After graduating he preferred the civil service to teaching and joined the Conseil d'État. By 1914, as literary editor of the *Revue blanche* and dramatic critic of *Comœdia*, and author of two controversial books (*Du Mariage* and *Stendhal et le beylisme*), he had become a well-known social figure. Although a member of the Socialist party from 1899, he did not enter active politics before World War I.
- In 1919 he was made chairman of the executive committee of the Socialist party and elected to the chamber of deputies. In 1920 he opposed the affiliation of his party to the Comintern. In 1921 he took over *Le Populaire*, which he developed into an influential newspaper and edited until 1940. At the head of the Socialist parliamentary group he was an uncompromising leader of the opposition in four post-World War I legislatures. After the elections of 1936, on June 4, Blum became premier—the first Jew and the first Socialist to hold this position. His tenure of office was not an easy one as in the chamber of deputies he depended on Communist and in the senate on Radical (that is, middle-class) support. His popular front experiment failed and he was defeated in the senate on June 21, 1937. In 1938 he was again premier but only for a month. After the capitulation of 1940, on Sept. 15, he was arrested by the Vichy authorities. With other leaders, in February-March 1942, he was tried at Riom on charges of "betrayal of his duty" and warring. His defense was a defiant counterattack which virtually placed Marshal Henri Philippe Pétain and his men in the dock. No verdict was reached, and Blum's trial was never concluded. In prison, he wrote a book, *L'Échelle humaine* (translated into English under the title *For All Mankind*), in which he justified his democratic faith. In March 1943 he was delivered to the Germans who interned him at Buchenwald. In April 1945 he was transferred to the concentration camp of Dobbiacco, in Italian Tirol, and a month later was liberated by the U.S. army. Returning to France he took an active part in the life of his party. He opposed the tendency of "uniting" Socialists and Communists and on more than one occasion reminded his party of the necessity of collaboration with the Christian Democratic Mouvement Républicain Populaire. On Dec. 16, 1946, he formed a Socialist caretaker government and on Jan. 16, 1947, handed in his resignation.
- Bohlin, Torsten Bernhard**, Swedish Lutheran bishop (b. Uppsala, Swed., Dec. 2, 1889—d. Sweden, Aug., 1950).
- Booth, Evangeline Cory**, U.S. religious leader (b. London, Eng., Dec. 25, 1865—d. Hartsdale, N.Y., July 17, 1950), was the daughter of William Booth, founder of the Salvation Army, and eventually, at the age of 68, she succeeded to the post of general (i.e., international executive) of this organization. She made her debut as a public speaker at the age of 15, and commenced her evangelistic and charitable work in the London slums. She overcame both the lethargy and the outright opposition of residents in that area, and her first significant victory came when she took the issue of free speech before parliament and obtained the repeal of bylaws which had forbidden the Salvation Army to hold open-air meetings. She was assigned by her father to organize the Salvation Army's work in Canada, where she worked nine years. In 1904 she became commander of the organization in the U.S. Under her direction, it became one of the leading social service organizations in the country. In 1934 she was elected general of the international movement, retaining this position until her resignation in 1939. In addition to her notable speaking talent, she was the author of Salvation Army hymns and books.
- Bose, Sarat Chandra**, Indian political leader (b. Sripur, India, April 19, 1883—d. Calcutta, India, Feb. 20, 1950).
- Boswell, Peyton, Jr.**, U.S. author and editor (b. Chicago, Ill., Sept. 22, 1904—d. Malverne, L.I., N.Y., June 23, 1950), studied at Rutgers university, New Brunswick, N.J., and served (1927 to 1929) as a sports writer in Santa Fe, N.M., before returning to New York city to become assistant editor of his father's publication, *Art Digest*. In 1936, on his father's death, he succeeded him as editor and publisher of the magazine. His books included *Modern American Painting* (1939), which reputedly had the greatest circulation of any book on fine arts, and the biographies of the American artists Henry Varnum Poor (1941) and George Bellows (1942). He was a leader of the critical school that warned consistently against the influence of Communist thought on modern art.
- Bottomley, Albert Ernest**, British landscape painter (b. Leeds, Yorks., Eng., March 1, 1873—d. Reigate, Sus., Eng., Aug. 25, 1950).
- Bouchardon, Marie-Pierre-Gilbert**, French magistrate (b. Guéret, Fr., April 9, 1870—d. Paris, Fr., Nov. 11, 1950).
- Boucicault, Nina** (MRS. DONALD INNES-SMITH), British actress (b. London, Eng., Feb. 27, 1867—d. Ealing, Mdx., Eng., Aug. 2, 1950).
- Bowman, Isaiah**, U.S. geographer and educator (b. Waterloo, Ont., Dec. 26, 1878—d. Baltimore, Md., Jan. 6, 1950), was reared in Michigan, and studied and taught at the State Normal college, Ypsilanti, Mich., and Harvard and Yale universities. He remained at Yale more than ten years, and there received his doctoral degree. During this period he led or participated in three field expeditions to South America. He was appointed director of the American Geographical society in 1915. At the close of World War I he went to the Paris peace conference as chief territorial specialist and adviser to Pres. Woodrow Wilson and the other U.S. delegates in the negotiation of the treaty of Versailles. Bowman initiated and directed the development of the American Geographical society's map of Hispanic America on the scale of 1:1,000,000, which covers all the land area between the United States and Cape Horn. In 1935 he became president of Johns Hopkins university, Baltimore, Md.
- During World War II he was an adviser to the department of state, and he participated in the Dumbarton Oaks and San Francisco conferences which led to the organization of the United Nations in 1945. He was the author of 12 books and editor of 2, and former president of the Association of American Geographers, the International Geographical union and the American Association for the Advancement of Science. He retired as president of Johns Hopkins in 1948.
- Brady, William Aloysius**, U.S. theatrical producer (b. San Francisco, Calif., June 19, 1863—d. New York, N.Y., Jan. 6, 1950), appeared on the stage with virtually all the great actors of the late 19th and early 20th centuries and finally became a producer. One of his greatest money-makers was the melodrama *After Dark* which he produced in the 1890's and revived 40 years later. He was also manager for James J. Corbett, who became heavyweight boxing champion of the world, and later managed another champion, James Jeffries. Throughout his theatrical career he produced more than 250 plays,



- the most successful of which was *Way Down East* and the most famous, Elmer Rice's *Street Scene*, which won the Pulitzer prize for 1929. He was the husband of two stage stars, Marie Rene and Grace George, and father of the actress Alice Brady, who won the 1937 award of the Academy of Motion Picture Arts and Sciences for her supporting performance in *In Old Chicago*.
- Brannon, Melvin Amos**, U.S. educator (b. Lowell, Ind., Sept. 11, 1865—d. Gainesville, Fla., March 26, 1950).
- Breitfuss, Leonid Ludwig**, Russian-born polar explorer (b. St. Petersburg, Russia, Nov. 19, 1864—d. Bad Pyrmont, Ger., July 20, 1950).
- Brentano, Lowell**, U.S. editor and author (b. New York, N.Y., April 18, 1895—d. New York, N.Y., July 8, 1950).
- Brocard, Antonin**, French general and aviation pioneer (b. Biol, Fr., 1885?—d. Paris, Fr., May 29, 1950).
- Brown, Charles Reynolds**, U.S. educator, author and minister (b. Bethany, W.Va., Oct. 1, 1862—d. New Haven, Conn., Nov. 28, 1950).
- Brown, Percy**, U.S. radiologist (b. Cambridge, Mass., Nov. 24, 1875—d. Scituate, Mass., Oct. 8, 1950).
- Brumby, Frank Hardeman**, U.S. naval officer (b. Athens, Ga., Sept. 11, 1874—d. Portsmouth, Va., July 16, 1950).
- Bryan, Kirk**, U.S. geologist (b. Albuquerque, N.M., July 22, 1888—d. Cody, Wyo., Aug. 22, 1950).
- Buck, Frank**, U.S. wild animal authority and explorer (b. Gainesville, Tex., March 17, 1884—d. Houston, Tex., March 25, 1950), was educated in the Dallas, Tex., public schools, and later became a newspaper reporter and advertising agent in Chicago, Ill. He had been interested in wild animals since his youth, and he made his first overseas jungle expedition to South America in 1911. His subsequent expeditions took him to Malaya, India, Borneo, New Guinea and Africa. He was the author of many magazine articles on wild animals and on exploration, and author of several books on these subjects, some of which were also produced as motion pictures. Among the titles were *Bring 'Em Back Alive* (1931) and *Wild Cargo* (1932), both written with Edward Anthony; *Fang and Claw* (1935), *On Jungle Trails* (1937) and *All in a Lifetime*, an autobiography (1941), with F. L. Fraser; and *Animals Are Like That!* (1939), with Carol Weld.
- Buckley, Christopher Thomas Rede**, British journalist (b. May 22, 1905—d. in active service, Korea, Aug. 12, 1950).
- Burgoynne, Henry Bartlett**, Canadian newspaper publisher (b. St. Catharines, Ont., Can., Feb. 28, 1885—d. near Bobcaygeon, Ont., Aug. 3, 1950).
- Burke, George James**, U.S. lawyer, Nuernberg war crimes judge (b. Northfield township, Washtenaw county, Mich., Dec. 5, 1885—d. Ann Arbor, Mich., Oct. 3, 1950).
- Burlingame, C. Charles**, U.S. psychiatrist (b. Rockford, Ill., Oct. 27, 1885—d. Leicester, Leics., Eng., July 22, 1950).
- Burn, Sir Joseph**, British insurance executive (b. 1871?—d. Potters Bar, Mdx., Eng., Oct. 12, 1950).
- Burroughs, Edgar Rice**, U.S. fiction writer (b. Chicago, Ill., Sept. 1, 1875—d. Encino, Calif., March 19, 1950), attended private schools and later worked as clerk, accountant, salesman, railroad detective, cowboy, gold miner and advertising man. His first novel, *Under the Moon of Mars*, was sold under the pen name of Normal Bean. This pseudonym he assumed on the ground that his was the average mind which, he hoped, would attract an average audience. How well he succeeded was seen in the fantastic success of his "Tarzan" books. He produced about 50 of them and left 15 more uncompleted at his death. They sold a total of 35,000,000 copies. Ten Hollywood actors in succession portrayed "Tarzan," and each "Tarzan" film was seen by an estimated 140,000,000 persons. Two hundred newspapers used the syndicated Tarzan action strips, and his books were translated into 56 languages. Burroughs never set foot in Africa, the scene of these stories. After the Pearl Harbor attack that launched U.S. participation in World War II, he roamed the Pacific as a war correspondent until returned home for poor health. He was also a successful real-estate developer in the San Fernando valley of California.
- Burrow, Trigrant**, U.S. psychiatrist (b. Norfolk, Va., Sept. 7, 1875—d. Greens Farms, Conn., May 24, 1950).
- Busley, Jessie**, U.S. stage and screen actress (b. Albany, N.Y., March 10, 1869—d. New York, N.Y., April 20, 1950).
- Butts, Edmund L.**, U.S. army officer (b. St. Paul, Minn., Aug. 15, 1868—d. San Francisco, Calif., June 7, 1950).
- Byfield, Ernest Lessing**, U.S. hotel owner (b. Chicago, Ill., Nov. 3, 1889—d. Chicago, Feb. 10, 1950).
- Cakmak, Fevzi**, Turkish army officer (b. Istanbul, Turk., Jan. 12, 1876—d. Istanbul, April 10, 1950), was educated at the Kulili Military college and the general staff academy in Istanbul. A lieutenant in 1895, he was made lieutenant colonel and appointed chief of staff of an army corps in 1910. He fought in the Balkan Wars of 1912-13 as commander of a division, and in World War I as commander of an army corps and (in 1917-18) of an army. War minister in 1920, he resigned the commission and office granted him by the sultan and joined Kemal Atatürk's "rebellion" in Ankara. There he was made prime minister and minister of defense. Promoted to the rank of full general during the Greek invasion of Anatolia, he resigned his premiership in 1922 and became deputy to Ismet İnönü, then chief of staff. After the victorious conclusion of the War of Liberation, he was promoted as the new republic's first marshal and appointed chief of staff, holding this position for 20 years. With Kemal Atatürk as president of the republic (1923-38) and Ismet İnönü as prime minister and, later president, he was one of the three statesmen who created modern Turkey. In the 1946 elections he stood as an Independent and was elected with a great majority. In 1948 he accepted the honorary leadership of the Nation's (conservative) party.
- Campbell, Edmund Schureman**, U.S. professor of art and architecture (b. Freehold, N.J., Oct. 28, 1884—d. Washington, D.C., May 8, 1950).
- Capps, Edward**, U.S. archaeologist and classical scholar (b. Jacksonville, Ill., Dec. 21, 1866—d. Princeton, N.J., Aug. 21, 1950).
- Caraway, Hattie Wyatt**, former U.S. senator (b. Bakerville, Tenn., Feb. 1, 1878—d. Falls Church, Va., Dec. 21, 1950), was the first woman ever elected to the U.S. senate. Mrs. Caraway was educated in Hustburg, Tenn., then attended Dickson (Tenn.) Normal college. She was the wife of Sen. Thaddeus Caraway of Arkansas, and was appointed to succeed him when he died in 1931. She was subsequently victor in a special election to fill that seat for the remainder of the term, and was later re-elected for two full six-year terms, being defeated by J. William Fulbright in 1944. She was known as a loyal New Dealer, generally supporting the policies of Pres. Franklin D. Roosevelt. Because of her unique position, she was also widely known as a leader in affairs affecting women. She was the first woman to preside over a session of the U.S. senate, which she did in the absence of the vice-president and the senior senator in 1943. She was the mother of three sons, two West Point graduates who served in command of infantry forces during World War II, and a third who died in an accident while a West Point cadet.
- Carpenter, Edward Childs**, U.S. dramatist (b. Philadelphia, Pa., Dec. 13, 1872—d. Torrington, Conn., Oct. 7, 1950).
- Carr, Ralph L.**, U.S. lawyer and political figure (b. Rosita, Colo., Dec. 11, 1887—d. Denver, Colo., Sept. 22, 1950).
- Carter, Clifton Carroll**, U.S. army officer (b. Lexington, Ky., July 12, 1876—d. Washington, D.C., Sept. 20, 1950).
- Cavanaugh, Hobart**, U.S. stage and screen actor (b. Virginia City, Nev., Sept. 22, 1886—d. Hollywood, Calif., April 25, 1950).
- Chapple, Joseph Mitchell** (JOE CHAPPLE), U. S. editor and author (b. La Porte City, Ia., July 18, 1867—d. Miami, Fla., April 17, 1950).
- Charet, Charles**, French army officer and air pioneer (b. 1871?—d. Dijon, Fr., Sept. 14, 1950).
- Cherrington, Ernest Hurst**, U.S. editor and temperance leader (b. Hamden, O., Nov. 24, 1877—d. Columbus, O., March 13, 1950).
- Chetwode, Philip Walhouse Chetwode**, 1ST BARON, British field marshal (b. Sept. 21, 1869—d. London, Eng., July 6, 1950).
- Christensen, Halfdan**, Norwegian actor, poet and dramatist (b. 1873?—d. Oslo, Nor., Sept. 17, 1950).
- Church, Ralph Edwin**, U.S. congressman and lawyer (b. near Catlin, Ill., May 5, 1883—d. Washington, D.C., March 21, 1950).
- Clark, Alfred**, U.S.-born gramophone pioneer (b. New York, N.Y., 1873—d. Fulmer, Bucks., Eng., June 16, 1950).
- Clark, Allan**, U.S. sculptor (b. Missoula, Mont., June 8, 1896—d. Grand Junction, Colo., April 17, 1950).
- Clayton, Lou**, U.S. comedian (b. 1887?—d. Santa Monica, Calif., Sept. 12, 1950).
- Cloud, Henry Roe**, American Indian educator (b. 1884?—d. Siletz, Ore., Feb. 9, 1950).
- Coale, Griffith Bailly**, U.S. muralist (b. Baltimore, Md., 1890—d. Stonington, Conn., Aug. 20, 1950).
- Cohen, Max**, U.S. labour leader (b. Lipkon, Russia, May 15, 1889—d. Atlantic City, N.J., May 22, 1950).
- Coil, Everette Johnston**, U.S. economist (b. Mexico, Mo., Aug. 30, 1907—d. New York, N.Y., Oct. 12, 1950).
- Colby, Bainbridge**, U.S. lawyer and public official (b. St. Louis, Mo., Dec. 22, 1869—d. Bemus Point, N.Y., April 11, 1950), studied at Williams college, Williamstown, Mass., at the Columbia university law school and the New York Law school. He began practising law in 1892, and in 1901-02 served in the New York state assembly. He joined Theodore Roosevelt's "Bull Moose" bolt from the Republican party in 1912, and ran for the U.S. senate as a Progressive in 1914. He subsequently became identified with the Democrats under Woodrow Wilson, who appointed him vice-president of the U.S. Shipping board in 1917 and, in 1920, secretary of state. He initiated the U.S. policy of nonrecognition of the Soviet Union, declaring the soviet government was not representative of the "free will and purpose" of the Russian people. When President Wilson left office, he joined Colby in the practice of law. Colby initially supported Pres. Franklin D. Roosevelt, but later worked politically against him.
- Coleman, McAlister**, U.S. Socialist leader, editor and writer (b. New York, N.Y., 1889—d. New York, N.Y., May 18, 1950).
- Collingridge, Leonard Thomas**, British book publisher (b. London, Eng., Nov. 21, 1865—d. Isle of Mull, Argyll, Scot., Nov. 4, 1950).
- Collins, Frederick Lewis**, U.S. author and editor (b. Lawrence, Mass., March 23, 1882—d. Boston, Mass., July 25, 1950).
- Collins, Joseph**, U.S. neurologist, psychiatrist and psychologist (b. Brookfield, Conn., Sept. 22, 1866—d. New York, N.Y., June 11, 1950).
- Compton, Frank Elbert**, U.S. publisher (b. Wisconsin Rapids, Wis., Aug. 7, 1874—d. La Jolla, Calif., May 13, 1950).
- Conner, Martin Sennett**, U.S. lawyer and former governor of Mississippi (b. Hattiesburg, Miss., Aug. 31, 1891—d. Jackson, Miss., Sept. 16, 1950).
- Connor, Robert Digges Wimberly**, U.S. historian (b. Wilson, N.C., Sept. 26, 1878—d. Durham, N.C., Feb. 25, 1950).
- Contogeorge, Christopher**, primate of the Alexandrine Greek Orthodox Church in the U.S. (b. Smyrna, Turk., 1894?—d. New York, N.Y., Aug. 30, 1950).



**Cooper, Charles Phillips**, U.S. journalist (b. Hamilton, N.Y., Jan. 16, 1866—d. New York, N.Y., Nov. 9, 1950).

**Copley, John**, British lithographer (b. Manchester, Lancs., Eng., 1875—d. London, Eng., July 16, 1950).

**Cordovani, Mariano**, Italian Roman Catholic theologian (b. Serravalle Casentinese, It., Feb. 25, 1883—d. Rome, It., April 5, 1950).

**Cornish, Louis Craig**, U.S. clergyman and author (b. New Bedford, Mass., April 18, 1870—d. Winter Park, Fla., Jan. 7, 1950).

**Costello, Maurice (George Washington)**, U.S. actor (b. Pittsburgh, Pa., 1877?—d. Los Angeles, Calif., Oct. 29, 1950), was one of the outstanding stars in the early days of silent motion pictures. His theatrical career began when he was 19, and before it ended he had earned—and spent—an estimated \$1,000,000. He appeared in some early motion pictures filmed by Thomas A. Edison, and in 1908 joined the Vitagraph company in Brooklyn, N.Y., as an actor. He received special acclaim for his role as Sidney Carton in *A Tale of Two Cities*. Norma Talmadge appeared with him in that and other pictures. His career as a star was over by about 1920, but he later played many character roles in motion pictures.

**Coutard, Henri**, French radiologist (b. 1876—d. Le Mans, Fr., March 19, 1950).

**Cowl, Jane (JANE COWLES)**, U.S. actress (b. Boston, Mass., Dec. 14, 1884—d. Santa Monica, Calif., June 22, 1950), began her stage career while yet a child. She played her first starring role on the stage in 1912 in *Within the Law*. She was starring in her own play, *Lilac Time*, in the same year, 1917, that she made her first motion picture. This was *The Spreading Dawn*. She did not return to the films for more than 30 years. In the 1940s she appeared in *Once More, My Darling*, *No Man of Her Own* and *The Secret Fury*, and later with Bette Davis in *Payment on Demand*.

In addition to *Lilac Time*, she was the author or coauthor of eight other plays, six of which were produced successfully. These included *Smilin' Through*, *Daybreak and Information Please*. Other stage successes in which she appeared included *Pelleas and Melisande*, *Paolo and Francesca*, *First Lady*, *Easy Virtue* and *The First Mrs. Fraser*, besides numerous Shakespearean plays. At the peak of her career she was a noted beauty, at one time being voted by critics the most beautiful woman on the U.S. stage.

**Craske, Leonard**, English-born U.S. sculptor (b. London, Eng., 1882—d. Boston, Mass., Aug. 29, 1950).

**Cue, Pedro**, Cuban newspaper publisher (b. Santa Clara, Cuba, 1896?—d. Havana, Cuba, July 13, 1950).

**Cunard, Anthony Gordon**, British naval officer and shipping official (b. 1893—d. Pertenhall, Beds., Eng., March 6, 1950).

**Curtis-Bennett, Sir (Francis) Noel**, British welfare and recreation leader (b. London, Eng., May 14, 1882—d. London, Dec. 2, 1950).

**Cuyler, Hazen ("KIKI")**, U.S. baseball player (d. en route to Ann Arbor, Mich., Feb. 11, 1950), was one of the outstanding players of the National league for 16 years. His reputation came principally during his years of playing for the Pittsburgh Pirates and the Chicago Cubs. He paced the Pirates to the pennant in 1925 and in the decisive game of the world series that year starred as a fielder and also drove in the series-winning runs. He played in the 1929 and 1932 series with the Cubs. At bat, he hit over .350 four seasons and near .300 many other years. He was one of the outstanding base runners in the game's history. In one season he had a record of 40 stolen bases in 41 attempts. His active playing career ended in 1938, and afterward he managed teams in the Southern association and served as a coach, first for the Cubs and later for the Boston Red Sox.

**Cyril, Amba**, archbishop of Ethiopia (Coptic Christian) (b. Egypt, 1885?—d. Cairo, Egypt, Oct. 22, 1950).

**Damrosch, Walter Johannes**, U.S. pianist, conductor and composer (b. Breslau, Ger., Jan. 30, 1862—d. New York, N.Y., Dec. 22, 1950), was considered the dean of operatic and symphonic conductors in the United States. He began the study of harmony with his father, Leopold Damrosch, distinguished musician and conductor, at the age of 9. Such musicians as Richard Wagner, Franz Liszt, Hans von Bülow and Anton Rubinstein often gathered at the Damrosch home. The elder Damrosch moved to New York city and founded the Oratorio society of New York in 1873. Walter Damrosch continued his education there, and after his father's death in 1885 was named assistant director and conductor of the Metropolitan Opera company. The same year he became conductor of the New York Symphony Orchestra.

After works of Wagner received a cool reception at the Metropolitan, he formed his own operatic company in 1894, and it toured the U.S. for four years, performing chiefly Wagnerian operas. During World War I he founded a school for bandmasters in France. In 1924 he took the New York Symphony Orchestra for a tour of Europe, and in 1926 he retired as conductor of that orchestra. He was perhaps best known for his radio appearances, during which he explained the music he conducted. He especially devoted his attention to developing musical appreciation in children, and

believed that through radio a revolution had been effected in the public's musical tastes during his lifetime.

He was the composer of several operas, including *The Scarlet Letter*, *Cyrano de Bergerac* and *The Opera Cloak*. He held many awards, and was elected president of the American Academy of Arts and Letters in 1940. He was for many years music adviser to the National Broadcasting company, and he founded the NBC "Music Appreciation Hour."

**Dana, Henry Wadsworth Longfellow**, U.S. writer and lecturer (b. Boston, Mass., Jan. 26, 1881—d. Cambridge, Mass., April 27, 1950).

**Daniel, Sir Augustus Moore**, British art gallery executive (b. Preston, Lancs., Eng., Dec. 6, 1866—d. London, Eng., Nov. 7, 1950).

**Davidson, Lylal Ament**, U.S. naval officer (b. Muscatine, Ia., Dec. 2, 1886—d. Bethesda, Md., Dec. 29, 1950).

**Davis, Harry Lyman**, former governor of Ohio (b. Cleveland, O., Jan. 25, 1878—d. Shaker Heights, O., May 21, 1950).

**De Cordoba, Pedro**, U.S. stage and screen actor (b. New York, N.Y., Sept. 28, 1881—d. Hollywood, Calif., Sept. 17, 1950).

**Deeping, (George) Warwick**, British author (b. Southend, Ess., Eng., 1878—d. Weybridge, Sur., Eng., April 20, 1950), was one of the most prolific writers of the 20th century, having completed about 60 novels in his literary career. He was educated for medicine, having studied at Merchant Taylors' school, Trinity college, Cambridge, and Middlesex hospital, but after practising for a year he abandoned medicine for literature. He saw active duty in the Gallipoli campaign and in Egypt and France during World War I.

Perhaps his best-known work was *Sorrell and Son*, published in 1925. His other books included *Love among the Ruins*; *Martin Valliant*; *The Secret Sanctuary*; *Doomsday*; *Old Wine and New*; *No Hero—This*; *Corn in Egypt*; and *Reprieve*.

**De la Torre, Carlos**, Cuban scientist and politician (b. 1859?—d. Havana, Cuba, Feb. 19, 1950).

**De Luca, Giuseppe**, U.S. operatic star (b. Rome, It., Dec. 25, 1876—d. New York, N.Y., Aug. 26, 1950).

**De Mole, Lancelot Eldin**, Australian inventor (b. March 13, 1880—d. Sydney, Austr., May 6, 1950).

**Dempster, Arthur Jeffrey**, Canadian-born physicist (b. Toronto, Ont., Can., Aug. 14, 1886—d. Stuart, Fla., March 11, 1950).

**De Sylva, George Gard ("BUDDY")**, U.S. theatrical producer and song writer (b. New York, N.Y., Jan. 27, 1896—d. Hollywood, Calif., July 11, 1950), was the author of many popular song hits as well as producer of stage shows and motion pictures. He teamed with George Gershwin to write the musical comedy *La, La, Lucille*, which was produced in 1919. Together they also wrote the songs "Somebody Loves Me" and "Do It Again." De Sylva collaborated with Victor Herbert on the musical *Orange Blossoms*, which contained the well-known song "A Kiss in the Dark." He also wrote the books for such hit reviews as *Sally*, *Ziegfeld Follies of 1921*, *Greenwich Village Follies*, six editions of *George White's Scandals*, *Follow Through*, *Three Cheers*, *Good News* and others.

Many of the 500 popular songs with which he was identified were composed in collaboration with Ray Henderson and Lew Brown. One of these was "Sonny Boy," written for Al Jolson, of which more than 1,500,000 copies were sold. De Sylva produced five of Shirley Temple's pictures, including *The Little Colonel*, *The Littlest Rebel*, *Captain January*, *Poor Little Rich Girl* and *Stowaway*. He also produced *Bachelor Mother*, starring Ginger Rogers. He returned to New York as a stage producer in 1939, producing *Du Barry Was a Lady*, *Panama Hattie* and *Louisiana Purchase*. He was executive producer of the film *For Whom the Bell Tolls*.

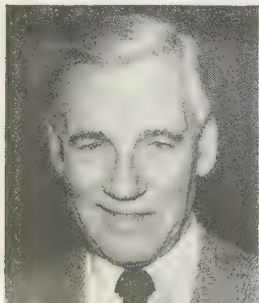
**Devonshire, Edward William Spencer Cavendish**, 10TH DUKE OF, British peer and politician (b. May 6, 1895—d. Compton Place, near Eastbourne, Sus., Eng., Nov. 26, 1950).

**Dewey, James F.**, U.S. labour conciliator (b. Locust Dale, Pa., Feb. 12, 1887—d. Frackville, Pa., Aug. 1, 1950).

**Diomedes, Alexander**, Greek economist and statesman (b. Athens, Gr., 1875—d. Athens, Nov. 11, 1950), was educated in Greece, France and Germany. He joined Eleutherios Venizelos' Liberal government as minister of finance (1912-14). After World War I he retired from politics and in 1923 was elected governor of the National bank, at that time still the bank of issue, and negotiated important public loans, besides conducting negotiations which led to the creation of the Bank of Greece as the bank of issue (1928). Retiring from public life in 1930, he published in 1943 a two-volume work on the land policy of the Macedonian and Comnenian dynasties. Before World War II he was honorary president of the Supreme Economic council and from 1945 president of the Supreme Reconstruction board, and chairman of the board of the National bank. On Jan. 20, 1949, Diomedes joined the coalition government of Themistocles Sophoulis as a nonparty deputy premier, and on the death of Sophoulis succeeded him on June 30 as prime minister of a Populist-Liberal coalition cabinet. He resigned on Jan. 5, 1950.

**Doherty, Robert Ernest**, U.S. educator (b. Clay City, Ill., Jan. 22, 1885—d. Scotia, N.Y., Oct. 19, 1950).

**1950 OBITUARIES:** Walter Huston, Canadian-born actor; Al Jolson, U.S. comedian; William Lyon Mackenzie King, Canadian statesman; Harold J. Laski, British political scientist; Sir Harry Lauder, Scottish comedian





**Donovan, Leo**, U.S. army officer (b. Alabama, Dec. 6, 1895—d. Fort Belvoir, Va., May 21, 1950).

**Dore, (Samuel) Ernest**, British dermatologist (b. London, Eng., Sept. 16, 1872—d. London, June 27, 1950).

**Drew, Charles Richard**, U.S. surgeon (b. Washington, D.C., June 3, 1904—d. Burlington, N.C., April 1, 1950).

**Duggan, Stephen P.**, U.S. educator (b. New York, N.Y., Dec. 20, 1870—d. Stamford, Conn., Aug. 18, 1950).

**Duncan, Joseph Smith**, U.S. inventor and manufacturer (b. near Pittsburgh, Pa., April 5, 1858—d. Los Angeles, Calif., May 11, 1950).

**Duncan, Joseph Smith**, U.S. inventor and manufacturing executive (b. near Pittsburgh, Pa., April 5, 1858—d. Los Angeles, Calif., May 11, 1950).

**Dykstra, Clarence Addison**, U.S. educator and government official (b. Cleveland, O., Feb. 25, 1883—d. Laguna Beach, Calif., May 6, 1950), studied at the State University of Iowa, Iowa City, and began teaching at a private school in Pensacola, Fla. He next taught at Ohio State university, Columbus, 1907-09, and the University of Kansas, Lawrence, 1909-18. Between 1918 and 1930 he was secretary, respectively, of the Cleveland Civic league and the Chicago and Los Angeles City clubs. From 1930 to 1937 he was city manager of Cincinnati. He left that position to become president of the University of Wisconsin, Madison, which post he left in 1945 to become provost of the University of California at Los Angeles.

At intervals he took leaves from his regular duties, or assumed additional duties, in public life. Among these positions were: member of the President's Committee on Fiscal Relations between the Federal Government and the District of Columbia; member of the executive committee of the Tax Revision council; member of the Advisory Committee on Education, Recreation and Welfare to the army and navy; chairman of the National Defense Mediation board; and for one year (1940-41) national director of selective service.

**Edwards, George Wharton**, U.S. painter (b. Fair Haven, Conn., March 14, 1859—d. Greenwich, Conn., Jan. 18, 1950).

**Eliash, Mordecai**, Israeli diplomat (b. Uman, Ukraine, June 11, 1892—d. Hampstead, London, Eng., March 11, 1950).

**Eliot, Samuel Atkins**, U.S. clergyman (b. Cambridge, Mass., Aug. 24, 1862—d. Boston, Mass., Oct. 15, 1950).

**Ellerhusen, Florence Cooney** (MRS. ULRIC H. ELLERHUSEN), U.S. portrait painter and art instructor (b. Norwood, Ont., Can.—d. Morristown, N.J., April 20, 1950).

**Elliott, Gertrude** (LADY FORBES-ROBERTSON), U.S.-born actress (b. Rockland, Me., Dec. 14, 1874—d. Kent, Eng., Dec. 24, 1950).

**Ellis, Charles Calvert**, U.S. clergyman and educator (b. Washington, D.C., July 21, 1874—d. Philadelphia, Pa., July 27, 1950).

**Ellis, William Thomas**, U.S. writer (b. Allegheny, Pa., Oct. 25, 1873—d. near Lyndhurst, Ont., Can., Aug. 15, 1950).

**Embree, Edwin Roger**, U.S. sociologist (b. Osceola, Neb., July 31, 1883—d. New York, N.Y., Feb. 21, 1950).

**England, William Henry**, U.S. economist (b. Edinburgh, Ind., Dec. 21, 1876—d. Bethesda, Md., May 10, 1950).

**Enthoven, Augusta Gabrielle Eden** (MRS. C. H. ENTHOVEN), British dramatist (b. London, Eng., Jan. 12, 1868—d. London, Aug. 18, 1950).

**Enthoven, Henri Emile**, Dutch-born composer and historian (b. Amsterdam, Neth., Oct. 18, 1903—d. New York, N.Y., Dec. 26, 1950).

**Esdaile, Katherine Ada** (MRS. ARUNDELL ESDAILE), British author, authority on post-Reformation sculpture (b. April 28, 1881—d. England, Aug. 31, 1950).

**Espinosa, Edouard**, British ballet master (b. London, Eng., Feb. 2, 1872—d. Worthing, W.Sus., Eng., March 23, 1950).

**Evans, William**, English-born theologian (b. Liverpool, Eng., Jan. 1, 1870—d. Los Angeles, Calif., May 21, 1950).

**Fahey, John H.**, former chairman of the federal Home Loan Bank board (b. Manchester, N.H., Feb. 10, 1873—d. Washington, D.C., Nov. 19, 1950).

**Fairchild, Louis Edgar**, U.S. trade paper publisher (b. Flushing, L.I., N.Y., June 17, 1869—d. Port Jefferson, L.I., N.Y., July 25, 1950).

**Fairchild, Muir Stephen**, U.S. air force general (b. Bellingham, Wash., Sept. 2, 1894—d. Fort Myer, Va., March 17, 1950).

**Farnham, Dwight Thompson**, U.S. economist, consulting engineer and author (b. Candor, N.Y., Oct. 15, 1881—d. Norwalk, Conn., Sept. 20, 1950).

**Fels, Samuel S.**, U.S. industrialist and philanthropist (b. Yanceyville, N.C., Feb. 16, 1860—d. Philadelphia, Pa., June 23, 1950).

**Fernald, Merritt Lyndon**, U.S. botanist (b. Orono, Me., Oct. 5, 1873—d. Cambridge, Mass., Sept. 22, 1950).

**Fiala, Anthony**, U.S. explorer (b. Jersey City Heights, N.J., Sept. 19, 1869—d. Brooklyn, N.Y., April 8, 1950).

**Field, Sid** (SIDNEY ARTHUR FIELD), British comedian (b. Edgbaston, Birmingham, Eng., April 1, 1904—d. London, Eng., Feb. 3, 1950).

**Fisk, Charles Laird**, U.S. marine officer (b. March 13, 1902—d. Bryn Mawr, Pa., May 3, 1950).

**Fitzhugh, Percy Keese** (HUGH LLOYD), U.S. author of juvenile books (b. Brooklyn, N.Y., Sept. 7, 1876—d. Oradell, N.J., July 5, 1950).

**Flanagan, James Wainwright**, U.S. engineer (b. Henderson, Tex., Oct. 26, 1872—d. Houston, Tex., July 24, 1950).

**Fletcher, Arthur**, U.S. baseball player and coach (b. Collinsville, Ill., Jan. 5,

1885—d. Los Angeles, Calif., Feb. 6, 1950).

**Fletcher, John Gould**, U.S. poet (b. Little Rock, Ark., Jan. 3, 1886—d. near Little Rock, May 10, 1950), spent some time at Phillips academy, Andover, Mass., and at Harvard college, then travelled widely in Europe and the U.S. He was a familiar figure in literary circles of two continents, and was well acquainted with William Butler Yeats, D. H. Lawrence, Ezra Pound, Amy Lowell and other literary leaders. His *Life Is My Song*, published in 1937, was autobiographical. In 1939 he won the Pulitzer prize for poetry for his *Selected Poems*. He returned to Arkansas in later years, and his chief non-poetical work was *The Epic of Arkansas*. He was found drowned, presumably a suicide, at his country home near Little Rock.

**Flower, Sir Archibald Dennis**, high steward of the borough of Stratford-upon-Avon (b. Stratford-on-Avon, Eng., 1865—d. Stratford-on-Avon, Nov. 22, 1950).

**Ford Clara Bryant** (MRS. HENRY FORD), U.S. philanthropist, widow of Henry Ford (b. Redford township, Mich., April 11, 1867—d. Detroit, Mich., Sept. 29, 1950).

**Ford, Julia Ellsworth** (MRS. SIMEON FORD), U.S. author (b. New York, N.Y., April 6, 1859—d. New York, N.Y., Aug. 14, 1950).

**Foster, William Trufant**, U.S. educator and economist (b. Boston, Mass., Jan. 18, 1879—d. Jaffrey, N.H., Oct. 8, 1950).

**Fraser, Harry Wilson**, U.S. railway union official (b. Topeka, Kan., June 7, 1884—d. Chicago, Ill., May 13, 1950).

**Fraser, Peter**, New Zealand government official (b. Fearn, Ross and Crom., Scot., Aug. 28, 1884—d. Wellington, N.Z., Dec. 12, 1950), on leaving school became a local officer of the Liberal party in Scotland and in 1908 joined the Independent Labour party. He went to New Zealand two years later and was active in the labour movement. He was elected to the house of representatives for Wellington Central in 1918, and in 1935 was appointed minister of education, health, marine and police and in 1939 deputy prime minister. In his government's program of social services he was responsible for the national health scheme. On April 1, 1940, on the death of M. J. Savage, Fraser became prime minister. His party was defeated in the general election of Nov. 1949, and he resigned in December. From 1943 he had been also minister of external affairs and minister of island territories, and from Dec. 1946 native minister (renamed minister of Maori affairs in 1947). He also held the portfolio of employment during 1946. During World War II he attended meetings of the war cabinet in London, and in 1944, 1948 and 1949 attended the London meetings of the British Commonwealth prime ministers. In 1945 he attended the U.N. meetings at San Francisco, Calif., and in 1948 led the New Zealand delegation to the third U.N. general assembly, in Paris.

**Frisch, Daniel**, U.S. Zionist leader (b. Palestine, 1897?—d. New York, N.Y., March 7, 1950).

**Gabor, Arnold**, U.S. operatic baritone (b. Budapest, Hung., 1892—d. Los Angeles, Calif., July 15, 1950), studied music in Hungary, Germany and Italy and appeared in many European cities before going (1923) to the U.S., where he appeared for 18 successive years as a member of the Metropolitan Opera staff. He was especially remembered by opera-goers for his roles in the operas of Richard Wagner.

**Gamewell, Francis Dunlap**, U.S. missionary (b. Camden, S.C., Aug. 31, 1857—d. Clifton Springs, N.Y., Aug. 7, 1950).

**Gardella, Tess** ("AUNT JEMIMA"), U.S. actress (b. Wilkes-Barre, Pa., 1898?—d. New York, N.Y., Jan. 3, 1950).

**Gardiner, Henry Balfour**, British composer and concert promoter (b. London, Eng., Nov. 7, 1877—d. Salisbury, Wilts., Eng., June 28, 1950).

**Garfield, James Rudolph**, U.S. lawyer, former secretary of the interior (b. Hiram, O., Oct. 17, 1865—d. Cleveland, O., March 24, 1950).

**Garibaldi, Giuseppe** (PEPPINO), Italian army officer (b. Melbourne, Austr., July 29, 1879—d. Rome, It., May 19, 1950). A grandson of the Italian liberator and son of Gen. Ricciotti Garibaldi, he fought for freedom in many lands. In 1914, when his father formed a regiment of Italian volunteers to fight Germany in the ranks of the French Foreign Legion, Peppino joined with his five brothers. When in May 1915 Italy joined the Allies, France authorized the *garibaldini* to serve in the Italian army, and Peppino, made lieutenant colonel of the *alpini*, distinguished himself at the Col di Lana. After the war he first sympathized with Mussolini, but opposed him after the murder of Giacomo Matteotti. In 1924 he emigrated to the United States and returned to Italy only at the beginning of 1940. Arrested by the Germans in 1943, he was later liberated by the Allies. During the electoral campaign of 1948 he protested against the misuse of the name of Garibaldi by the Communist-sponsored Popular Democratic front. (See also *Encyclopedia Britannica*.)

**Gavrilo** (GAVRILO DOŽITCH), patriarch of the Serbian Orthodox Church (b. Morača, Montenegro, May 17, 1881—d. Belgrade, Yugos., May 7, 1950), was educated at Pizren, Yugos.; Athens, Gr.; and Istanbul, Turk. In 1910 he became bishop of Peć and in 1920 metropolitan of Crnagora and Primorje (Montenegro and the Littoral). Elected by 50 out of 59 votes in a secret ballot of bishops to the patriarchate of the Serbian Orthodox Church, vacant since the death of Patriarch Varnava (Petar Rošitch) on July 24, 1937, he was enthroned on Feb. 21, 1938. He was one of the instigators of the coup d'état of March 27, 1941. After Germany had invaded Yugoslavia he remained in his country but was arrested, interned at the monasteries of Rakovica and Vojlovica and in 1944 sent to the concentration camp at Dachau. Liberated on April 30, 1945, by the U.S. army, he lived for a time in Rome, returning to Belgrade in Nov. 1946. In Dec. 1946 he spoke at an all-Slav congress in Belgrade. A year later he called on the Orthodox clergy to co-operate with the government, but, nevertheless, later refused to recognize the League of Serbian Priests, sponsored by the Communist party. In July 1948, accompanied by Metropolitan Josip of Skopje, he was present at the congress of the Orthodox churches in Moscow, but refused to recognize the patriarch of Moscow and all-Russia as head of the Orthodox churches throughout the world.



**Ghose, Aurobindo**, Indian philosopher and poet (b. Koonagar, Western Bengal, India, Aug. 15, 1872—d. Pondicherry, French India, Dec. 5, 1950).

**Gibson, Harvey Dow**, U.S. financier and Red Cross official (b. North Conway, N.H., March 12, 1882—d. Boston, Mass., Sept. 11, 1950), received his A.B. degree from Bowdoin college, Brunswick, Me., in 1902. He worked for the American Express company, helped finance the purchase of a travel agency in New York city and then entered banking in 1912. He was president of the Liberty National bank of New York from 1917 to 1921, then president of the New York Trust company until 1931. He was president and chairman of the board of the Manufacturers Trust company of New York from 1931 to 1947 when he resigned the latter position. A renowned philanthropist, Gibson was a close friend of Helen Keller, serving as treasurer of the Helen Keller foundation. He served as Red Cross commissioner to France during World War I, and later directed all Red Cross operations throughout Europe. In World War II he became Red Cross commissioner in Great Britain and western Europe, and for this work received the president's medal of merit, highest civilian award in the U.S.

**Gill, Sir Frank**, British engineer (b. Castletown, Isle of Man, Eng., Oct. 4, 1866—d. Geneva, Switz., Oct. 25, 1950).

**Gillett, Horace Wadsworth**, U.S. metallurgist (b. Steuben county, N.Y., Dec. 12, 1883—d. Nicholasville, Ky., March 3, 1950).

**Gimbel, Ellis A.**, U.S. merchant (b. Vincennes, Ind., Nov. 9, 1865—d. Philadelphia, Pa., March 17, 1950), was the son of Adam Gimbel, who developed a chain of department stores from an initial small dry-goods store in Vincennes, Ind. Ellis Gimbel helped his father extend the Gimbel interests to Philadelphia, New York, Milwaukee, Chicago, Detroit, Pittsburgh, Beverly Hills, Miami Beach and Palm Beach, through stores bearing the name of Gimbel or Saks Fifth Avenue. He installed the first escalators; instituted the merchandise testing bureau idea; insisted on a one-price merchandising policy; and followed a scrupulous policy of truth in advertising. He instituted several awards for civic service and was a noted philanthropist, being especially interested in orphans and the blind. By 1946 he had been host to more than 250,000 children, whom he annually took to the circus. He was chairman of the board of all nine of the Gimbel Brothers, Inc., establishments, and president and director of Gimbel Brothers Bank and Trust company of Philadelphia.

**Giuliano, Salvatore**, Sicilian bandit (b. Montelepre, Sicily, It., 1922?—d. Castelvetrano, Sicily, July 5, 1950). Having served in World War II with the Italian air force, after the capitulation of 1943 Giuliano engaged in the food black market. His claim to be the head of a volunteer army fighting for the independence of Sicily was soon uncovered as a pretense and his gunmen—at one time numbering as many as 500—were in fact well paid assassins. From rich landowners he and his men extorted ransom in a total estimated amount that ran from \$200,000 to \$2,000,000, and they were reputed to have killed more than 100 policemen and several civilians. In 1949 Mario Scelba, minister of the interior, formed a special police force to capture Giuliano dead or alive, but a conspiracy of silence surrounding the brigand made the task especially difficult. Eventually, far away from his cave hide-out on Montelepre, he was ambushed and shot dead.

**Givens, William Robert**, Canadian publisher and journalist (b. Kingston, Ont., Can., 1868?—d. Kingston, Sept. 18, 1950).

**Glazier, Katharine Bruce** (MRS. BRUCE GLASIER), British labour leader (b. Sept. 25, 1867—d. Earby, Yorks., Eng., June 14, 1950).

**Glen, James Allison**, Canadian political leader and cabinet minister (b. Renton, Dumbartonshire, Scot., Dec. 18, 1877—d. Ottawa, Ont., Can., June 27, 1950).

**Glenn, John Mark**, U.S. social welfare director (b. Baltimore, Md., Oct. 28, 1858—d. New York, N.Y., April 20, 1950).

**Goldschmidt, Lazarus**, Hebrew scholar (b. Plungė, Lith., Dec. 17, 1871—d. London, Eng., April 18, 1950), had, at 21, already translated the book of Enoch from Ethiopic into Hebrew. His announcement in 1896 that he would undertake a complete German critical edition of the Babylonian Talmud was received with considerable scepticism, but the last of nine large volumes was completed in 1936, the whole being the first translation of the Talmud into a European language. He also translated both the Bible and the Koran into German.

**Gollomb, Joseph**, Russian-born author (b. St. Petersburg, Russia, Nov. 15, 1881—d. New York, N.Y., May 23, 1950).

**Golomshok, Eugene Alexandrovich**, Russian-born anthropologist (b. Samar, Russia, May 14, 1897—d. New York, N.Y., June 20, 1950).

**Gómez y Arias, Miguel Mariano**, former president of Cuba (b. Sancti Spiritus, province of Santa Clara, Cuba, Oct. 6, 1889—d. Havana, Cuba, Oct. 26, 1950), was the son of the second president of Cuba, José Miguel Gómez, who held that office from 1909 to 1913. He was educated in the U.S. and in Cuba, served several terms in the Cuban house of representatives, then in 1926 was elected mayor of Havana. He was a leader of the forces that joined to end the dictatorship of Pres. Gerardo Machado y Morales, and from May to Dec. 1936 he was himself president of the republic, but was impeached, primarily because of the power of Col. Fulgencio Batista y Zaldívar, a new military dictator who later became president.

**Goodrich, David Marvin**, U.S. industrialist (b. Akron, O., June 22, 1876—d. Mount Kisco, N.Y., May 17, 1950).

**Goshorn, Clarence Baker**, U.S. advertising executive (b. Saugatuck, Mich., May 12, 1893—d. Bimini, Bahamas, Dec. 10, 1950).

**Goss, Albert S.**, U.S. Grange leader (b. Rochester, N.Y., Oct. 14, 1882—d. New York, N.Y., Oct. 25, 1950).

**Gould, Barbara Ayrton** (MRS. GERALD GOULD), British political leader (d. London, Eng., Oct. 14, 1950).

**Grace, Joseph Peter**, U.S. steamship line official (b. Great Neck, L.I., N.Y., June 29, 1872—d. Great Neck, July 15, 1950), became president and chair-

man of the board of W. R. Grace & Co., steamship line founded by his father, which also owned extensive plantations and other holdings in Latin America. A graduate of Columbia university, he joined his father's company in 1894. Between 1909 and 1929, when he was its president, the company experienced its greatest expansion. He collaborated with the Pan American Airways, Inc., in establishing the first international air service—Pan American-Grace Airways, Inc.—down the west coast of South America, in 1929. In that year also he became chairman of the board of W. R. Grace & Co., holding that position until he retired in 1946.

**Grauman, Sidney Patrick**, U.S. theatrical producer and theatre owner (b. Indianapolis, Ind., March 17, 1879—d. Hollywood, Calif., March 5, 1950), got his theatrical start in Alaska, staging a benefit with his father. The two opened the Unique theatre in San Francisco, Calif., and other houses in nearby California cities, early emphasizing the neo-oriental luxury that came to mark the big-city "movie palace" throughout the U.S. It was in Los Angeles that he built his most famous theatres, including the Metropolitan (later the Paramount) and Rialto, the Egyptian and Grauman's Chinese theatres. He originated the gala *première*, with floodlights, visiting picture stars and ogling crowds. In the forecourt of the Chinese theatre he created a kind of motion-picture hall of fame by collecting the handprints, footprints and sometimes prints of other characteristics of stars (e.g., Jimmy Durante's nose, Betty Grable's legs) in concrete.

**Greene, Belle da Costa**, U.S. librarian (b. 1887?—d. New York, N.Y., May 10, 1950).

**Greene, James Sonnett**, U.S. physician, specialist in speech defects (b. New York, N.Y., Dec. 25, 1880—d. New York, N.Y., Sept. 17, 1950).

**Greenleaf, Ralph**, U.S. pocket-billiards champion (b. Monmouth, Ill., 1900—d. Philadelphia, Pa., March 15, 1950), began to compete in billiards at the age of 8, and won the Illinois championship when he was 12. In 1919 at the age of 20 he won the world's championship, and held that title interruptedly for 17 years.

**Greenly, Sir John Henry Maitland**, British industrialist (b. July 25, 1885—d. Calcot, near Reading, Berks., Eng., Dec. 31, 1950).

**Greenslade, John Wills**, U.S. naval officer (b. Bellevue, O., Jan. 11, 1880—d. Bellevue, O., Jan. 6, 1950).

**Grey, Katherine**, U.S. actress (b. San Francisco, Calif., Dec. 27, 1873—d. Orleans, Mass., March 21, 1950).

**Griswold, Glenn**, U.S. editor and publisher (b. Benton Harbor, Mich., June 19, 1886—d. New York, N.Y., May 15, 1950).

**Grossberg, Jacob Gedaliah**, U.S. attorney and first president of the American Jewish congress (b. Kovno, Russia [later Kaunas, Lith.], April 10, 1870—d. Madison, Wis., Jan. 29, 1950).

**Gunn, Baitiscombe George**, British Egyptologist (b. London, Eng., June 30, 1883—d. Oxford, Oxon., Eng., Feb. 27, 1950).

**Gustav V** (Oscar Gustav Adolf), KING OF SWEDEN (b. Drottningholm castle, near Stockholm, Swed., June 16, 1858—d. Drottningholm, Oct. 29, 1950), was the son of King Oscar II and Queen Sophia Wilhelmina of Nassau. On Sept. 20, 1881, he married Princess Victoria of Baden (1862–1930), granddaughter of Sophia, princess of Sweden; this marriage united the Bernadotte dynasty and the ancient Swedish royal house of Vasa. There were three sons, of whom the eldest was Crown Prince Gustav Adolf.

Gustav V succeeded his father Dec. 8, 1907, and took as his motto "With the people for the Fatherland." During World War I he was a firm believer in Scandinavian neutrality; in World War II his country was soon left as the one neutral in the north. On June 16, 1948, celebrations throughout the country marked the occasion of his 90th birthday. Until his illness in 1942, King Gustav was a keen tennis player and traveller. Suffering from bronchitis, he was carried to the *riksdag* on a stretcher when he opened the new parliamentary session on Jan. 11, 1949, but was able to walk to the throne supported by Crown Prince Gustav Adolf. He was 49 when he ascended the throne, yet his reign was the longest in Swedish history. (See also *Encyclopædia Britannica*.)

**Hailsham, Douglas McGarel Hogg**, 1ST VISCOUNT, OF HAILSHAM, IN THE COUNTY OF SUSSEX, British lawyer and politician (b. London, Eng., Feb. 28, 1872—d. Hailsham, Aug. 16, 1950).

**Haldane, Sir James Aylmer Lowthorpe**, British army officer (b. Nov. 17, 1862—d. London, Eng., April 19, 1950).

**Hale, Alan** (ALAN MACKAHN), U.S. motion-picture actor (b. Washington, D.C., Feb. 10, 1892—d. Hollywood, Calif., Jan. 22, 1950).

**Hammond, Thomas Stevens**, U.S. industrialist (b. Crown Point, N.Y., Oct. 29, 1883—d. Chicago, Ill., June 15, 1950).

**Hannay, James Owen** (pseudonym GEORGE A. BIRMINGHAM), British novelist (b. Belfast, Antrim, N.Ire., July 16, 1865—d. London, Eng., Feb. 2, 1950).

**Harbison, William Albert**, U.S. Protestant lay leader (b. Allegheny, Pa., Nov. 14, 1874—d. Hanover, N.H., Sept. 15, 1950).

**Harkness, Mary Stillman** (MRS. EDWARD STEPHEN HARKNESS), U.S. philanthropist (b. Brooklyn, N.Y., July 4, 1874—d. New York, N.Y., June 6, 1950), married the financier and philanthropist E. S. Harkness in 1904. After his death in 1940 she continued many of the benefactions in which he had interested himself, and to which he had given a total of \$100,000,000. Among these were the Metropolitan Museum of Art, Yale university, the United Hospital Fund of New York, the American Red Cross, the Young Women's Christian association, the Boy Scouts and the United Service Organizations. Among her larger donations were \$1,000,000 to the Mary Harkness Convalescent home in Port Chester, N.Y., and \$1,283,600 for the Edward Harkness Memorial hall at the Columbia-Presbyterian Medical center in New York city.

**Harmon, Austin Morris**, U.S. classical scholar and educator (b. Brockport, N.Y., Sept. 28, 1878—d. Chebeague Island, Me., June 29, 1950).



- Harper, Lathrop C.**, U.S. rare-book dealer (b. 1867?—d. New York, N.Y., Aug. 11, 1950).
- Hart, Charles**, U.S. steel manufacturer (b. Doylestown, Pa., Jan. 5, 1869—d. Bryn Mawr, Pa., May 23, 1950).
- Harwood, Sir Henry Harwood**, British admiral (b. Jan. 19, 1888—d. Goring-on-Thames, Oxon., Eng., June 9, 1950), joined the royal navy as a cadet in 1903. In Sept. 1936 he became commodore commanding South American division, with H.M.S. "Exeter" as his flagship. As a rear admiral he commanded the ships "Exeter," "Ajax" and "Achilles" in their successful action against the German pocket battleship "Admiral Graf Spee" off the mouth of the River Plate, Dec. 1939. He was commander in chief, Mediterranean, in 1942.
- Haworth, Sir (Walter) Norman**, British chemist (b. Chorley, Lancs., Eng., March 19, 1883—d. Birmingham, Eng., March 18, 1950), after holding posts at Imperial college, London, and at St. Andrews university, St. Andrews, Scot., became professor of chemistry at King's college, Newcastle-upon-Tyne in 1920. From 1925 to 1948 he was professor at Birmingham university, of which he was vice-principal in 1947-48. Haworth shared the Nobel prize in 1937 for his work on vitamin C and carbohydrates. He was also associated with the development of the atomic bomb, and was one of the signatories of the memorandum on the control of atomic energy submitted to the U.N. commission. He was knighted in 1947.
- Haycox, Ernest**, U.S. author (b. Portland, Ore., Oct. 1, 1899—d. Portland, Oct. 13, 1950).
- Helis, William G.**, Grecian-born oil executive, philanthropist and sportsman (b. Tropea, Gr., Oct. 17, 1886—d. Baltimore, Md., July 25, 1950).
- Hellman, Sam**, U.S. author and scenarist (b. San Francisco, Calif., July 4, 1885—d. Beverly Hills, Calif., Aug. 11, 1950), graduated from the University of California, Berkeley. He worked on various newspapers, but gave up newspaper work to go to Paris, where he wrote short stories that appeared regularly in national magazines of the U.S. In 1932 he returned to California to write motion-picture scripts. He wrote many of the vehicles that starred Shirley Temple, and some for Will Rogers. Among movies he wrote were *Poor Little Rich Girl*, *Captain January*, *Thirty-Day Princess*, *In Old Kentucky*, *Message to Garcia*, *The Bachelor and the Butler*, *Stanley and Livingston*, *The Return of Frank James*, *Shine On Harvest Moon*, *Frontier Marshal* and *The Horn Blows at Midnight*.
- Henderson of Ardwick, Joseph Henderson, 1ST BARON**, British railway union leader (b. 1884?—d. Carlisle, Cumb., Eng., Feb. 25, 1950).
- Herford, Robert Travers**, British theologian and author (b. Manchester, Eng., March 1860—d. near Chester, Ches., Eng., Nov. 10, 1950).
- Hermant, Abel**, French author and dramatist (b. Paris, Fr., Feb. 3, 1862—d. Chantilly, Fr., Sept. 22, 1950).
- Herne, (Katherine) Chrystal (MRS. HAROLD S. POLLARD)**, U.S. actress (b. Ashmont, Mass., June 16, 1883—d. Boston, Mass., Sept. 19, 1950).
- Herter, Albert**, U.S. portrait and mural painter (b. New York, N.Y., March 2, 1871—d. Santa Barbara, Calif., Feb. 15, 1950).
- Hibbard, Elisabeth Haseltine (MRS. FREDERICK C. HIBBARD)**, U.S. sculptor (b. Portland, Ore., Sept. 25, 1894—d. Chicago, Ill., Sept. 4, 1950).
- Hibbard, Frederick C.**, U.S. sculptor (b. Canton, Mo., June 15, 1881—d. Chicago, Ill., Dec. 12, 1950).
- Hichins, Robert Smythe**, English-born novelist (b. Speldhurst, Kent, Eng., Nov. 14, 1864—d. Zürich, Switz., July 20, 1950).
- Hild, Oscar F.**, U.S. musicians' union official (b. Cincinnati, O., Feb. 15, 1901—d. Cincinnati, O., April 24, 1950).
- Hinton, Charles Louis**, U.S. painter, sculptor and educator (b. Ithaca, N.Y., Oct. 18, 1869—d. Bronxville, N.Y., Oct. 12, 1950).
- Hodge, Sir Rowland Frederic William**, British shipbuilding executive (b. Sept. 15, 1859—d. Chipstead, Churt, Surrey, Eng., Sept. 21, 1950).
- Hogarth, Donald Macdonald**, Canadian industrialist and financier (b. Osecola, Ont., Can., June 15, 1878—d. Toronto, Ont., June 27, 1950).
- Holland, Ernest O.**, U.S. educator (b. Bennington, Ind., Feb. 4, 1874—d. Westover Field, Mass., May 30, 1950).
- Holmes, Edward Jackson**, U.S. art museum president (b. Boston, Mass., Jan. 3, 1873—d. Boston, May 29, 1950).
- Hopkins, Arthur Melancthon**, U.S. author, director and producer (b. Cleveland, O., Oct. 4, 1878—d. New York, N.Y., March 22, 1950).
- Horlick, Alexander James**, U.S. industrialist (b. Racine, Wis., Oct. 3, 1873—d. Racine, June 6, 1950).
- Houston, Charles Hamilton**, U.S. lawyer (b. Washington, D.C., Sept. 3, 1895—d. Washington, D.C., April 22, 1950).
- Hovgaard, William**, U.S. naval architect (b. Aarhus, Den., Nov. 28, 1857—d. Morristown, N.J., Jan. 5, 1950).
- Howard, Leland Ossian**, U.S. entomologist (b. Rockford, Ill., June 11, 1857—d. Bronxville, N.Y., May 1, 1950).
- Hubbard, Charles Joseph**, U.S. arctic explorer (b. Kansas City, Mo., June 25, 1902—d. Ellesmere Island, N.W. Terr., Can., July 31, 1950), went on his first trip of exploration at the age of 14, with the Sir Wilfred Grenfell mission to Labrador. On his return he studied at the Milton academy, Milton, Mass., and at Harvard university. He worked for a time as a civil engineer, but from 1930 to 1936 returned to the arctic as pilot for several exploratory expeditions. In 1936 and 1937 he sailed his own schooner for 20,000 mi., exploring from Labrador to the South Pacific, and including the Galapagos Islands. From 1937 to 1940 he spent much time as a free-lance writer and lecturer. During World War II he served both the U.S. army and navy as adviser on arctic activities. At the end of that war he entered the service of the U.S. weather bureau and helped set up arctic weather stations, manned the year around by joint U.S.-Canadian staffs. It was while supervising the parachuting of supplies to one of these stations that he died in the crash of his plane. The crash occurred near the spot where in 1948 Hubbard had found original documents left by Admiral R. E. Peary on his 1909 trip of discovery to the north pole.
- Hubertus Karl Wilhelm**, PRINCE OF PRUSSIA, grandson of Kaiser Wilhelm II (b. Marmor palace, near Potsdam, Ger., Sept. 30, 1909—d. Windhoek, South-West Africa, April 8, 1950).
- Huddleston, Sir Hubert Jervoise**, British army officer and former governor general of Anglo-Egyptian Sudan (b. 1880—d. London, Eng., Oct. 2, 1950).
- Hughes, Edwin Holt**, U.S. clergyman and educator (b. Moundsville, W.Va., Dec. 7, 1866—d. Washington, D.C., Feb. 12, 1950).
- Huhn, Bruno**, U.S. composer, pianist and conductor (b. London, Eng., Aug. 1, 1871—d. New York, N.Y., May 13, 1950), went to the U.S. as a young man and became a concert pianist. He later conducted choral groups and composed musical settings for many songs. His best-known work was the setting for "Invictus," which met a dubious reception initially, but, after it was included in a program by the baritone Francis Rogers in New York's Mendelssohn hall in 1910, met with lasting public acclaim. Among Huhn's other songs were "Seafarers," "Courage" and cantatas and song cycles.
- Hunkin, Joseph Wellington**, British clergyman, Anglican bishop of Truro (b. Truro, Corn., Eng., Sept. 25, 1887—d. England, Oct. 28, 1950).
- Hurd, Sir Percy Angier**, British journalist (b. Somerset, Eng., 1864—d. London, June 5, 1950).
- Huston (Houghton), Walter**, Canadian-born stage and screen actor (b. Toronto, Can., April 6, 1884—d. Beverly Hills, Calif., April 7, 1950), was the son of a contractor, and his early studies were in engineering. He followed that trade for a few years, but in 1908 gave up engineering in favour of acting. He was in vaudeville with his wife for many years, and in 1924 went to New York city at the instance of the producer Brock Pemberton to star in *Mr. Pitt*. In 1924 also he acted in Eugene O'Neill's *Desire under the Elms*. On both stage and screen he subsequently scored repeated successes. His best-known vehicles included *The Fountain*, *Elmer the Great*, *Love's Old Sweet Song*, *Knickerbocker Holiday*, *Dodsworth*, *Ann Vickers*, *The Shanghai Gesture*, *Dragon Seed*, *All That Money Can Buy*, *Mission to Moscow* and *The Outlaw*. He won the 1948 award of the Academy of Motion Picture Arts and Sciences for the best supporting performance for his role in *Treasure of Sierra Madre*, which was written and directed by his son, John.
- Hutchinson, Walter Victor**, British book publisher and sportsman (b. May 16, 1887—d. Winchester, Hants., Eng., April 30, 1950).
- Hutin, Marcel**, French editor (b. Wissembourg, Fr., June 22, 1869—d. Paris, Fr., Oct. 20, 1950).
- Ingram, Rex**, U.S. motion-picture director (b. Dublin, Ire., 1892—d. Hollywood, Calif., July 21, 1950), whose family name was Hitchcock, adopted his mother's surname of Ingram. He graduated from Trinity college in Dublin and went to the U.S. in 1911. He enrolled in the fine arts school at Yale university, and there became interested in motion pictures. He worked for several early companies, as writer, director and actor, and after serving with the royal flying corps in World War I, was a director, first for the Universal Jewel Pictures and then for Metro-Goldwyn. Many of his earlier productions starred the actress Alice Terry, whom he married in 1921. Reputedly the man who "discovered" Rudolph Valentino, Ingram won world acclaim as director of *The Four Horsemen of the Apocalypse*, adapted from the Vicente Blasco Ibáñez novel and starring Valentino. Others of his screen successes included *The Prisoner of Zenda*, *Where the Pavement Ends* and *Scaramouche*.
- James, Alan Gosset**, British landscape painter (b. Cheltenham, Glos., Eng., Aug. 15, 1875—d. Stow-on-the-Wold, Glos., Eng., Aug. 17, 1950).
- Jannings, Emil**, U.S.-born motion picture actor (b. Brooklyn, N.Y., July 26, 1886—d. Lake Wolfgang, Austria, Jan. 2, 1950), was taken to Europe as an infant and reared in Germany by his grandparents. An adventurous youth and a poor student, he once ran away to sea, and later left college to join a road show company. He travelled in the provinces for several years, then began appearing in stock. He played in classical roles at the Darmstadt Royal theatre in Berlin, where he also began his motion picture career. Jannings won the Academy of Motion Picture Arts and Sciences award in 1928 for his performance in *The Way of All Flesh*. Other productions in which he played, in Germany and later in the United States, included *Deception*, *Variety*, *The Street of Sin*, *The Last Command*, *The Sins of the Fathers* and *The Blue Angel*. He returned to Germany shortly after the introduction of talking pictures and there helped supervise the motion picture industry under the nazi propaganda minister Josef Goebbels.
- Jaques-Dalcroze, Emile**, Swiss composer (b. Vienna, Aus., July 6, 1865—d. announced in Geneva, Switz., July 2, 1950).
- Jarvis, Sir John**, British philanthropist, publisher and industrialist (b. March 25, 1876—d. Godalming, Sur., Eng., Oct. 2, 1950).
- Jeffries, Edward J.**, U.S. lawyer and civic official (b. Detroit, Mich., April 3, 1900—d. Miami Beach, Fla., April 2, 1950).
- Jen Pi-shih**, Chinese Communist leader (b. Hunan province, China, April 30, 1904?—d. Peking, China, Oct. 27, 1950).
- Jensen, Johannes Vilhelm**, Danish writer (b. Farsø, Den., Jan. 20, 1873—d. Copenhagen, Den., Nov. 25, 1950), abandoned his medical studies to take up writing, going to Spain in 1898 as correspondent of the Danish paper *Politiken*. In the same year he began to attract notice with the first of his "Himmerland stories," tales of his childhood home, the writing of which went on intermittently until 1926. In 1901 he published *The Fall of the King*, about King Christian II, regarded as one of the finest Danish historical novels. After travelling in the far west and America he published a collection of *Exotic Short Stories*. These and others of his stories revealed an



affinity with Rudyard Kipling whom he admired greatly and on whom he wrote a monograph. His *Madame d'Orléans*, *The Wheel* (1904-5) and *The Temptations of Dr. Renault* (1935) were all based on the Faust theme. His greatest work as a novelist was *The Long Journey* (1908-22), consisting of six separate novels. As a poet, Jensen was influenced by Heine and Walt Whitman and was considered one of the greatest of his country and age. In 1944 he received the Nobel prize for literature. (See also *Encyclopædia Britannica*.)

**Johnson, Arthur Charles**, U.S. editor and publisher (b. Ira, O., Oct. 10, 1874—d. Cleveland, O., Nov. 11, 1950).

**Johnson, Emory Richard**, U.S. economist (b. Waupun, Wis., March 22, 1864—d. Philadelphia, Pa., March 6, 1950).

**Johnston, Alva**, U.S. journalist and author (b. Sacramento, Calif., Aug. 1, 1888—d. Bronxville, N.Y., Nov. 23, 1950), worked for newspapers in California and New York city, and in 1922 won the Pulitzer prize for outstanding science reporting. By 1928 he had become almost exclusively a magazine writer, his work appearing especially in the *Saturday Evening Post* and in the "Profiles" department of the *New Yorker*. He was the author of three books: *The Great Goldwyn* (1937); *Wilson Mizner, the Legend of a Sport* (privately printed, 1943); and *The Case of Erle Stanley Gardner* (1947).

**Johnston, Cyril Frederick**, British bell founder (b. Croydon, Sur., Eng., May 9, 1884—d. London, March 30, 1950).

**Jolson, Al** (ASA YOELSON), U.S. singer, motion-picture and radio star (b. St. Petersburg, Russia?, May 26, 1886—d. San Francisco, Calif., Oct. 23, 1950), was the son of a Jewish cantor, but despite his father's wishes decided to devote his singing to the professional stage. He made his first stage appearances in Washington, D.C., then joined his brother and a friend in a vaudeville act, first appearing in blackface in Brooklyn, N.Y. In 1909 he joined Lew Dockstader's Minstrels, where he was seen and hired by J. J. Shubert. It was under Shubert, and principally at the New York Winter Garden, that he became by 1921 one of the nation's top entertainers.

His stage success made it inevitable that Hollywood should early consider him for talking pictures, and his movie *The Jazz Singer*, 1927, is generally conceded to have been the first important sound picture. In 1928 he appeared in the motion picture *The Singing Fool*, whose hit song, "Sonny Boy," became as permanently a part of U.S. theatrical history as had his earlier hit tunes, such as "April Showers," "Avalon" and "Mammy." His other movies included *The New Yorker*, *Hallelujah, I'm a Bum* and *Wonder Bar*. In 1940 and 1941 he appeared in a stage musical show, *Hold On to Your Hats*.

During World War II Jolson became famous for his tours to perform before U.S. fighting men, appearing in camps and at posts in every war theatre. In 1943 he suffered from pneumonia and malaria, then returned to Columbia Pictures in 1944. He became a supervising producer, and played himself in the movie *Rhapsody in Blue*, dealing with the life of George Gershwin. It was his autobiographical motion picture *The Jolson Story*, with himself singing the songs and Larry Parks playing the part of Jolson, that brought him to the top of the entertainment world for a third time. The picture grossed more than \$13,000,000 after its release in 1946, and its sequel, *Jolson Sings Again*, was also a hit. Jolson died of a heart ailment a short time after returning from a trip to entertain soldiers in Korea.

**Kampf, Arthur von**, German painter (b. Aachen, Ger., 1864?—d. Feb. 1950).

**Kelly, Edward Joseph**, U.S. politician (b. Chicago, Ill., May 1, 1876—d. Chicago, Oct. 20, 1950), was viewed by many as the prototype of the U.S. big-city political boss—and himself admitted that "to be a real mayor . . . you've got to be a boss." He left school after the seventh grade, but eventually by private study qualified as an assistant engineer in the Chicago sanitary district. He obtained his first political job at the age of 17, and was never off the public pay roll thereafter until he retired in 1947. As chief engineer of the sanitary district during the 1920s Kelly became a friend of Patrick Nash, sewer contractor, who eventually became the other half of what was widely known as Chicago's Kelly-Nash machine—the Democratic political organization of Cook county.

Kelly became mayor of Chicago in 1933 when the Chicago city council elected him to replace Mayor Anton Cermak, who had been assassinated by a bullet intended for President-Elect Franklin D. Roosevelt. He was elected almost without opposition in 1935, 1939 and in 1943, refusing to run again in 1947.

He played a leading role in the Democratic conventions that nominated Pres. Franklin D. Roosevelt for his second, third and fourth terms. Kelly reduced Chicago's debt by \$100,000,000 and left the city solvent.

**Kelsey, Albert**, U.S. architect (b. St. Louis, Mo., April 26, 1870—d. Philadelphia, Pa., May 6, 1950).

**Kennedy, Charles Rann**, British-born actor and dramatist (b. Derby, Derby., Eng., Feb. 14, 1871—d. Los Angeles, Calif., Feb. 16, 1950).

**Kenney, John Andrew**, U.S. Negro physician and surgeon (b. Albemarle county, Va., June 11, 1874—d. Montclair, N.J., Jan. 29, 1950), studied medicine and went to Tuskegee institute, Tuskegee Institute, Ala., as resident physician in 1902. There he was personal physician to Booker T. Washington and George Washington Carver. He was medical director and chief surgeon of the John A. Andrew Memorial hospital at Tuskegee until 1924, when he left the south after Ku Klux Klan members threatened his life for insisting on rights for Negro doctors in a Veterans' administration hospital which was being built at Tuskegee.

He went to New Jersey and in 1927 founded a private hospital in Newark, named the Kenney Memorial hospital in memory of his parents. It was renamed the Community hospital in 1934 when he gave it to the Booker T. Washington Hospital association, and he continued as its medical director and chief surgeon. He returned to Tuskegee in 1939 to head the Tuskegee Institute hospital. In 1944 he returned to New Jersey to resume practice of medicine. He was prominent in the National Medical association, an organization of Negro doctors, and wrote *The Negro in Medicine*, published in 1912.

In 1944 he was chosen by the Harmon foundation as one of the country's most prominent Negroes.

**Kiddy, Arthur William**, British newspaper editor (b. Belper, Derby., Eng., 1868—d. Barnet, Herts., Eng., Feb. 18, 1950).

**King, William Lyon Mackenzie**, Canadian statesman (b. Berlin [now Kitchener], Ont., Dec. 17, 1874—d. Kingsmere, near Ottawa, Ont., July 22, 1950), was educated at Toronto university, and later held a fellowship in political economy at The University of Chicago and one in political science at Harvard university. He was editor of the *Labour Gazette*, 1900-08, later combining with this post that of deputy minister of labour of Canada. In Sept. 1908 Mackenzie King resigned his civil service post to enter politics and was elected Liberal member of parliament for North Waterloo, Ont., a seat which he held until 1911. (He was later M.P. for various other Canadian constituencies continuously from 1919 to 1949.) During his first period in parliament he was a member of Sir Wilfrid Laurier's cabinet as minister of labour. In 1911, however, the Liberals were defeated in the "reciprocity election" and Mackenzie King became head of the Liberal party information service. In 1914 he went to the United States for four years as director of industrial research of the Rockefeller foundation. The results of his work with the foundation were embodied in *Industry and Humanity* (1918), which was reissued in 1935 and 1947. He was elected leader of the Canadian Liberal party in 1919, on the death of Laurier, and was leader of the opposition until 1921, when the collapse of the Union government put the Liberals back into office, although without a clear majority. From that year until 1930 (except for a short interval of Conservative government in the summer of 1926) and from 1935 to 1948 he was prime minister and president of the Canadian privy council. He also held the portfolio of external affairs from 1935 to 1946, during which period he was responsible for greatly increasing Canada's diplomatic representation abroad. Although emphasizing Canadian national unity, he constantly stressed the need for close association between the free nations of the British Commonwealth and pursued a policy of collaboration with the U.S. He retired from public life in 1948 because of ill health and was latterly engaged upon his memoirs, assisted by a staff at McGill university working by means of a grant from the Rockefeller foundation. (See also *Encyclopædia Britannica*.)

**Kittelle, Sumner Ely Wetmore**, U.S. naval officer (b. Peekskill, N.Y., June 14, 1867—d. Washington, D.C., Dec. 29, 1950).

**Klemin, Alexander**, British-born aeronautical consultant, editor and educator (b. London, Eng., May 15, 1888—d. Greenwich, Conn., March 13, 1950).

**Kocián, Jaroslav**, Czech violinist and composer (b. Wildenschwert, Bohemia, Feb. 22, 1884—d. Prague, Czech., March 8, 1950).

**Kokotnur, Vaman Ramachandra**, Indian-born chemist and inventor (b. Athani, India, Dec. 16, 1886—d. Queens, N.Y., April 14, 1950).

**Kolarov, Vasil Petrov**, Bulgarian government official (b. Shumen, Bulg., July 16, 1877—d. Sofia, Bulg., Jan. 23, 1950), a teacher by profession, joined the Bulgarian Social Democratic party in 1897 and six years later was one of the organizers of its "narrow" or revolutionary wing. In 1913 he was elected deputy to the Bulgarian *sobranje* (national assembly), and again in 1920. When in 1919 the "narrow" Social Democrats reorganized themselves as the Bulgarian Workers' (Communist) party, he became its secretary-general. He attended all the Comintern congresses from 1920, was elected a member of the executive committee and, later, became secretary-general. In Sept. 1923 he attempted, with Georgi Dimitrov, to organize a Kremlin-sponsored uprising which, however, failed; escaping to Moscow, he remained there for more than two decades, becoming a soviet citizen. He returned to Bulgaria in Sept. 1944. He was a member of both *sobranjes* elected in Nov. 1945 and Oct. 1946. As provisional president of the republic (Sept. 1946-Dec. 1947), in Nov. 1946 he appointed Dimitrov prime minister, and in Dec. 1947 assumed the duties of minister of foreign affairs in the second Dimitrov cabinet. When Dimitrov died on July 2, 1949, Kolarov was neither among the few prominent Communists who went to Moscow to bring the body back to Sofia nor did he attend the burial ceremonies in the Bulgarian capital. On July 20 the *sobranje* unanimously elected him prime minister and foreign minister but he was not present. On Aug. 6 the cabinet was reconstituted and Vladimir Poptomov succeeded Kolarov as foreign minister.

**Korzybski, Alfred Habbank**, Polish-born scientist, author and founder of the school of general semantics (b. Warsaw, Pol., July 3, 1879—d. Sharon, Conn., March 1, 1950), inherited the title of count and considerable land in Poland, and there attended the Warsaw Polytechnic institute. He taught mathematics, physics and languages in Warsaw before World War I. During that war he was twice wounded, and he served on the Russian general staff before being sent to the U.S. and Canada to recruit for a Polish-French army. In 1920 he served with the Polish commission to the League of Nations. He took up the study of semantics, which until then had been concerned chiefly with the overtones of meanings in words, and constructed a whole new system for the understanding of human behaviour. This was based on the concept that words reflected thinking habits which, in turn, were not themselves true reflections of existing facts. He especially condemned Aristotelian habits of thought, and contended that most human problems reflected misunderstandings among people as to the proper values and hidden meanings of words. He was consulted by many of the leading thinkers of his day, and was in turn the object of ridicule by many others.

**Krupp von Bohlen und Halbach, Gustav**, German armaments industrialist (b. The Hague, Neth., Aug. 7, 1870—d. Salzburg, Austria, Jan. 16, 1950), held diplomatic posts in Washington, Peking and elsewhere, 1899-1906, but resigned from the German diplomatic service to join the Krupp combine. After his marriage with Friedrich Alfred Krupp's daughter, Bertha, in 1906, he legally adopted the name Krupp, and later became head of the combine. He gave strong support to the Nazi regime, and after World War II was indicted for trial at Nuremberg but was found unfit to plead; in the last years of his life he was paralyzed and partly blind.

**Kvapil, Jaroslav**, Czech poet, dramatist and journalist (b. Chudenitz, Bohemia, Sept. 9, 1868—d. Prague, Czech., Jan. 10, 1950).

**Labensky, Boris P.**, Russian-born aviation engineer (b. Kiev, Russia, 1895?—d. Stratford, Conn., Oct. 25, 1950).



**Lamont, Daniel**, Scottish theologian (b. Bute, Buteshire, Scot., 1870?—d. Edinburgh, Scot., May 4, 1950).

**Laski, Harold Joseph**, British political scientist (b. Manchester, Eng., June 30, 1893—d. London, Eng., March 24, 1950). He was educated at Manchester Grammar school and at New college, Oxford. He was a lecturer in history at McGill university, Montreal, Que., Can., 1914-16, and at Harvard university, 1916-20. In 1920 he joined the staff of the London School of Economics and Political Science, at which he held the University of London professorship of political science from 1926. In 1934 he visited the U.S.S.R. and lectured in Moscow on parliamentary government. Laski was a member of the Fabian society executive, 1922-36, of the Labour party executive committee, 1936-49, and was party chairman, 1945-46. In July 1946 he headed a good-will mission to Moscow and had an interview with Joseph Stalin. Among his early writings were *The Problem of Sovereignty* (1917) and *Authority in the Modern State* (1919). In 1925 he published *A Grammar of Politics*, a complete statement of Socialist theory, and, in 1927, a small book on communism. His later works included *Parliamentary Government in England* (1938), *Reflections on the Revolution of Our Time* (1943) and *Faith, Reason and Civilisation* (1944), the latter two books reaffirming his faith in the development of the Soviet Union and the hope for the future of Great Britain in a planned society.

**Lathrop, Austin Eugene** ("CAP"), U.S. industrialist and publisher (b. Lapeer, Mich., Oct. 5, 1865—d. Suntrana, Alaska, July 26, 1950), first launched his own business in Seattle, Wash., in 1889, when he built an electric railroad, which failed in the panic of 1893. He leased an island off the Olympic peninsula, and there set up a modernized poultry ranch that became a well-known show place. He was identified with Alaska most of his life, earning the title of captain by piloting a schooner which took passengers to gold strikes in various sections of the territory. He became perhaps Alaska's best-known citizen, and was almost certainly its wealthiest. He owned theatres, radio stations, a newspaper in Fairbanks and controlling interest in the Healy River Coal corporation, which operated the territory's largest coal mine. A measure of his energetic life was that he died—at the age of 84—in an accident in which he slipped from a moving car at a coal mine he was inspecting.

**Lauder, Sir Harry** (HENRY MACLENNAN LAUDER), Scottish comedian and singer (b. Portobello, Edinburgh, Scot., Aug. 4, 1870—d. near Strathaven, Lanarkshire, Scot., Feb. 26, 1950), began his career as an amateur singer, while working in a mill and as a coal miner, before starting concert-party work professionally in 1896. He first appeared in London in 1900, as a stand-in at Gatti's music hall. The spontaneity and cheerful humour of his singing won him immediate success and he later made 22 tours in North America, 7 in Australasia and 2 world tours. For his services as an entertainer in World War I he was knighted in 1919. In World War II he again entertained servicemen and gave also several broadcasts. Lauder wrote his own songs and music; celebrated among many were "I Love a Lassie," "Stop Yer Tickling, Jock," "Roamin' in the Gloamin'" and "It's Nice to Get Up in the Morning." He published a Scottish comedy and books of memoirs.

**Lauterbach, Richard E(dward)**, U.S. editor, author and war correspondent (b. New York, N.Y., June 18, 1914—d. New York, N.Y., Sept. 20, 1950).

**Lavitrano, Luigi Cardinal**, Italian prefect of the Sacred Congregation for the Affairs of Religious (b. Forio, It., March 7, 1874—d. Marino, It., Aug. 2, 1950).

**Lawrance, Charles Lanier**, U.S. inventor (b. Lenox, Mass., Sept. 30, 1882—d. East Islip, L.I., N.Y., June 23, 1950).

**Lawrence, Joseph Stagg**, Hungarian-born economist and author (b. Budapest, Hung., Oct. 19, 1896—d. Lafayette, N.J., Aug. 25, 1950).

**Lazarus-Barlow, Walter Sydney**, British pathologist and cancer research worker (b. 1866?—d. Bexhill, Sus., Eng., Jan. 15, 1950).

**Learned, William Setchel**, U.S. educator (b. Alpena, Mich., June 5, 1876—d. New York, N.Y., Jan. 3, 1950).

**Lebrun, Albert-François**, French government official (b. Mercy-le-Haut, Fr., Aug. 29, 1871—d. Paris, Fr., March 6, 1950), graduated at the top of his class both at the École Polytechnique and later the École Nationale Supérieure des Mines, and followed at first the profession of a mining engineer. When only 27, however, he entered regional politics and in 1905 became chairman of his departmental *conseil général*, retaining this office until becoming head of the state in 1932. Meanwhile, in 1900, he had become a deputy from Meurthe-et-Moselle, and was re-elected until 1919. He was minister of colonies, 1911-13; of war, 1913; and again of colonies, 1913-14. In the latter part of World War I he was minister of blockade and of liberated regions. He was made senator in 1920, vice-president of the senate, 1925-29, and president, 1931-32. On May 10, 1932, the national assembly elected him president of the republic, and he was re-elected president for seven years on April 5, 1939. When, at Vichy, on July 10, 1940, the national assembly by 569 votes to 80, with 18 abstentions, accorded full powers to Marshal Henri Philippe Pétain, who on the following day, by a sort of coup d'état, proclaimed himself chief of the French state, Lebrun, without

resigning formally, and without protest, retired to Vizille, near Grenoble. In 1943 he was interned by the Germans at Itter, Tirol, but was released by them the following year.

**Lehr, Lew**, U.S. newsreel commentator and motion picture comedian (b. Philadelphia, Pa., May 14, 1895—d. Brookline, Mass., March 6, 1950), attended Bucknell college, and began his stage career before World War I. He served overseas in the U.S. artillery, became an entertainer at army camps, and at the end of the war entered vaudeville, touring the stage circuits with his wife as the team of Lehr and Belle. Lehr next became a gag writer, working for such stars as Texas Guinan, Bert Lahr, Beatrice Lillie and others. In 1932 he became editor of short subjects for Fox Movietone News, and it was as a commentator for comic newsreel sequences that he became best known.

**Lemke, William**, U.S. congressman and farm leader (b. Albany, Minn., Aug. 13, 1878—d. Fargo, N.D., May 30, 1950), studied at the University of North Dakota, Grand Forks, at Georgetown Law school and at Yale, and began the practice of law in Fargo. He became chairman of the Republican state committee of North Dakota in 1916. In 1917 he became a member of the national executive committee of the National Non-Partisan league. From 1921 to 1923 he was attorney general of North Dakota, and from 1933 to 1941, and again from 1945 to his death, U.S. representative as congressman-at-large from his state. During the depression years he sponsored the Frazier-Lemke farm mortgage moratorium bill. This brought him to national attention, and he was candidate for president on the ticket of the Union party, a conservative group, in 1936.

**Lesinski, John**, U.S. congressman (b. Erie, Pa., Jan. 3, 1885—d. Dearborn, Mich., May 27, 1950).

**Lewis, Sir Willmott Harsant**, British journalist (b. Cardiff, Wales, June 18, 1877—d. Washington, D.C., Jan. 4, 1950).

**Leys, Sir (William) Cecil**, New Zealand journalist and newspaper publisher (b. Auckland, N.Z., Feb. 27, 1877—d. Mackay, Austr., June 22, 1950).

**Lips, Julius Ernest**, German ethnologist (b. Saarbrücken, Ger., Sept. 8, 1895—d. Leipzig, Ger., Jan. 24, 1950).

**Lord, Pauline**, U.S. actress (b. Hanford, Calif., Aug. 8, 1890—d. Alamogordo, N.M., Oct. 11, 1950), began her stage career in 1903, toured the U.S. with a stock company and made repeated starring appearances on Broadway. Her best-remembered roles were in Eugene O'Neill's Pulitzer-prize play *Anna Christie*, as Amy in *They Knew What They Wanted*, as Abby in *The Late Christopher Bean* and as Zenobia in *Ethan Frome*. She also appeared in the motion picture *Mrs. Wiggs of the Cabbage Patch*.

**Lvovitch, David**, leader of the World Union of the Organization for Rehabilitation through Training (b. Russia, 1882?—d. Paris, Fr., Aug. 17, 1950).

**Lynch, Clyde Alvin**, U.S. college president (b. Harrisburg, Pa., Aug. 24, 1891—d. Annville, Pa., Aug. 6, 1950).

**Macalister, Robert Alexander Stewart**, Irish-born archaeologist (b. Dublin, Ire., July 8, 1870—d. Cambridge, Cambs., Eng., April 26, 1950).

**MacCormac, Henry**, British physician and dermatologist (b. 1879?—d. London, Eng., Dec. 12, 1950).

**McDonald, Andrew Joseph**, Roman Catholic archbishop of St. Andrews and Edinburgh (b. Fort William, Inverness, Scot., 1871—d. Edinburgh, Scot., May 22, 1950).

**McDonough, Frank Wheatley**, U.S. magazine editor (b. West Des Moines, Ia., Oct. 20, 1905—d. Des Moines, Ia., March 3, 1950).

**McDuffie, John**, U.S. judge (b. River Ridge, Ala., Sept. 25, 1883—d. Mobile, Ala., Nov. 1, 1950).

**McKenna, William J.**, U.S. song writer (b. Jersey City, N.J., 1880?—d. Jersey City, March 4, 1950).

**MacKnight, (William) Dodge**, U.S. water-colour painter (b. Providence, R.I., Oct. 1, 1860—d. East Sandwich, Mass., May 22, 1950).

**Maclean, John Bayne**, Canadian publisher (b. Crieff, Ont., Sept. 26, 1862—d. Toronto, Ont., Sept. 25, 1950).

**McNicholas, John T.**, U.S. Roman Catholic archbishop (b. Kiltimagh, Ire., Dec. 15, 1877—d. Cincinnati, O., April 22, 1950), studied in Philadelphia, Pa., at St. Rose's priory, Springfield, Ky., and in Somerset, O. He entered the Dominican order in 1894 and was ordained in 1901, after which he studied theology in Rome. He served at Dominican houses of studies in the U.S. until 1913 when he was made pastor of St. Catherine of Siena parish in New York city. Meantime, he had helped build national membership in the Holy Name society, an antiprofanity movement among men. He was consecrated bishop of Duluth, Minn., in 1918, and archbishop of Cincinnati in 1925. In the latter position he was one of the leading Roman Catholic spokesmen in the U.S. One of his most prominent activities was in the promotion of the Legion of Decency, aimed at blacklisting motion pictures considered immoral. After 1946 he was chairman of the administrative board of the National Catholic Welfare conference. He also was prominent in the 1949 revision of the Catholic catechism.

**McNinch, Frank R(amsay)**, U.S. lawyer and former government official (b.

1950 OBITUARIES: Heinrich Mann, German novelist; Edgar Lee Masters, U.S. poet; Edna St. Vincent Millay, U.S. poet; Vaslav Nijinsky, Russian dancer; John J. Raskob, U.S. industrialist





- Charlotte, N.C., April 27, 1873—d. Washington, D.C., April 20, 1950).
- Maharishi, Shri Ramana** (born VENKATARAMAN), Indian philosopher (b. Tiruchuli, India, 1879—d. Ashram, Tiruvannamalai, India, April 14, 1950).
- Maier, Walter Arthur**, U.S. Lutheran minister and college professor (b. Boston, Mass., Oct. 4, 1893—d. St. Louis, Mo., Jan. 11, 1950), attended Boston university, Concordia seminary at St. Louis, Mo., and Harvard university, where he received his Ph.D. degree. In 1922 he joined the faculty of Concordia seminary. His sermons on the "Lutheran Hour" radio program attracted a large following, and by the time of his death transcriptions of them were being made in 36 languages and broadcast on the international "Lutheran Hour" from 1,200 stations throughout the world. He also wrote a number of books on religious subjects.
- Malton, Paul Raymond**, U.S. newspaper columnist (b. Mattoon, Ill., Jan. 5, 1901—d. Alexandria, Va., July 30, 1950).
- Malone, Dudley Field**, U.S. lawyer (b. New York, N.Y., June 3, 1882—d. Culver City, Calif., Oct. 5, 1950).
- Mann, Heinrich Ludwig**, German novelist (b. Lübeck, Ger., March 27, 1871—d. Santa Monica, Calif., March 12, 1950). The elder brother of Thomas Mann, he studied at the Lübeck *Gymnasium* and the University of Berlin; from 1894 he lived at Florence and later at Munich. A writer in realistic and satirical vein, he was politically inclined to the left and was an admirer of French rationalism. After 1933 he fled Germany and in 1940 went to the United States. In Oct. 1949 he wrote to Wilhelm Pieck declaring his solidarity with the Eastern German republic. Foremost among his novels were *Die Götinnen* (1902-03), *Die kleine Stadt* (1908), *Der Untertan* (1911) and *Der Kopf* (1925).
- Markey, Lawrence Morris**, U.S. author (b. Alexandria, Va., Jan. 10, 1899—d. Halifax, Va., July 11, 1950).
- Markham, Edward Murphy**, U.S. army engineer (b. Troy, N.Y., July 6, 1877—d. Albany, N.Y., Sept. 14, 1950).
- Marlowe, Julia** (MRS. EDWARD HUGH SOTHERN), U.S. actress (b. Coldbeck, Cumb., Eng., Aug. 17, 1866—d. New York, N.Y., Nov. 12, 1950), was born Sarah Frances Frost. She was reputed to have appeared in Shakespearean drama more often and before a greater total audience than any other stage personality in history. She made her stage debut at the age of 12 in Vincennes, Ind., in a juvenile edition of *Pinafore*. By the age of 18 she had played 18 roles, and in 1887 she made her debut on the eastern stage, appearing in that year in New London, Conn., and in New York city. In 1894 she married a young actor, Robert Taber, from whom she was divorced in 1900. In 1904 she became costar with E. H. Sothern and the pair made their debut together in *Romeo and Juliet* at the Illinois theatre in Chicago, Ill. They toured the U.S. with a repertory company, and also toured England in 1907, achieving notable successes. On Aug. 17, 1911, they were married, and in 1915 Sothern announced his wife's retirement for reasons of health—though she did reappear with him on the stage later. She finally retired in 1924 and remained in virtual seclusion after Sothern's death in 1933.
- Marshall, M. Lee**, U.S. baking executive and food administrator (b. Marshall, Mo., June 17, 1884—d. New York, N.Y., Aug. 2, 1950).
- Masters, Edgar Lee**, U.S. poet (b. Garnett, Kan., Aug. 23, 1869—d. Melrose Park, Pa., March 5, 1950), attended Knox college in Galesburg, Ill., and was admitted to the bar. Meanwhile he wrote poetry, and his first volume, *A Book of Verses*, was published in 1898. He developed a lucrative law practice in Chicago, but continued to write poetry and political essays. In 1914 he began writing the verses of *Spoon River Anthology*, which were initially published in the *Mirror of St. Louis* under the pseudonym of Webster Ford. By 1940 this popular work of poetry had gone through 70 editions, though Masters himself considered it much inferior to some of his later works. These included *Songs and Satires*, *The Great Valley*, *Toward the Gulf*, *The Domesday Book*, *The New Spoon River* and several novels. His biographies included *Lincoln the Man*, which was criticized on the grounds that it presented Lincoln in an uncomplimentary light, and biographies of Vachel Lindsay and Walt Whitman, besides his autobiography, *Across Spoon River*.
- Matthiessen, Francis Otto**, U.S. literary scholar (b. Pasadena, Calif., Feb. 19, 1902—d. Boston, Mass., April 1, 1950).
- Maurice, Henry Gascoyen**, British government official and zoological expert (b. May 24, 1874—d. London, Eng., May 12, 1950).
- Mayer, Saly**, Swiss Joint Distribution committee director (b. 1883?—d. St. Moritz, Switz., July 31, 1950).
- Mendl, Lady** (ELISE DE WOLFE), U.S.-born international hostess and former actress (b. New York, N.Y., Dec. 20, 1865?—d. Versailles, Fr., July 12, 1950).
- Meninsky, David**, British painter (b. Russia, July 25, 1891—d. London, Eng., Feb. 12, 1950).
- Metaxa, Georges**, Rumanian-born actor and singer (b. Bucharest, Rum., 1899?—d. Monroe, La., Dec. 8, 1950).
- Meyer, Adolf**, Swiss-born psychiatrist and neurologist (b. Niederweningen, near Zürich, Switz., Sept. 13, 1866—d. Baltimore, Md., March 17, 1950).
- Meyer, Alfred**, U.S. physician (b. New York, N.Y., June 18, 1854—d. Ogunquit, Me., July 14, 1950).
- Michaëlis, Karin** (KATHARINA MARIE MICHAËLIS STANGELAND), Danish author (b. Randers, Den., March 20, 1872—d. Copenhagen, Den., Jan. 11, 1950), was well known for her novels, short stories and children's books, especially for the best-selling *Den farlige Alder* (*The Dangerous Age*) (1910), which was translated into 20 languages. She lectured extensively in the U.S., where she lived during World War II, and was active in the Free Danish movement.
- Milford Haven, Dowager Marchioness of** (PRINCESS VICTORIA ALBERTA ELIZABETH MATHILDE MARIE), British princess, granddaughter of Queen Victoria (b. Windsor castle, New Windsor, Berks., Eng., April 5, 1863—d. Kensington palace, London, Eng., Sept. 24, 1950).
- Mill, Hugh Robert**, Scottish-born geographer and weather expert (b. Thurso, Caithness, Scot., May 28, 1861—d. East Grinstead, E.Sus., Eng., April 5, 1950).
- Millay, Edna St. Vincent**, U.S. poet (b. Rockland, Me., Feb. 22, 1892—d. near Austerlitz, N.Y., Oct. 19, 1950), won the Pulitzer prize for poetry in 1922 and was regarded as one of the leading woman poets of her generation. She wrote poetry while still in her teens, beginning her first long poem, "Renascence," at the age of 18. She entered Vassar college, Poughkeepsie, N.Y., when she was 21 and, while there, continued to produce much romantic verse. On her graduation in 1917 she moved to Greenwich Village in New York city, where she attracted considerable attention because of her gayety, her firm views on feminism and her radical views on current events. Her associates of that period are a commentary on her thought—John Reed, Communist leader and war correspondent, and Inez Milholland, feminist leader to whom she penned the sonnet "The Pioneer," as well as various pacifist leaders. She was married in 1928 to Eugen Jan Boissevain, former husband of Inez Milholland. He died in 1949. Because her income from her poetry was insufficient, she wrote for magazines under a pseudonym, and also acted briefly. Her poems were produced in a number of volumes, among them those entitled *A Few Figs from Thistles*, *Second April*, and *The Harp-Weaver and Other Poems*. She also wrote the morality play *Two Slatterns and a King*, *The Lamp and the Bell* and *The King's Heuchman*, the book for an opera composed by Deems Taylor. Her later poetry included pleas against noninterventionism during World War II and a protest against the massacre of the residents of Lidice, Czech., by the nazis.
- Milne, (Edward) Arthur**, British mathematician (b. Hull, Yorks., Eng., Feb. 14, 1896—d. Dublin, Ire., Sept. 21, 1950), was a fellow of Trinity college, Cambridge, 1919-25, being assistant director of the solar physics observatory 1920-24, mathematical lecturer at Trinity 1924-25 and university lecturer in astrophysics 1922-25. He was Beyer professor of applied mathematics, Victoria University of Manchester, 1924-28, before his appointment to the Rouse Ball chair of mathematics and to a fellowship at Wadham college, Oxford, in 1928. Milne's earlier work was in mathematical astrophysics, for which he was awarded the Royal Astronomical society's gold medal in 1935. From 1932 he also worked on the problem of the "expanding universe" and in *Relativity, Gravitation, and World-Structure* (1935) proposed an alternative to Albert Einstein's general relativity theory. His later work, concerned with the interior structure of stars, aroused much controversy. Milne received the Royal society's royal medal in 1941, and was president of the Royal Astronomical society, 1943-45.
- Minot, George Richards**, U.S. physician and Nobel prize winner (b. Boston, Mass., Dec. 2, 1885—d. Brookline, Mass., Feb. 25, 1950), studied at Harvard university, receiving his medical degree in 1912. He served a year at the Massachusetts General hospital, Boston, then became resident and later a research fellow at Johns Hopkins medical school in Baltimore, Md. He returned to Massachusetts General hospital, where he served from 1915 to 1923, became associate in medicine at the Peter Bent Brigham hospital and in 1928 professor of medicine at Harvard medical school. He shared the 1934 Nobel prize in medicine with two other U.S. doctors, winning the recognition for his work in connection with the liver treatment for anaemia.
- Mitchell, Humphrey**, Canadian minister of labour (b. Old Shoreham, Sus., Eng., Sept. 9, 1894—d. Ottawa, Ont., Can., Aug. 1, 1950).
- Mitre, Luis**, Argentine publisher and editor (b. Buenos Aires, Arg., Oct. 28, 1869—d. Buenos Aires, Nov. 8, 1950).
- Mizzi, Enrico**, prime minister of Malta (b. Valletta, Malta, Sept. 20, 1882—d. Valletta, Dec. 20, 1950).
- Moeran, Ernest John**, British composer (b. Heston, Mdx., Eng., Dec. 31, 1894—d. County Kerry, Ire., Dec. 1950).
- Mongibeaux, Pierre Sylvain Paul**, French jurist (b. Excideuil, Fr., May 29, 1879—d. near Perigueux, Fr., Sept. 22, 1950).
- Moreau, Emile**, French banker (b. Poitiers, Fr., Sept. 20, 1868—d. Paris, Fr., Nov. 9, 1950).
- Morgan, Ephraim Franklin**, former U.S. governor (b. Marion county, W.Va., Jan. 16, 1869—d. Bethesda, Md., Jan. 15, 1950).
- Morgan, (John) Harcourt Alexander**, U.S. entomologist (b. Strathroy, Ont., Can., Aug. 31, 1867—d. Belfast, Tenn., Aug. 25, 1950), studied agriculture at the University of Toronto and at Cornell university, Ithaca, N.Y., then served in agriculture posts in Louisiana. He sought to combine social reform with agricultural progress, feeling that farming made for stronger individuals. He advocated, for example, that industrial workers in large cities live on outlying farms and partially support themselves by farming. He was one of the leaders in the fight against the boll weevil and cattle tick, two major enemies of southern farming, and experimented in city planning in Kingsport, Tenn. Morgan was president of the University of Tennessee, 1919-33. He was one of the original three board members appointed to administer the Tennessee Valley authority when it was created in 1933, and was chairman of the TVA from 1938 until his resignation in 1941. He was president of the Association of Land-Grant Colleges and Universities in 1927, and won many awards for public service in agriculture.
- Morrison, Ian Ernest Macleavy**, British journalist (b. Peking, China, May 31, 1913—d. in active service, Korea, Aug. 12, 1950).
- Mueser, William**, U.S. civil engineer, pioneer in steel reinforced concrete (b. Barmen, Ger., 1872?—d. Mount Kisco, N.Y., Aug. 4, 1950).
- Murphy, James B (umgardner)**, U.S. pathologist, cancer specialist (b. Morganton, N.C., Aug. 4, 1884—d. Bar Harbor, Me., Aug. 24, 1950).
- Murrie, William F. R.**, U.S. candy manufacturing executive (b. Bedford, Pa., March 25, 1873—d. Plainfield, N.J., Sept. 7, 1950).
- Myers, Sir Michael**, New Zealand jurist (b. Motucka, N.Z., Sept. 7, 1873—d. Wellington, N.Z., April 8, 1950).
- Nomeikin, Sergei**, Russian oil chemist (b. 1876—d. Moscow, U.S.S.R., Aug. 4, 1950).



**Ngata, Sir Apirana Turupa**, New Zealand government official (b. Kawakawa, Te Araroa, N.Z., July 3, 1874—d. Gisborne, N.Z., July 14, 1950).

**Nichols, George**, U.S. racing yachtsman (b. Boston, Mass., 1878—d. Cold Spring Harbor, L.I., N.Y., Aug. 14, 1950).

**Nichols, Spencer Baird**, U.S. portrait and mural painter (b. Washington, D.C., Feb. 13, 1875—d. Kent, Conn., Aug. 27, 1950).

**Nijinsky, Vaslav (Waclaw)**, dancer and choreographer (b. Kiev, Russia, Feb. 28, 1890—d. London, Eng., April 8, 1950), was a pupil under Nicholas Legat at the Imperial School of Dancing, St. Petersburg. He made his first appearance at the Marinsky theatre in 1907, being at once noted for his dramatic and mimetic power, and for his agility and *élevation*. He appeared with Sergei Diaghilev's company in Paris in 1909 and 1910, and, after his suspension from the Russian Imperial Ballet for wearing a costume officially judged to be improper, joined Diaghilev's permanent touring company in 1911. He danced with notable success in *Le Spectre de la rose* and *Petrushka*, and, as choreographer, created the then sensational *L'A près-midi d'un faune* and *Le Sacre du printemps*. In 1913, after quarrelling with Diaghilev, Nijinsky left the company, but rejoined it in 1916. In that year he began to show signs of a disturbed mind which virtually brought his career to an end in 1918. After wanderings in Europe and a long stay in a Swiss sanatorium and later in Hungary, he went to England in 1947.

**Nolf, John T(homas)**, U.S. cartoonist and painter (b. Allentown, Pa., July 23, 1872—d. Dixon, Ill., May 28, 1950).

**Norman, Montagu Collet Norman**, 1ST BARON, OF ST. CLERE, IN THE COUNTY OF KENT, British banker (b. Moor Place, Much Hadham, Herts, Eng., Sept. 6, 1871—d. London, Eng., Feb. 4, 1950), was educated at Eton and Cambridge. He joined an old established firm of merchant bankers at the age of 19 and spent the early years of his career in London and New York city in ultraconservative circles. In 1907 he was elected a director of the Bank of England, in 1918 deputy governor, and in 1920 governor. He held office for the unprecedented term of 24 years, a period which witnessed the inflationary aftermath of World War I, the efforts at economic reconstruction, the restoration (May 13, 1925) and abandonment (Sept. 19, 1931) of the gold standard and the outbreak of World War II.

**Oddie, Tasker Lowndes**, former U.S. governor and senator (b. Brooklyn, N.Y., Oct. 24, 1870—d. San Francisco, Calif., Feb. 17, 1950).

**Olds, Ransom Eli**, U.S. automobile manufacturer (b. Geneva, O., June 3, 1864—d. Lansing, Mich., Aug. 26, 1950), gave his name to two popular U.S. automobiles, the Oldsmobile and the Reo—the latter incorporating in its name his own initials. He first began working on a horseless carriage in 1885 in his father's machine shop. His first vehicle was a three-wheeled, steam-propelled carriage, built in 1886 and later sold to a London firm in what has been termed the first commercial automobile transaction.

His first gasoline-operated automobile appeared in 1895. The next year he launched production of his own automobiles in the factory of the Olds Motor Vehicle company. His "curved dash" Oldsmobile went into volume production in 1902, and inspired the song "In My Merry Oldsmobile." In 1904, after about 12,000 of these vehicles had been built, he sold his interest in this company and organized the Reo Motor Car company. He later headed the Ideal Power Lawn Mower company, the Reolds Farms company and the First Bond and Mortgage company, all of Lansing. On his 85th birthday in 1949 he aroused national attention by declaring the public was eager to buy a car stripped of "gadgets" that would sell for less than \$1,000.

**O'Neal, Charles Thomas**, U.S. railway official (b. Brandywine Springs, Del., Dec. 29, 1873—d. Rochester, N.Y., April 15, 1950).

**O'Neill, Eugene Gladstone, Jr.**, U.S. classical scholar (b. 1910?—d. Woodstock, N.Y., Sept. 25, 1950).

**Orwell, George (ERIC ARTHUR BLAIR)**, British writer (b. Motihari, India, 1903—d. London, Eng., Jan. 20, 1950), was a King's scholar at Eton, and served with the Indian imperial police in Burma, 1922-27. A period of poverty in Paris and of living in English casual wards gave him the material for his first book, *Down and Out in Paris and London*, published in 1933. In *The Road to Wigan Pier* (1937) he described the lives of those on unemployment pay or public assistance. Orwell served on the Republican side in Spain, 1936-37, with the syndicalist Catalan party militia. During this period his left-wing convictions underwent the change which was reflected in *Homage to Catalonia* (1938) and later in *Animal Farm* (1945), a satire on totalitarian society, and *Nineteen Eighty-Four* (1949), a "prophecy" of Britain in a wholly totalitarian world.

**Osuna, Juan José**, Puerto Rican-born educator (b. Puerto Rico, June 24, 1884—d. Arlington, Va., June 18, 1950).

**Parkinson, Hargreaves**, British editor (b. Lancashire, Eng., June 3, 1896—d. London, Eng., May 23, 1950).

**Patel, Vallabhbhai Jhaverbhai**, Indian statesman (b. Karamsad, India, Oct. 31, 1875—d. Bombay, India, Dec. 15, 1950), came of a *patidar* (land sharing) family and was educated at Nadiad High school. He later went to London and was called to the bar by the Middle Temple, later returning to practise at Ahmedabad, where he was also president of the municipality for four years. In 1916 he threw in his lot with Mohandas K. Gandhi and was subsequently imprisoned for his part in the civil disobedience movement. Patel was president of the Indian National Congress in 1931 and chairman of the parliamentary committee 1935-42; when Congress governments were set up in seven (later eight) of the provinces it was he who controlled the ministries from behind the scenes, and his reputation as the "strong arm" of Indian politics grew. He was imprisoned three times during World War II, including a term from 1942 to 1945. On his release he took a leading part in the negotiations with the British that led to the setting up of the Indian interim government in Aug. 1946, in which he became member for home affairs, information and broadcasting. When complete Indian independence was realized in 1947, Patel was made deputy prime minister.

**Patigian, Haig**, Armenian-born sculptor (b. Van, Turkish Armenia, Jan. 22, 1876—d. San Francisco, Calif., Sept. 19, 1950).

**Pattee, Fred Lewis**, U.S. author, educator and anthologist (b. Bristol, N.H., March 22, 1863—d. Winter Park, Fla., May 6, 1950).

**Peker, Recep**, Turkish government official (b. Istanbul, Turk., 1888—d. Istanbul, April 2, 1950), was educated at the military college in Istanbul. He fought in the Balkan Wars (1912-13), in World War I and, as staff major, in the Turkish War of Independence (1919-22). Elected deputy for Kutahya to the grand national assembly in 1923, he became in the same year secretary-general of the Republican People's party (R.P.P.) and editor of the daily newspaper *Ulus*. In 1924 he was appointed minister of the interior, the next year minister of defense and in 1928 minister of public works. From 1931 to 1937 he was again secretary-general of the R.P.P. and in 1942-43 again minister of the interior. From Aug. 6, 1946, to Sept. 10, 1947, he was prime minister. He was considered to be the leader of the die-hard section of the R.P.P.

**Pell, Stephen H. P.**, U.S. museum director (b. Flushing, N.Y., 1873?—d. Ticonderoga, N.Y., June 22, 1950).

**Pemberton, Brock**, U.S. theatrical producer (b. Leavenworth, Kan., Dec. 14, 1885—d. New York, N.Y., March 11, 1950), attended the College of Emporia, Emporia, Kan., and the University of Kansas, Lawrence, Kan., and began his writing career on William Allen White's *Emporia Gazette*. He shortly moved to New York, where he served as drama critic for several papers, including the *New York Times*, from which he resigned in 1917 to become assistant to the producer Arthur Hopkins. In 1920 he produced his own first show, *Enter, Madame*, and in the same year Zona Gale's *Miss Lulu Bett*, which that year won the Pulitzer prize. His other productions included *Six Characters in Search of an Author* in 1923, *Strictly Dishonorable* in 1929, *Personal Appearance* in 1934, *Ceiling Zero* in 1935, *Kiss the Boys Goodbye* in 1938 and *Harvey*, which also won a Pulitzer prize, in 1944.

**Pemberton, Sir Max**, British novelist and dramatist (b. Birmingham, Warwick, Eng., June 19, 1863—d. London, Eng., Feb. 22, 1950).

**Pendleton, Moses**, U.S. textile manufacturing executive (b. Stonington, Conn., May 6, 1884—d. Stonington, April 23, 1950).

**Penland, Theodore A.**, last commander in chief of the Grand Army of the Republic (b. Goshen, Ind., Jan. 23, 1849—d. Vancouver, Wash., Sept. 13, 1950).

**Petersen, William Ferdinand**, U.S. physician and author (b. Chicago, Ill., March 25, 1887—d. Chicago, Aug. 20, 1950).

**Pettingill, William LeRoy**, U.S. clergyman, Bible lecturer, editor and author (b. Central Square, Oswego county, N.Y., Aug. 27, 1866—d. New York, N.Y., Sept. 15, 1950).

**Peyton-Griffin, R. T.**, British editor of only foreign newspaper in Shanghai, China (b. 1890?—d. Shanghai?, Dec. 21, 1950).

**Phillips, Frank**, U.S. oil company executive (b. Greeley county, Neb., Nov. 28, 1873—d. Atlantic City, N.J., Aug. 23, 1950), left school at an early age. He worked as a barber in Creston, Ia., and later in a bank. In 1903 he went to the Indian territory (now Oklahoma) to open a bank of his own. Through financing various developments of the petroleum boom in Oklahoma, he eventually entered the oil business. With his brother he founded in 1917 the Phillips Petroleum company, heading it until 1938 when he became chairman of the board. He relinquished that position in 1949.

**Pillsbury, Alfred Fiske**, U.S. milling company executive (b. Minneapolis, Minn., Oct. 20, 1869—d. Minneapolis, March 12, 1950), was the son of John Sargent Pillsbury, cofounder of the milling company and one-time governor of Minnesota. The younger Pillsbury graduated from the University of Minnesota college of law, Minneapolis, in 1894. In 1901, on his father's death, he became administrator of the family estate, and from 1908 was secretary and treasurer of Pillsbury Flour Mills company, resigning as secretary in 1921 but continuing as treasurer until 1939. He was a member of the firm's board of directors from 1933. He was also a director of numerous civic and financial institutions in Minnesota. He owned a notable collection of Chinese art, principally bronzes, jades and porcelains.

**Pim, William Paul**, U.S. cartoonist (b. near Freeport, Pa., Dec. 1, 1885—d. Birmingham, Ala., July 25, 1950).

**Player, John D.**, British tobacco company executive (b. 1864?—d. Nottingham, Notts., Eng., April 6, 1950).

**Polack, William Gustave**, Lutheran Church historian and authority on Christian hymnody (b. Wausau, Wis., Dec. 7, 1890—d. St. Louis, Mo., June 5, 1950).

**Polignac, Melchior de**, French industrialist and sportsman (b. Joigny, Fr., Sept. 27, 1880—d. Paris, Fr., Dec. 20, 1950).

**Ponzi, Andrew**, U.S. former world pocket billiard champion (b. 1902?—d. Philadelphia, Pa., April 11, 1950).

**Poole, Ernest**, U.S. author and journalist (b. Chicago, Ill., Jan. 23, 1880—d. New York, N.Y., Jan. 10, 1950).

**Preysing-Lichtenegg-Moos, Count Konrad von**, German cardinal (b. Kronwinkel, Ger., 1880—d. Berlin, Ger., Dec. 21, 1950), whose family was closely related to the Bavarian royal house, followed a diplomatic career for a time, but resigned and was ordained priest in 1912. He was consecrated bishop of Eichstätt in 1932, and of Berlin in 1935. He was elevated to the Sacred College of Cardinals in 1946. Cardinal von Preysing was actively opposed to the nazi regime before and during World War II and was equally outspoken in his opposition to Communist activities in Berlin and eastern Germany after the war.

**Proctor, A(lexander) Phimister**, U.S. sculptor (b. Bozanquit, Ont., Can., Sept. 27, 1862—d. Palo Alto, Calif., Sept. 4, 1950).

**Prosser, David Lewis**, retired archbishop of Wales (b. 1868—d. Abergwili, Carmarthenshire, Wales, Feb. 28, 1950).

**Pugh, William Barrow**, U.S. Presbyterian church leader (b. Utica, N.Y., Jan. 20, 1889—d. near Thermopolis, Wyo., Sept. 14, 1950).



**Purington, Florence**, U.S. educator (b. Burnt Hills, N.Y., Aug. 12, 1862—d. South Hadley, Mass., May 22, 1950).

**Putnam, George Palmer**, U.S. publisher, author and explorer (b. Rye, N.Y., Sept. 7, 1887—d. Trona, Calif., Jan. 4, 1950), studied at Harvard university and the University of California, Berkeley. He entered newspaper work in Bend, Ore., in 1910, and, after serving as a lieutenant of field artillery in World War I, joined his father's publishing firm of G. P. Putnam's Sons, serving as its treasurer until 1930. Between 1930 and 1932 he was vice-president of the publishing firm of Brewer, Warren and Putnam, and from 1932 to 1935 chairman of the editorial board of Paramount Productions.

He led exploratory expeditions to Greenland in 1926 and to Baffin Island in 1927. He was the husband of Amelia Earhart, first woman to fly the Atlantic, who once held women's speed and distance flight records. She was lost in the mid-Pacific on one leg of a flight around the world in 1937, and he wrote a biography of her, *Soaring Wings*. His 12 books also included his autobiography, *Wide Margins*, and three volumes on Death valley.

**Putnam, Samuel**, U.S. author, translator and critic (b. Rossville, Ill., Oct. 10, 1892—d. Lambertville, N.J., Jan. 15, 1950).

**Puzak, Kazimierz**, Polish politician (b. Tarnopol, in then Austrian Poland, Aug. 26, 1883—d. in prison in western Poland, May, 1950). After studying law at the University of Lwow he joined the Polish Socialist party (P.P.S.) in 1904 and a year later moved to the Russian part of Poland where he worked in the underground revolutionary movement. He was arrested in 1911 by the *Okhrana* (tsarist political police) and sentenced to eight years' hard labour. The Russian Revolution of 1917 restored his freedom and in Aug. 1918 he began to reorganize the P.P.S. in Warsaw. On Poland's recovery of independence he represented Dabrowa in the constituent assembly and later was thrice returned to the *sejm* as deputy for Czechochowa. From 1921 to 1945 he was secretary-general of the central executive committee of the P.P.S. During World War II he was prominent in the Warsaw underground resistance, in 1944 being elected chairman of the Council of National Unity (R.J.N.), the parliament of the underground state. In March 1945, with 15 other resistance leaders, Puzak was arrested by the soviet state security police and tried on charges of organizing terrorism and sabotage. He denied the right of a soviet tribunal to judge a Polish patriot for his activity in Poland and, refusing to testify, was condemned on June 21, 1945, to 18 months' imprisonment, being released, however, in November. Once more in Poland, he was rearrested in June 1947 on a charge of espionage, and again denied the right of a soviet-controlled government to sit in judgment. On Nov. 19, 1948, he was sentenced to ten years' imprisonment.

**Quijano, Manuel de Jesus**, Panaman diplomat and author (b. Colombia, Dec. 12, 1884—d. Panamá, Pan., April 18, 1950).

**Quinones y Molina, Alfonso**, former president of El Salvador (b. 1873—d. San Salvador, El Salvador, May 22, 1950).

**Radin, Max**, Polish-born legal authority and educator (b. Kempen, Pol., March 29, 1880—d. Oakland, Calif., June 22, 1950).

**Ranney, Leo**, U.S. mining engineer (b. New Hartford, Ia., Aug. 26, 1884—d. Morro Bay, Calif., Sept. 15, 1950).

**Rappoport, Angelo Senior Salomon**, Ukrainian-born author, editor and historian (b. Baturin, Ukraine, Sept. 5, 1872—d. Paris, Fr., June 2, 1950).

**Raskob, John J.**, U.S. industrialist and political leader (b. Lockport, N.Y., March 19, 1879—d. near Centerville, Md., Oct. 14, 1950), left high school on the death of his father and began working as a stenographer. In 1902 he became secretary to Pierre S. du Pont. Later Raskob was made du Pont's assistant, and he eventually became treasurer, director and vice-president of E. I. du Pont de Nemours and company in Wilmington, Del., the huge chemical and explosives manufacturers.

Raskob and Pierre du Pont purchased 3,000 shares of General Motors Corp. stock, the number forming a "balance of power" between two factions of stockholders. Du Pont became chairman of the board of directors of General Motors and Raskob a director. Subsequently, during World War I, Raskob persuaded the du Pont company to invest a reputed \$50,000,000 in General Motors, until the du Pont interests controlled nearly 50% of the company's stock. Raskob then became vice-president and chairman of the finance committee of the company. He resigned the finance post in 1928, the vice-presidency in 1929 and the directorship in 1946. In the latter year he also resigned as a director and vice-president of the du Pont company to make way, as he said, for "younger blood."

In 1928 he had been selected as Democratic national chairman by Gov. Alfred E. Smith of New York to conduct Smith's campaign for the presidency. Raskob applied business principles to politics, and though Smith lost he continued in his assaults on the Republican administration throughout Pres. Herbert Hoover's term, and his organization was credited by many with helping turn public opinion against Hoover and toward Franklin D. Roosevelt in the 1932 campaign. Raskob turned against the Roosevelt New Deal, however, as early as 1934.

**Recouly, Raymond**, French journalist, historian and biographer (b. Saint-Pons-de-Mauchamps, Fr., June 14, 1876—d. Montpellier, Fr., Sept. 12, 1950).

**Reed, Howard Sprague**, U.S. plant physiologist (b. North East, Pa., Aug. 6, 1876—d. Berkeley, Calif., May 12, 1950).

**Rembaugh, Bertha**, U.S. jurist (b. Philadelphia, Pa., June 5, 1876—d. Northport, L.I., N.Y., Jan. 31, 1950).

**Renner, Karl**, Austrian statesman (b. Unter-Tannowitz [Dolní-Dunajovice after 1918], Moravia, Dec. 14, 1870—d. Vienna, Aus., Dec. 31, 1950), studied law at the University of Vienna. He soon established himself as a propagandist in the Austrian Social Democratic party, where he advocated the transformation of the Habsburg empire into a federal democratic commonwealth based on equal political and cultural rights for all nationalities. He was elected deputy in 1907 and, after the breakup of the empire, he became, in 1918, the first chancellor of the Austrian republic. He then supported the idea of a union of Austria with a democratic federal Germany. He led the Austrian peace delegation to Paris and on Sept. 10, 1919, signed the peace treaty, by which Austro-German union was prohibited. He resigned the premiership in June 1920, but remained foreign minister until

October. When in 1930 the Social Democrats became the strongest party, Renner was elected president of the *nationalrat* (lower chamber); he resigned in 1933. After the annexation of Austria to Germany, Renner remained unmolested. After the liberation of Vienna by the Red army, Renner obtained approval from the soviet high command for the formation of an Austrian democratic government and in April 1945 became chancellor of the first government of the second Austrian republic. In Dec. 1945 the newly elected *nationalrat* nominated him president of the republic. Renner was the author of many political books and juridical treatises. (See also *Encyclopædia Britannica*.)

**Repplier, Agnes**, U.S. essayist (b. Philadelphia, Pa., April 1, 1855—d. Philadelphia, Dec. 15, 1950), had been an essayist since the 1880s, her first writing in this form having appeared in the *Atlantic Monthly*. She attended a convent school near Philadelphia. When she began her literary career it was in the field of fiction, but she later turned to writing essays. Her books included collections of her essays; *Eight Decades* (1937), containing an autobiographical essay; and biographies of *Père Marquette*, *Priest*, *Pioneer*, and *Adventurer*; *Mère Marie of the Ursulines*; and *Junípero Serra, Pioneer Colonist of California*. She received in 1911 the University of Notre Dame's Laetare medal as an outstanding Catholic lay person, and in 1935 received the gold medal of the American Academy of Arts and Letters.

**Richards, George Franklin**, U.S. Mormon Church leader (b. Farmington, Utah, Feb. 23, 1861—d. Salt Lake City, Utah, Aug. 8, 1950), studied at the University of Deseret (later the University of Utah) and from 1883 to 1906 operated a farm near Tooele, Utah. He also headed an implement and machinery company and later was a director of an insurance firm. From 1916 to 1919 he was president of the European mission of the Church of Jesus Christ of Latter-Day Saints, with headquarters in Liverpool, Eng. From 1921 to 1937, on his return to Utah, he served as president of the Salt Lake Latter-Day Saints temple. After 1945 he was president of the Council of Twelve Apostles, the ruling organization of the Mormon Church.

**Ringling, Robert Edward**, U.S. opera singer and circus impresario (b. Baraboo, Wis., Aug. 16, 1897—d. Sarasota, Fla., Jan. 2, 1950), was a member of the family that founded the Ringling Brothers circus. He studied music, graduating from the Evanston (Ill.) Academy of Fine Arts in 1914. He later left Northwestern university, Evanston, to devote himself to opera, and sang operatic roles for 17 years. In 1934 he joined his uncle, John Ringling, in the management of the circus, control of which had passed into the hands of creditors. In 1937 he was elected vice-president and director, and in 1943 president, of the Ringling Brothers and Barnum & Bailey Combined Shows, Inc., and at the time of his death was chairman of its board of directors.

**Robinson, Gilbert Wooding**, Welsh agricultural chemistry expert (b. Nov. 7, 1888—d. Bangor, Caernarvon, Wales, May 6, 1950).

**Robinson, Howard Perley**, Canadian publisher and industrialist (b. Elgin, N.B., Can., March 2, 1874—d. St. Andrews, N.B., Aug. 23, 1950).

**Román, Desiderio**, Nicaraguan-born surgeon (b. Nicaragua, 1871—d. Philadelphia, Pa., Sept. 7, 1950).

**Romanones, Alvaro de Figueroa y Torres-Mendieta**, COUNT DE, Spanish statesman (b. Madrid, Spain, Aug. 9, 1863—d. Madrid, Sept. 11, 1950), was president of the chamber of deputies, 1911, before becoming prime minister in 1912, after the assassination of José Canalejas y Mendez. Later, as leader of the opposition, he approved the government policy of neutrality in World War I and pursued this policy in his second term as prime minister, 1915-17; in the latter year, however, he fell from power as a result of a German-inspired press campaign, also resigning his leadership of the Liberals. Romanones was minister of justice in Antonio Montaner Maura's government in 1918, becoming foreign minister under the marquis de Alhucemas in October and prime minister in December of the same year. In April 1919 he was again deposed—by military *junta*—returning to office in 1922-23 as minister of justice, again under Alhucemas. After the dictatorship of Miguel Primo de Rivera, 1923-30, during which he remained loyal, notably as speaker of the senate, to the throne and constitutional principles, he became foreign minister for a short time. To the end, although he often criticized the king, he pleaded for the preservation of the monarchy. Arrested by the republicans during the Civil War, he was later released and given safe conduct to France, thenceforward devoting himself to literary activity. Among his books was *Las Responsabilidades Políticas del Antiguo Régimen de 1875 a 1922* (1924).

**Román y Reyes, Víctor Manuel**, president of Nicaragua (b. Jinotepé, Nic., Oct. 1872—d. Philadelphia, Pa., May 6, 1950).

**Root, Robert Kilburn**, U.S. educator (b. Brooklyn, N.Y., April 7, 1877—d. St. Louis, Mo., Nov. 20, 1950).

**Rosen, Charles**, U.S. landscape painter (b. Westmoreland county, Pa., April 28, 1878—d. Kingston, N.Y., June 21, 1950).

**Ross, Charles Griffith**, U.S. journalist (b. Independence, Mo., Nov. 9, 1885—d. Washington, D.C., Dec. 5, 1950), was the press secretary of Pres. Harry S. Truman, with whom he had attended school. He studied at the University of Missouri, Columbia, and worked for a time for the *Columbia Herald*, then for the *Victor* (Colo.) *Record*, joining the *St. Louis* (Mo.) *Republic* in 1907. Next year he returned to the University of Missouri as a faculty member in the school of journalism, and there he remained for ten years, except for a sabbatical year spent as a subeditor of the *Melbourne* (Austr.) *Herald*. His textbook, *The Writing of News* (1911), was the product of those years.

He moved to the *St. Louis Post-Dispatch* in 1918, and served as its chief Washington correspondent until 1934. He won the 1931 Pulitzer prize for a study of the depression. From 1934 to 1939 he edited the editorial page of the *Post-Dispatch*, then returned to Washington as a contributing editor. He became the presidential press secretary in 1945, being sworn in on May 15. He was one of the president's close advisers, generally handling details of White House press conferences and often acting as presidential spokesman.

**Rothenberg, Morris**, Estonian-born lawyer, judge and Zionist leader (b. Dorpat, now Tartu, Est., June 15, 1884—d. New York, N.Y., Sept. 17, 1950).

**Roy, Pierre**, French surrealist painter (b. Nantes, Fr., Aug. 10, 1880—d. Milan, It., Sept. 26, 1950).



**Rzymowski, Wincenty**, Polish journalist and politician (b. Warsaw, Pol., July 19, 1883—d. Warsaw, April 30, 1950).

**Saarinén, Eliel**, Finnish-born U.S. architect (b. Helsingfors, Fin., Aug. 20, 1873—d. Bloomfield Hills, Mich., July 1, 1950), was a well-known architect in Finland before he went to the United States about 1923. In his native country he had designed banks, estates and such civic structures as the Helsinki railroad station. He won international prizes in competitions for plans for cities in the Baltic states and in Australia. From 1925 he was associated with the Cranbrook foundation, a Michigan civic development institution, as head of its architectural department. Among his better-known structures in the U.S. were the Kleinhans Music hall in Buffalo, N.Y., and the Berkshire Music centre structures in Stockbridge, Mass.

**Sabatini, Rafael**, Italian-born author and dramatist (b. Jesi, It., April 29, 1875—d. Adelboden, Switz., Feb. 13, 1950), was one of the most widely read authors of the 20th century, and many of his best-known books were also produced as motion pictures. He was a master of the historical novel, and his works were always remarkable for their pageantry and colour. Among his best-remembered titles were *Bardelys the Magnificent*; *Anthony Wilding*; *Torquemada and the Spanish Inquisition* (a history); *The Sea Hawk*; *Scaramouche*; *Captain Blood*; and *The Stalking Horse*.

**Sallee, Harry (SLIM)**, former U.S. major league baseball pitcher (b. Higginsport, O., 1884?—d. Higginsport, March 22, 1950).

**Sams, Earl Corder**, U.S. department store official (b. Simpson, Kan., April 3, 1884—d. New Rochelle, N.Y., July 23, 1950).

**Sangnier, Marc**, French politician (b. Paris, Fr., April 3, 1873—d. Paris, May 28, 1950).

**Saw Ba U Gyi**, Burmese rebel political leader (b. 1905?—d. Takawato, Burma, Aug. 12, 1950).

**Schoonmaker, Leon Monroe**, U.S. fencing champion and construction engineer (b. Little Falls, N.J., 1881?—d. Forest Hills, Queens, N.Y., May 30, 1950).

**Schumpeter, Joseph Alois**, Austrian-born economist (b. Triesch, then Moravia, now Czechoslovakia, Feb. 8, 1883—d. Taconic, Conn., Jan. 8, 1950), received his bachelor's degree from the Theresianum in Vienna, Austria, in 1901, a doctorate in law from the University of Vienna in 1906 and a Ph.D. from Columbia university, New York city, in 1913. He had gone to Columbia as an exchange professor from his post as professor of economics at Graz. He was professor of economics at the University of Bonn from 1925 until 1932, when he assumed a similar post at Harvard university. He was at one time minister of finance in the Austrian government. In 1942 he wrote the book *Capitalism, Socialism and Democracy*, contending that socialism would emerge from an inevitable collapse of capitalism, and in a second edition of this work in 1947 contended that this thesis was being sustained in fact. He was an authority on business cycles, and was president of the American Economic association in 1948 and of the Econometric society from 1939 to 1941.

**Schutze, Martin**, German-born educator and author (b. Mecklenburg, Ger., Dec. 21, 1866—d. Woodstock, N.Y., July 19, 1950).

**Schuyler, William M.**, U.S. editor (b. Three Mile Bay, N.Y., 1877?—d. Brooklyn, N.Y., April 21, 1950).

**Schwarzschild, Leopold**, German-born economist, editor and author (b. 1891—d. Margherita, It., reported Oct. 1, 1950).

**Scott, Franklin William**, U.S. textbook editor and educator (b. Centralia, Ill., Nov. 12, 1877—d. Urbana, Ill., Jan. 10, 1950).

**Scott, Sir Leslie (Frederic)**, British jurist (b. Oct. 29, 1869—d. Oxford, Oxon., Eng., May 19, 1950).

**Seabrooke, Elliott**, British landscape painter (b. Upton Park, Ess., Eng., 1886—d. Nice, Fr., March 1950).

**Sears, Charles Brown**, U.S. judge (b. Brooklyn, N.Y., Oct. 16, 1870—d. Buffalo, N.Y., Dec. 17, 1950).

**Sears, Taber**, U.S. mural painter (b. Boston, Mass., 1870—d. New York, N.Y., Oct. 18, 1950).

**Sedgwick, Hubert M.**, U.S. sports writer (b. Blachertown, Mass., 1867?—d. New Haven, Conn., Nov. 11, 1950).

**Seitz, Karl**, Austrian government official (b. Vienna, Aus., Sept. 4, 1869—d. Vienna, Feb. 3, 1950), was educated at St. Pölten Teachers' college. He joined the Social Democratic party in 1888, was elected to the Austrian *reichsrat* in 1901 and was afterward repeatedly re-elected. After the breakup of the Austro-Hungarian empire he presided over the German-Austrian national assembly which, on Nov. 12, 1918, proclaimed Austria a "democratic republic" and "a component part of the German republic." He was also elected speaker of the constituent assembly (March 1919-Oct. 1920) and until Nov. 1920 was acting president of the republic. As burgomaster of Vienna, from 1923 to 1934, he was responsible for co-ordinating a vigorous and revolutionary program for the rapid extension of the social services and the municipal housing schemes. After the Socialist rising of Feb. 1934 he was removed from office and arrested by the Engelbert Dollfuß government, but was released in December. He lived in Vienna unmolested until July 1944 when he was sent by the nazis to Ravensbrück concentration camp. Liberated by the Allied victory, he was made honorary chairman of the Austrian Socialist party.

**Shaw, George Bernard**, British dramatist, novelist and critic (b. Dublin, Ire., July 26, 1856—d. Ayot St. Lawrence, Herts., Eng., Nov. 2, 1950), was the son of George Carr Shaw, a corn broker, and his wife Lucinda Elizabeth. In addition to his formal education at the Wesleyan Connexion school, Dublin, and three other schools, he learned an appreciation of music from his mother. He worked for about five years in a Dublin land agent's office and for a few months with the Edison Telephone company, and then settled down to writing novels. Four of the five books that he produced in

1879-83 were used as "fillers" in obscure "progressive" magazines but were turned down by London and New York publishers.

In 1879 Shaw struck up what was to be a lasting friendship with Sidney Webb; in 1882 he "discovered" socialism at a meeting addressed by the U.S. Socialist pioneer Henry George. In 1884 he and Webb joined the newly formed Fabian society.

Meanwhile, through the good offices of William Archer, translator of Henrik Ibsen, he began his journalistic career in earnest. He first became book reviewer to the *Pall Mall Gazette*, 1885-88, then art critic to the *World*, 1886-89, music critic (as "Corno di Bassetto") to the *Star*, 1888-90, and to the *World*, 1890-94. In 1895-98 he undertook his most important period of critical journalism as theatre critic to the *Saturday Review*.

In 1898 he was married to Charlotte Frances Payne-Townshend, who died in 1943.

In 1892 Shaw's first play, *Widowers' Houses* (on slum landlordism), was performed in London and was bitterly attacked in the press. In the following year *The Philanderer*, a play on Ibsenism and the "new woman," was written but not produced; *Mrs. Warren's Profession*, an exposition of prostitution, was published but was refused a licence by the lord chamberlain. But Shaw had now deliberately adopted the profession of playwright. *Arms and the Man* was a departure from the social evangelism of Shaw's first plays and was successfully presented in London and New York city in 1894. *Candida* was produced in 1895, *The Devil's Disciple* in 1897 and *Man of Destiny* in the same year.

Shaw finished *Caesar and Cleopatra* in 1899. In 1901 *The Admirable Bashville* was published, and in 1902 he wrote *Man and Superman* which in 1908 enjoyed a prodigious success in New York. It was *John Bull's Other Island* (1904), however, which established Shaw as a leading playwright in London. There followed *Major Barbara*, *The Doctor's Dilemma*, *Pygmalion* and *Androcles and the Lion*.

During World War I Shaw became unpopular through his comments on the conflict (*Common Sense about the War* [1914] among them). After the war, however, his popularity returned with *Heartbreak House* (published 1919), *Back to Methuselah* (completed 1920) and *Saint Joan* (written 1923), and in 1925 he received the Nobel prize for literature. In 1928 the Shaw festival at Malvern was founded by Sir Barry Jackson and was opened with *The Apple Cart*. In that year also was published *The Intelligent Woman's Guide to Socialism and Capitalism*.

In 1931-36, despite world-wide lecture tours, he found time to write a number of lesser-known plays and other works. In 1949 he published the autobiographical *Sixteen Self Sketches*; but his last plays, *Buoyant Billions* (1949) and *Far-Fletched Fables* (1950), added little or nothing to his reputation.

Shaw accepted few public honours. The first Labour government would have made him a peer and given him the Order of Merit, but Shaw said, "I do not wish to sit in the House of Lords and I have already conferred the O.M. on myself." (See also *Encyclopædia Britannica*.)

**Shaw, Herman**, British physicist and aeronautics authority (b. Oct. 14, 1891—d. London, Eng., May 4, 1950).

**Sidky Pasha, Ismail**, Egyptian government official (b. Alexandria, Egy., 1875—d. Paris, Fr., July 9, 1950), gained his diploma at the Collège des Frères and won honours at the Khedivial Law school. He joined the public prosecutor's office but in 1899 became administrative secretary of the Alexandria municipal commission. In 1914 he was appointed minister of agriculture and then of *wagfs* (religious institutions). In 1915, however, he joined the Waft (nationalist) movement and was later deported with Saad Zaghlul Pasha and others to Malta. After World War I he deserted the Waft, in 1921 and 1922 was minister of finance and in 1922 and 1924-25 minister of the interior. He retired from politics for five years but returned eventually as premier and, from June 1930 to Sept. 1933, ruled with an iron hand to curb the Waft's influence. He joined an all-party delegation to negotiate the Anglo-Egyptian treaty of 1936, but in 1938 again retired from politics after a period of service as minister of finance. He returned to power in Feb. 1946 as premier and advocated the revision of the 1936 treaty. In October he flew to London but failed in his efforts to "achieve unity between Egypt and the Sudan under the Egyptian crown." He resigned on Dec. 8, 1946.

**Silverman, Sidney Louis ("Sid")**, U.S. theatrical publisher (b. New York, N.Y., Dec. 11, 1898—d. Harrison, N.Y., March 10, 1950).

**Simons, Algje Martin**, U.S. economist and author (b. North Freedom, Wis., Oct. 9, 1870—d. New Martinsville, W.Va., March 11, 1950).

**Slade, William Adams**, U.S. librarian (b. Fall River, Mass., Sept. 27, 1874—d. Washington, D.C., May 16, 1950).

**Smedley, Agnes**, U.S. journalist (b. northern Missouri, 1894—d. Oxford, Oxon., Eng., May 6, 1950).

**Smith, John Lawrence**, German-born chemist and business executive (b. Germany, Feb. 10, 1889—d. Brooklyn, N.Y., July 10, 1950).

**Smith, Joseph Lindon**, U.S. artist and archaeologist (b. Pawtucket, R.I., Oct. 11, 1863—d. Dublin N.H., Oct. 18, 1950).

**Smith, Mary Chapin (MRS. CHETWOOD SMITH)**, U.S. novelist (b. 1871?—d. Worcester, Mass., April 30, 1950).

**Smith, Robert Holbrook (DOCTOR BOB)**, one of the founders of Alcoholics Anonymous (b. St. Johnsbury, Vt., 1879—d. Akron, O., Nov. 16, 1950).

**Smuts, Jan Christiaan**, South African statesman, soldier and philosopher (b. near Riebeeck West, Cape Colony, U. of S.Af., May 24, 1870—d. Irene, near Pretoria, Transvaal, U. of S.Af., Sept. 11, 1950), was educated at Cambridge university, England, and was admitted to the Capetown bar in 1895. During the Boer War, Smuts joined the Boer army in 1900, eventually becoming chief of the Boer commandos in Cape Colony.

After the restoration of peace, he actively campaigned to smooth over political and racial differences. Upon the outbreak of World War I in 1914, Smuts became commander of South African armies preparing for battle with the Germans in South-West Africa. That same year, Louis Botha, with Smuts's co-operation, put down the Dutch rebellion. Smuts was a



member of the peace conference at Versailles and in 1918 wrote his celebrated memorandum on the League of Nations, which was endorsed by David Lloyd George and Woodrow Wilson; in substance, it became the League covenant.

Smuts was prime minister of South Africa from 1919 to 1924. Inactive in South African politics after 1924, he re-entered the political arena as war with the axis threatened. Britain's declaration of war against Germany on Sept. 3, 1939, brought him back as prime minister. Smuts formed a war cabinet, and on Sept. 6 the Union proclaimed a state of war with Germany. He was made a field marshal in 1941.

Smuts played a prominent part in the formation of the United Nations in 1945, and was the author of the preamble to the charter of that organization. At home, he had to deal with the dispute with India over the Indians living in South Africa, and also with the problem of the former mandated territory of South-West Africa, which he wished to incorporate into the Union. In the parliamentary elections of May 1948, his government was defeated, and Smuts became leader of the opposition. The following year he was removed from his post as commander in chief of the Union defense force. He was acknowledged even by his political enemies as South Africa's greatest son. (See also *Encyclopædia Britannica*.)

**Spaulding, Francis Trow**, U.S. college president (b. Ware, Mass., Nov. 23, 1896—d. near Center Harbor, N.H., March 25, 1950).

**Spear, Lawrence York**, U.S. marine engineer and submarine expert (b. Warren, O., Oct. 23, 1870—d. New London, Conn., Sept. 26, 1950), graduated from the U.S. Naval academy at Annapolis, Md., in 1890, served in the navy until 1902, then, becoming interested in the design of submarines, left the navy and joined the Electric Boat company, of which he was chairman of the board at the time of his death. This company became the nation's largest manufacturer of submarines, building 88 in World War I and 74 in World War II, in addition to 398 patrol torpedo boats and electrical gear for naval ships and ordnance. In 1949 Rear Admiral James Fife, submarine commander in the U.S. Atlantic fleet, declared that Spear had contributed more than any single individual to the development of the modern submarine.

**Speck, Frank Gouldsmith**, U.S. anthropologist (b. Brooklyn, N.Y., Nov. 8, 1881—d. Philadelphia, Pa., Feb. 6, 1950).

**Spurr, Josiah Edward**, U.S. geologist and mining engineer (b. Gloucester, Mass., Oct. 1, 1870—d. Winter Park, Fla., Jan. 12, 1950).

**Stahl, John Malcolm**, U.S. motion-picture director and producer (b. New York, N.Y., Jan. 21, 1886—d. Hollywood, Calif., Jan. 12, 1950).

**Stanley, Oliver Frederick George**, British politician (b. May 4, 1896—d. Sulhamstead, Berks., Eng., Dec. 10, 1950), was the second son of the 17th earl of Derby. He was educated at Eton, and served in the royal field artillery in World War I, receiving the military cross and the *Croix de guerre*. He was called to the bar in 1919 and later became a stockbroker.

In 1923 Stanley unsuccessfully contested Edgell, Liverpool, but from 1924 to 1945 sat for Westmorland. From 1945 until his death he represented West Bristol. He became undersecretary to the home office in 1931 and two years later was appointed minister of transport. He was given cabinet rank in June 1934 as minister of labour, but in June 1935 was transferred to the board of education. In 1937 he was appointed president of the board of trade, and in Jan. 1940 he succeeded Leslie Hore-Belisha as secretary of state for war. Stanley rejoined the royal field artillery in 1940 but returned to politics in Nov. 1942 as secretary of state for the colonies, remaining in this office until the general election of 1945. In Sept. 1948 he succeeded his father as chancellor of Liverpool university.

**Stannard, William J.**, U.S. army band leader (b. Guilford, Conn., Aug. 14, 1883—d. Washington, D.C., July 12, 1950).

**Stapledon, (William) Olaf**, British writer (b. Wirral, Cheshire, Eng., May 10, 1886—d. West Kirby, Cheshire, Sept. 6, 1950), was best known for his scientific fantasies, which included *Last and First Men* (1931), *Last Men in London* (1932), *Odd John* (1936), *Sirius* (1944) and *Death into Life* (1946). His first book, however, was a philosophical work, *A Modern Theory of Ethics* (1929), and *New Hope for Britain* (1939) was an exposition of his liberal-humanist and scientific attitude. In *Philosophy and Living* (1939) his not uncritical sympathy with communism was particularly apparent. Latterly, Stapledon had participated in a number of Communist-sponsored international conferences.

**Steinberg, Milton**, U.S. clergyman, author and lecturer (b. Rochester, N.Y., Nov. 25, 1903—d. New York, N.Y., March 20, 1950).

**Steinhardt, Laurence A.**, U.S. lawyer, economist and diplomat (b. New York, N.Y., Oct. 6, 1892—d. Ramsayville, Ont., Can., March 28, 1950), obtained his law degree from Columbia university, New York city, and began the practice of law in 1916. He entered the diplomatic service and was U.S. ambassador to Peru, 1937-39; to the U.S.S.R., 1939-41; to Turkey, 1942-45; to Czechoslovakia, 1945-48; and to Canada from Aug. 1948 until he died in the crash of an aeroplane. Steinhardt was an early supporter of Pres. Franklin D. Roosevelt, and was a member of the executive finance committee of the Democratic national committee.

**Stephens, James**, Irish writer and poet (b. Dublin, Ire., Feb. 1882—d. Dublin, Dec. 26, 1950), was a struggling solicitor's clerk when he met the Irish writer George Russell ("Æ"), who encouraged him to develop his literary abilities. In 1912 he published *The Crock of Gold*, which brought him public recognition and won him the Polignac prize. His work was grounded on Celtic folklore and fantasy, and Irish idiom; the enriched simplicity of his language evoked a world in which reality and dream seemed to interfuse. His poetry included *Songs from the Clay* and *The Adventures of Seumas Beg* (1915), and *Kings and the Moon* (1938); his *Collected Poems* was published in 1926. Among his prose works were *The Charwoman's Daughter* (1912); *Deirdre* (1923); and *Elched in Moonlight* (short stories, 1928). He also wrote various critical works and a play, *Julia Elizabeth* (1929). Stephens was an ardent Sinn Féiner.

**Stimson, Henry Lewis**, former U.S. secretary of war (b. New York, N.Y., Sept. 21, 1867—d. Huntington, L.I., N.Y., Oct. 20, 1950), was one of the elder statesmen of U.S. political life, having served as secretary of war to Pres. William H. Taft (1911-13), secretary of state to Pres. Herbert Hoover (1929-33) and secretary of war in the cabinets of both Pres. Franklin D. Roosevelt and Pres. Harry S. Truman, 1940 to 1945.

A graduate of Yale in 1888, he attended the Harvard university law school and was admitted to the bar in New York in 1891, becoming a protégé of Elihu Root. In 1906 Pres. Theodore Roosevelt appointed him U.S. attorney for the southern district of New York. He ran unsuccessfully on the Republican ticket for governor of New York in 1910, and next year was named Taft's secretary of war. Though 49 years old, he served in the army in World War I and saw action in France.

From 1918 to 1926 he was in private life. In 1927 he went to Nicaragua as the special envoy of Pres. Calvin Coolidge to help end the civil war, and succeeded in restoring peace. He was governor general of the Philippine Islands, 1927-29, and took office as secretary of state March 28, 1929. He headed the U.S. delegation to the London naval conference of 1930.

On the outbreak of Japanese aggression in Manchuria in 1931, Stimson authored the policy of nonrecognition of conquests made by aggression. Many historians later believed that if other western nations had backed Stimson's firm stand against Japan the Japanese might have retreated, and perhaps the course of events toward World War II might have been changed. However, the other western powers declined to join the U.S. in a firm stand against Japan.

Stimson served as liaison man between retiring President Hoover and President-elect Roosevelt during the final days of the Hoover administration. At the onset of World War II, President Roosevelt (June 20, 1940) invited Stimson to become his secretary of war, and Stimson became civilian leader of the largest army—more than 10,000,000 men—ever to serve the U.S.

In the fall of 1941 President Roosevelt appointed Stimson to a committee to advise on nuclear fission policy, and in his advisory capacity it was he who finally recommended to President Truman that atomic bombs be dropped on Japan.

Stimson retired from active life in Sept. 1945. (See also *Encyclopædia Britannica*.)

**Stoddard, Theodore Lothrop**, U.S. author and editorial writer (b. Brookline, Mass., June 29, 1883—d. Washington, D.C., May 1, 1950).

**Strange, Michael** (pseudonym of BLANCHE MARIE LOUISE OELRICHS TWEED), U.S. author, actress and lecturer (b. New York, N.Y., 1890—d. Boston, Mass., Nov. 5, 1950), adopted the pen name of Michael Strange when her first book, *Poems*, was published in 1919. She was married three times, each marriage ending in divorce. Her second husband was John Barrymore, the actor, whom she married in 1920 and from whom she was divorced in 1928. Barrymore and his sister, Ethel Barrymore, had leading roles in her play *Clair de Lune* in 1921, the same year her second book, *Resurrecting Life*, was published. She had the lead in the play *L'Aiglon* by Edmond Rostand on Broadway in 1927. She was well known for her political interests, having been an early feminist and becoming a member of the Socialist party in 1932.

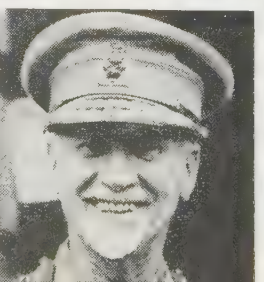
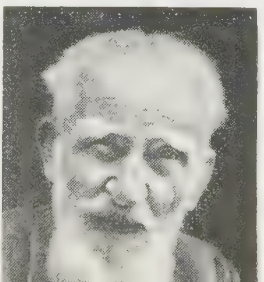
**Straube, Karl**, German organist (b. Berlin, Ger., Jan. 6, 1873—d. Leipzig, Ger., April 28, 1950).

**Straus, Ralph**, British novelist and biographer (b. Manchester, Lancs., Eng., Sept. 5, 1882—d. London, Eng., June 5, 1950).

**Stringer, Arthur (John Arbuthnot)**, Canadian-born writer (b. Chatham, Ont., Can., Feb. 26, 1874—d. Mountain Lakes, N.J., Sept. 14, 1950), studied at the University of Toronto and at Oxford university in England. He produced several studies of Shakespeare while in England, then began the study of Gaelic poetry, of which he later published several examples. During his writing career he produced more than 100 serialized adventure novels and short stories that appeared in popular magazines. He also wrote serial motion-picture scripts. His poetry included *Lonely O'Malley*, popular verse, published in 1901, and *Out of Erin*, a volume of Gaelic verse published in 1930. Romantic novels included *The Wolf Woman*, *The Dark Wing* and *Intruders in Eden*. A collection of his one-act plays was published in 1939 under the title *The Cleverest Woman in the World*. One of his last works was a biography of Rupert Brooke, *Red Wine of Youth*, based on his own research and on material collected by Richard Halliburton.

**Strom, Sverre Andreas**, Norwegian-born explorer (b. Norway, 1894?—d. Camp Carson, Colorado Springs, Colo., June 15, 1950).

1950 OBITUARIES: Robert E. Ringling, U.S. circus impresario; George Bernard Shaw, Irish dramatist; Jan Christiaan Smuts, South African statesman; Henry L. Stimson, U.S. secretary of war; Lord Wavell, British soldier





**Suggia, Guilhermina**, Portuguese cellist (b. Oporto, Port., June 27, 1888—d. Oporto, July 31, 1950), played from an early age with the Oporto City orchestra, becoming principal cellist at the age of 12. In 1904 she began to study at Leipzig, Ger., under Paul Klengel, and made her debut as a soloist there at a Gewandhaus concert in 1905. She studied further with Pablo Casals, to whom she was married 1906-12, and then began the long tours which established her international reputation.

**Sugimoto, Mme. Etsu**, Japanese author (b. Echigo province, Honshu Island, Jap., 1874?—d. Tokyo, Jap., June 20, 1950).

**Tairov, Alexander Y.**, Russian stage director (b. 1885—d. announced in Moscow, U.S.S.R., Sept. 27, 1950).

**Tajudin, Sir Ahmed**, sultan of Brunei (b. 1913—d. Singapore, Singapore, June 3, 1950).

**Talbot, Mignon**, U.S. geologist (b. Iowa City, Ia., Aug. 16, 1869—d. Holyoke, Mass., July 18, 1950).

**Tarr, Edgar Jordan**, Canadian banker and leader in international relations (b. Ottawa, Ont., Can., Nov. 6, 1881—d. Winnipeg, Man., Can., Nov. 7, 1950).

**Tate, John Torrence**, U.S. physicist (b. Lenox, Ia., July 28, 1889—d. Minneapolis, Minn., May 27, 1950).

**Taub, Israel Zangwill**, U.S. psychologist (b. Butler, N.J., Feb. 6, 1893—d. New York, N.Y., Sept. 3, 1950).

**Taylor, Frederick Chase** ("COLONEL STOOPNAGLE"), U.S. radio comedian and author (b. Buffalo, N.Y., Oct. 4, 1897—d. Boston, Mass., May 29, 1950), studied at the University of Rochester and served in the U.S. naval reserve in World War I. He began to work in his father's lumber business, but left to become vice-president of a brokerage firm. However, his avocation was theatrical work, and he joined the Buffalo Broadcasting corporation as actor, writer and announcer. It was to fill in an unexpected time gap that he teamed, in 1930, with Wilbur ("Budd") Hulick, an announcer, in an impromptu program that was so successful they formed the comedy team of "Colonel Stoopnagle and Budd." The team was a major attraction of the CBS network until the mid-1930s when they separated. Taylor subsequently devoted himself more to writing than to radio work, his comical essays being assembled in various books. He was also noted for his elaborate daffy inventions and magazine humour pieces. His books included *You Wouldn't Know Me from Adam* (1944), *My Tale Is Twisted!* (1946) and *My Back to the Soil* (1947).

**Thacher, Thomas Day**, U.S. jurist (b. Tenafly, N.J., Sept. 10, 1881—d. New York, N.Y., Nov. 12, 1950).

**Theophilus** (THEODORE NICHOLAS POSHKOVSKY), primate of the Russian Orthodox Greek Catholic Church of North America (b. Kiev province, Russia, Feb. 19, 1874—d. San Francisco, Calif., June 27, 1950), was ordained in San Francisco in 1897, and there founded the Orthodox cathedral in 1909 to replace a church destroyed in the San Francisco earthquake. He was transferred to Warsaw, Pol., in 1913, and served as a chaplain with the Russian imperial army during World War I. He returned to the United States when he was appointed bishop of Chicago in 1922. In 1931 he was transferred to San Francisco, was made presiding bishop of the Pacific coast in 1934, and later was elected metropolitan archbishop of the United States and Canada. As late as 1948 it was reported by the soviet news agency that he was to be tried (*in absentia*) by the Russian Orthodox Church in the U.S.S.R. for "attempts to split the church," after he had announced the final decision of the American Orthodox bishops against reunion with Moscow.

**Thomas, Bertram Sidney**, British explorer and soldier (b. June 13, 1892—d. Bristol, Glos., Eng., Dec. 29, 1950).

**Thomas, Eugene Peoples**, U.S. expert on international trade (b. Atlanta, Ga., 1878?—d. New York, N.Y., Aug. 23, 1950).

**Thunderwater, Chief** (OGHEMA NIAGARA), American Indian, titular head of the supreme council of Indian tribes of the U.S. and Canada (b. 1865?—d. Cleveland, O., June 10, 1950).

**Tichenor, Frank A.**, U.S. editor and publisher (b. Gettysburg, Ky., May 22, 1880—d. Greenwich, Conn., May 4, 1950), joined the motion-picture industry early in the 1900s, and became president of the General Film company, a pioneer distributor of educational films, later reorganized as the Eastern Film corporation. He was credited with inviting Will H. Hays, who was postmaster general in the cabinet of Pres. Warren G. Harding, to become "tsar" of the motion-picture industry and to enforce its self-created code of morals. Tichenor became greatly interested in aviation. He organized the Aeronautical Digest Publishing company, issuing *Aero Digest*, and also published a number of other journals, including the *Sportsman Pilot*, *Revista Aerea* (Spanish edition of *Aero Digest*) and the weekly *Letter to Airmen*, as well as the *Plumbing and Heating Journal* and *Spur*. He made Alfred E. Smith editor of the magazine the *New Outlook*, formerly the *Outlook*, which he purchased in 1929. Tichenor was a friend of many of aviation's pioneers, including Gen. "Billy" Mitchell, Gen. H. H. Arnold and Col. Charles A. Lindbergh.

**Togo, Shigenori**, Japanese political leader (b. Kagoshima prefecture, Kyushu Island, Jap., Dec. 1882—d. Sugamo prison, Tokyo, Jap., July 23, 1950), was one of the Japanese wartime leaders sentenced to prison by an international military tribunal at the end of World War II. He was a graduate (1908) of the Tokyo Imperial university. He entered foreign service, and was stationed successively in Hankow, Mukden and Switzerland. In 1918 he was named embassy second secretary, and stationed in Berlin. For two years beginning in 1921 he was in Tokyo as chief of the first section of the European and American bureau of affairs. Later he went to Washington, D.C., as first secretary of the embassy, and to Berlin as embassy councillor. He was named ambassador in 1937, serving in Berlin for a year, and then in Moscow until Sept. 1940. On Oct. 18, 1941, he was named foreign minister in the government of Premier Hideki Tojo, and was in that post at the time of the Pearl Harbor attack. He also held the position of foreign minister in the Baron Kantaro Suzuki cabinet just before Japan's surrender. In 1948 he was sentenced to 20 years' imprisonment by an international war crimes tribunal.

**Tommasini, Vincenzo**, Italian composer of operas and ballets (b. Rome, It., Sept. 17, 1880—d. Rome, It., Dec. 24, 1950).

**Travis, Robert Falligant**, U.S. air force general (b. Savannah, Ga., Dec. 26, 1904—d. in a B-29 bomber crash at Fairfield-Suisun Air base, Calif., Aug. 5, 1950).

**Trentinaglia, Erardo Nobile**, Italian orchestral director and composer (b. Venice, It., April 1, 1889—d. Venice, June 3, 1950).

**Trilussa** (pseudonym of CARLO ALBERTO SALUSTRI), leading Italian poet (b. Rome, It., Sept. 26, 1873—d. Rome, Dec. 21, 1950).

**Tschirky, Oscar Michel** ("OSCAR OF THE WALDORF"), U.S. hotel manager and maitre d'hôtel (b. Locle, Switz., Sept. 28, 1866—d. New Paltz, N.Y., Nov. 6, 1950), was a world-renowned host at the Waldorf hotel and the Waldorf-Astoria in New York city for 50 years until his retirement in 1943. He studied in Europe and went to the U.S. in 1883, working first as a bus boy and then waiter at the Hoffman House and at Delmonico's restaurant, later obtaining a job at the "old" Waldorf by listing on a sheet of references many prominent New Yorkers whom he had served. During his career he was host to many of the great of his generation—presidents, kings, princes and leaders of wealth and society.

**Twort, Frederick William**, British bacteriologist (b. Camberley, Sur., Eng., Oct. 22, 1877—d. Camberley, March 20, 1950).

**Ungar, Arthur**, U.S. editor (b. Chicago, Ill., 1886?—d. Delmar, Calif., July 24, 1950).

**Urrutia, Francisco José**, Colombian lawyer and diplomat (b. 1870—d. Bogotá, Colom., Aug. 6, 1950).

**Vaida-Voevod, Alexandre**, Rumanian statesman (b. Olpret, Transylvania, 1871—d. Bucharest, Rum., March 19, 1950). (See also *Encyclopaedia Britannica*.)

**Van Doren, Carl Clinton**, U.S. author, editor and critic (b. near Hope, Ill., Sept. 10, 1885—d. Torrington, Conn., July 18, 1950), was one of the best-known figures in American literary criticism and, in addition, was awarded a Pulitzer prize as an author for his biography of Benjamin Franklin. A graduate of the University of Illinois, Urbana (1907), he received his Ph.D. degree from Columbia university in 1911. From that year he taught English at Columbia until 1930. From 1917 to 1921 he was also managing editor of the *Cambridge History of American Literature*. From 1919 to 1922 he was literary editor of the *Nation*, and from 1922 to 1925 literary editor of *Century Magazine*.

His writings ranged through surveys of literature to novels, biography and criticism. He was a leader in the 20th-century renaissance of American literature. His works in this field included *The American Novel* (1921; revised 1940); *Contemporary American Novelists* (1922); *American and British Literature since 1890* (1925), produced with his brother, Mark Van Doren, and revised in 1939; *American Literature: An Introduction* (1933), reissued as *What Is American Literature?* (1935). He also wrote biographies of James Branch Cabell, Thomas Love Peacock and Jane Mecom, Franklin's sister (published after his death), besides the Franklin biography. His autobiography was entitled *Three Worlds*.

**Van Ophuysen, Johan Hendrik Wijndand**, Sumatran-born psychiatrist (b. Pedang Sidempuan, Sumatra, 1882—d. New York, N.Y., May 31, 1950).

**Victoria Jaen, Nicholas**, Panaman writer, educator and government official (b. Aguadulce, Pan., 1862?—d. Panama, Pan., Sept. 16, 1950).

**Vincent, Jean-Hyacinthe**, French bacteriologist (b. Bordeaux, Fr., Dec. 22, 1862—d. Paris, Fr., Nov. 23, 1950).

**Volini, Italo Frederick**, U.S. physician (b. Chicago, Ill., May 24, 1893—d. San Francisco, Calif., June 24, 1950).

**Walker, Walton Harris**, U.S. army field commander in Korea (b. Belton, Tex., Dec. 3, 1889—d. near Seoul, South Korea, Dec. 23, 1950), attended Wedemeyer Military academy in Belton, Virginia Military institute, Lexington, Va., and the U.S. Military academy at West Point, N.Y. He served with the Veracruz expedition that intervened in the Mexican revolution of 1914, fought in France during World War I, during which he was twice cited for gallantry under fire, and remained in Germany with the U.S. army of occupation until 1919. He spent almost three years (1930-33) in China with the international railway patrol.

During World War II General Walker won distinction as commander of the 20th corps, the so-called "Ghost corps" of Gen. George S. Patton's 3rd U.S. army. His corps reduced the fortresses of Metz in 1944, penetrated the Siegfried line in Feb. 1945, liberated the concentration camp at Buchenwald and, crossing the Danube into Austria, penetrated to Linz. After World War II General Walker commanded the 5th army area in the United States, and in 1947 was given the permanent rank of major general.

In 1948 he became commanding general of the far east command's 8th army, and on July 13, 1950, he was named commander of all ground forces in Korea, which he led in combat under the ov-r-all command of Gen. Douglas MacArthur. When the U.S. and South Korean forces had been pushed into a beachhead around Pusan, it was General Walker's skill in shifting his troops, and his "stand or die" order to them, that enabled them to hold their line until sufficient strength had been built up for their own offensive.

General Walker was also given much of the credit for the successful retreat of the 8th army when in November and December it was rolled back from near the Manchurian border by the Chinese Communist offensive. He was killed in the crash of a jeep and a truck.

**Wardington, John W. B. Pease**, 1ST BARON, British economist and banker (b. Newcastle-upon-Tyne, Northumb., Eng., July 4, 1869—d. Banbury, Wilts., Eng., Aug. 7, 1950).

**Wavell, Archibald Percival Wavell**, 1ST EARL OF CYRENAICA AND OF WINCHESTER, British soldier (b. Colchester, Essex, Eng., May 5, 1883—d. London, Eng., May 24, 1950), was educated at Winchester and at Sandhurst. He was gazetted to the Black Watch in 1901 and served in the South African War and later in India. He graduated from the staff college in 1910. In World War I he served first on the western front where he lost



his left eye, then in Russia as an attaché to the army of Grand Duke Nicholas, and later in Palestine under Gen. Sir Edmund (later Viscount) Allenby. In 1930 he was given his first independent command—the 6th infantry brigade—and in 1935 he took over the 2nd infantry division. In 1937 Wavell became commander in Palestine; in 1938 he was promoted lieutenant general and returned to Great Britain to take over southern command; in July 1939 he went back to the middle east as commander in chief with headquarters at Cairo, Egy. After the entry of Italy into the war he launched an attack against the Italians in North Africa on Dec. 9, 1940, and by Feb. 7, 1941, had all but annihilated their forces. At the same time he opened a successful campaign against the Italians in east Africa. In April 1941, however, his troops in North Africa were compelled by newly arrived German forces to retreat to the Egyptian border; in July he changed posts with Gen. Sir Claude Auchinleck, who had been commander in chief in India. On Dec. 28, 1941, he assumed command of the defense of Burma, and a week later was appointed supreme commander in the southwest Pacific, with headquarters in Java. However, in March 1942, by which time the Japanese, who held the initiative throughout the short campaign, had obtained control of the whole of southeast Asia, Wavell returned to India. On June 19, 1943, he was appointed to succeed the marquess of Linlithgow as viceroy of India, where for four years he undertook the preparatory work for a settlement of the Indian political problem. In Feb. 1947 he was succeeded by Viscount (later Earl) Mountbatten of Burma. Lord Wavell's writings included *The Palestine Campaigns* (1928) and two volumes on his former commander, *Allenby* (1940) and *Allenby in Egypt* (1943). A series of essays, *Generals and Generalship*, appeared in 1941. He also wrote an anthology, *Other Men's Flowers* (1944); *Speaking Generally* (1946); and *The Good Soldier* (1947).

**Weber, Jacob (JAKE)**, U.S. sports trainer (b. New York, N.Y.—d. New York, N.Y., Nov. 11, 1950).

**Wecter, Dixon**, U.S. educator and author (b. Houston, Tex., Jan. 12, 1906—d. Sacramento, Calif., June 24, 1950).

**Wedgwood, Kennard Laurence**, British-born pottery manufacturer (b. Barlston, Staffs., Eng., 1873?—d. Dummerston, Vt., Jan. 20, 1950).

**Weill, Kurt**, U.S. composer (b. Dessau, Ger., March 2, 1900—d. New York, N.Y., April 3, 1950), began to compose music while still in elementary school, prompted by his father, a cantor. At the age of 18 he began studying composition in Berlin with Engelbert Humperdinck. He moved to Lüdenschied in Westphalia, as operatic conductor, but shortly returned to Berlin to study with the pianist and composer Ferruccio Busoni until 1924. Meantime he composed a variety of works, including symphonies and chamber music. He first adapted his composition to the theatre in the mid-1920s when he was commissioned to do a children's ballet for a Russian company visiting Berlin. In 1926 he collaborated with Georg Kaiser on the opera *The Protagonist*, and subsequently also collaborated with Kaiser, Ivan Goll and Bertolt Brecht on various operas, including *Royal Palace*, *The Tsar Has Himself Photographed*, *The Three-Penny Opera* and *The Silver Lake*. The latter production's antinazi overtones resulted in the banning of his works in Germany, and he went (1933) to Paris, where he composed the ballet *The Seven Deadly Sins*. In 1935 he went to the United States, where he was commissioned by producer Max Reinhardt to write the music for *The Eternal Road*. He also composed music for *Knickerbocker Holiday*, *Lady in the Dark*, *One Touch of Venus*, *A Flag Is Born*, *Street Scene* and *Lost In The Stars*.

**Weiss, Louis Stix**, U.S. lawyer (b. New York, N.Y., Feb. 7, 1894—d. New York, N.Y., Nov. 13, 1950).

**Westergaard, Harald Malcolm**, Danish-born civil engineer and educator (b. Copenhagen, Den., Oct. 9, 1888—d. Cambridge, Mass., June 22, 1950).

**Wetter, Herman de**, Estonian-born engineer (b. Estonia, 1878?—d. Westfield, N.J., June 25, 1950).

**Whitaker, Sir Cuthbert Wilfrid**, British editor (b. May, 26, 1873—d. London, Eng., April 4, 1950).

**White, Wilbur W.**, U.S. educator (b. Topeka, Kan., June 4, 1903—d. Houston, Tex., Nov. 14, 1950).

**Whittemore, Thomas**, U.S. archaeologist (b. Cambridge, Mass., Jan. 2, 1871—d. Washington, D.C., June 8, 1950).

**Wiechert, Ernst Emil**, German poet and novelist (b. Kleinort, Ger., May 1887—d. Stäfa, Switz., Sept. 24, 1950).

**Wieniawski, Tadeusz Adam**, Polish composer and music teacher (b. Warsaw, Pol., Nov. 27, 1879—d. Bydgoszcz [Bromberg], Pol., April 27, 1950).

**Wiklund, Adolf**, Swedish pianist, composer and conductor (b. Langserud, Swed., June 5, 1879—d. Sweden, April 1950).

**Willeke, Willem**, Dutch-born musician (b. The Hague, Neth., 1879?—d. Pittsfield, Mass., Nov. 26, 1950).

**Williams, (Arthur Frederic) Basil**, British historian (b. London, Eng., April 4, 1867—d. London, Jan. 5, 1950).

**Williams, Michael**, U.S. author and editor (b. Halifax, N.S., Can., Feb. 5, 1877—d. Hartford, Conn., Oct. 12, 1950), attended St. Joseph college in New Brunswick, then moved to the U.S. as a newspaper reporter. He was an early Socialist and companion of Upton Sinclair with whom he wrote (1909) *Good Health and How We Won It*. After 1915, when he rejoined the Roman Catholic Church, his writings were mainly on Catholic subjects. He founded the Catholic journal of opinion, the *Commonweal*, in 1924 and served as its editor until 1938.

**Wilson, Ira B.**, U.S. composer and music publisher (b. Bedford, Ia., Sept. 6, 1880—d. Los Angeles, Calif., April 3, 1950).

**Winlock, Herbert Eustis**, U.S. archaeologist (b. Washington, D.C., Feb. 1, 1884—d. Venice, Fla., Jan. 26, 1950).

**Wise, Fred**, Austrian-born dermatologist (b. Austria, 1881—d. New York, N.Y., July 26, 1950).

**Wise, Marion Johnson**, U.S. railway executive (b. St. Louis county, Mo., Aug. 16, 1883—d. Point Clear, Ala., April 26, 1950).

**Witmark, Jay**, U.S. music publisher (b. New York, N.Y., 1873?—d. New York, N.Y., Feb. 16, 1950), founded the publishing firm of M. Witmark and Sons in 1883. For the next half-century he was prominent in music publishing. His house published more than 30 of Victor Herbert's operettas, the leading works of Sigmund Romberg, songs by George M. Cohan and such additional works as Chauncey Olcott's "My Wild Irish Rose," Ernest R. Ball's "Mother Machree" and Harry Armstrong's "Sweet Adeline." In 1914 he, with Victor Herbert and others, founded the American Society of Composers, Authors and Publishers (A.S.C.A.P.) as a performing rights society, and he served as a director of the society for almost 20 years. In 1929 the Witmark company became part of Warner Brothers Pictures, Inc., and two years afterward Witmark retired.

**Wittels, Fritz**, Austrian-born psychiatrist and author (b. Vienna, Aus., 1880—d. New York, N.Y., Oct. 16, 1950).

**Wood, Clement**, U.S. poet and author (b. Tuscaloosa, Ala., Sept. 1, 1888—d. Schenectady, N.Y., Oct. 26, 1950).

**Wood, Thomas**, British musician and composer (b. Chorley, Lancs., Eng., Nov. 28, 1892—d. Bures, Ess., Eng., Nov. 19, 1950).

**Woodrum, Clifton Alexander**, U.S. legislator (b. Roanoke, Va., April 27, 1887—d. Washington, D.C., Oct. 6, 1950), received his law degree from Washington and Lee university, Lexington, Va., in 1908 and practised law in Roanoke until 1917 when he began his political career. He served in the U.S. house of representatives from 1923 until his retirement in 1945. During World War II he was ranking majority member and acting chairman of the house appropriations committee, and as such steered through congress some of the largest appropriations measures in the nation's history.

**Woods, Rufus**, U.S. newspaper editor and publisher (b. Surprise, Neb., May 17, 1878—d. Toronto, Ont., Can., May 29, 1950).

**Woodson, Carter Godwin**, U.S. Negro author and educator (b. New Canton, Va., Dec. 19, 1875—d. Washington, D.C., April 3, 1950), studied at Berea college, Berea, Ky.; the Sorbonne, Paris; The University of Chicago; and Harvard. He taught in the District of Columbia public schools and later became dean of the school of liberal arts at Howard university, Washington, D.C., and West Virginia State college. He wrote several books on the history of the Negro in the U.S.

**Woodward, Dewing**, U.S. painter, founder of art colony (b. Williamsport, Pa., June 6, 1856—d. Miami, Fla., July 12, 1950).

**Woodward, William Edward**, U.S. author (b. Ridge Spring, S.C., Oct. 2, 1874—d. Augusta, Ga., Sept. 27, 1950), graduated from the South Carolina Military academy, later named The Citadel, and began his newspaper career in 1893. After 12 years he opened his own advertising and book review agency, with Sinclair Lewis as his editor. In 1916 he became promotion manager for the Hearst newspapers. His first novel, *Bunk* appeared in 1923, and added to the American language a new word with the connotations of a satirical exposé. His policy of "debunking" historical idols made him many literary enemies. His biography *George Washington: The Image and the Man* was especially attacked. Others of his nonfiction works included *Meet General Grant*; *A New American History*; *Money for Tomorrow*, an economic treatise inspired by the depression of the 1930s; *The Crowded Years*, memoirs of William Gibbs McAdoo, on which he collaborated; *Tom Paine—America's Godfather*; and *The Gift of Life*, his autobiography. He was at work on another study of the U.S. Civil War at the time of his death, tentatively entitled *When We Went Crazy* and dealing especially with Andrew Johnson's part in the war.

**Wright, Warren**, U.S. industrialist and sportsman (b. Springfield, O., Sept. 25, 1875—d. Miami Beach, Fla., Dec. 28, 1950), was the son of William Monroe Wright who owned the Calumet Baking Powder company in Chicago, Ill. He spent the first 25 years of his business career with his father's company. The firm was sold to General Foods corporation in 1928, for a reputed \$35,000,000. Warren Wright inherited a fortune and a stud farm and racing stable on his father's death in 1931.

He spent the next ten years developing the Calumet Farm stable to a point where it was operated as an efficient business enterprise. After 1941 his stable was the top money-maker in the nation. He owned some of the most famous horses in the history of American racing, including Whirlaway, Citation, Coaltown, Bull Lea, Pensive and Armed.

**Yard, James Maxon**, U.S. educator and religious leader (b. Farmingdale, N.J., July 19, 1880—d. Danbury, Conn., Aug. 3, 1950).

**Yen, W. W. (YEN HUI-CHING)**, Chinese diplomat (b. Shanghai, China, 1877—d. Shanghai, May 23, 1950), studied at St. John's university and at the Anglo-Chinese college, both in Shanghai, and in the Tung Wen college in Peiping. He went to the U.S. in 1895, studied at the University of Virginia, Charlottesville, and received a bachelor's degree in 1900. He returned to China to become professor of English at St. John's university. In 1906 he was named chief English editor of the *Commercial Press* in Shanghai, and later that year was appointed to the imperial ministry of education.

In 1908 he became second secretary of the Chinese legation in Washington, D.C., but returned to China to establish a government press bureau the next year. He became vice-minister of foreign affairs in the government of the Chinese republic, then minister of foreign affairs (1920) after terms as minister to Germany, Sweden and Denmark. He was prime minister from 1924 to 1926, during part of which time he also held the portfolios of interior, agriculture, commerce and foreign affairs. During his subsequent diplomatic career he also served as envoy to London, Washington and Moscow. In 1933, as chief Chinese delegate at the League of Nations in Geneva, Switz., he initiated the charge of aggression against Japan that resulted in League censure and Japan's withdrawal from the League. He spent his later years in educational, health and charitable activities in China. In 1949 he headed an unofficial delegation that sought without success to form a coalition Chinese government which would incorporate the Communists.

**Yensen, Trygve (Dewey)**, Norwegian-born scientist, authority on magnetics



(b. Drammen, Nor., Jan. 30, 1884—d. Prestwick, Ayrshire, Scot., July 2, 1950).

**Youssef Bey, Amine**, Egyptian diplomat and nationalist leader (b. 1888—d. London, Eng., Aug. 23, 1950).

**Yule, Joe**, Scottish-born comedian (b. Scotland, April 30, 1894—d. Hollywood, Calif., March 30, 1950).

**Ziegenbein, Leopold**, German sea captain (b. Celle, Ger., Nov. 16, 1874—d. Nordholz, Ger., June 21, 1950).

**Ziegler, Charles E.**, U.S. obstetrician and inventor (b. near Carlisle, Pa., 1870?—d. Pittsburgh, Pa., April 26, 1950).

**Obstetrics:** see GYNAECOLOGY AND OBSTETRICS.

**Occupational Diseases:** see INDUSTRIAL HEALTH.

**Occupational Therapy:** see MEDICAL REHABILITATION OF THE DISABLED.

**Oceanography.** Single-ship Gulf Stream surveys made during recent years showed that the stream meanders conspicuously between Cape Hatteras and the Grand Banks off Newfoundland. A multiple-ship survey made during June 1950 confirmed the meandering and made it possible to show for the first time a synoptic picture of the Gulf Stream in this area. Six large waves or meanders were found, averaging about 200 mi. between crests.

During the 16-day period of the survey, called Operation "Cabot," the first two waves eastward from Cape Hatteras moved toward the east at a rate of approximately 11 mi. per day. A large loop between the third and fourth waves, extending 250 mi. from north to south, broke off and became a cyclonic eddy, the equivalent of a low-pressure area in meteorology. Such eddies had been frequently encountered, but their formation had never before been observed.

A striking resemblance was found between the wave pattern formed in the Gulf Stream and that in the atmospheric jet streams (see METEOROLOGY). Confirming previous observations, the highest velocities in the Gulf Stream were confined to a relatively narrow band over the entire 1,200-mi. extent of the survey.

One Canadian and five United States research vessels took part in the survey under the direction of the United States navy hydrographic office. At the close of the year, the data were being processed at the Woods Hole Oceanographic institution.

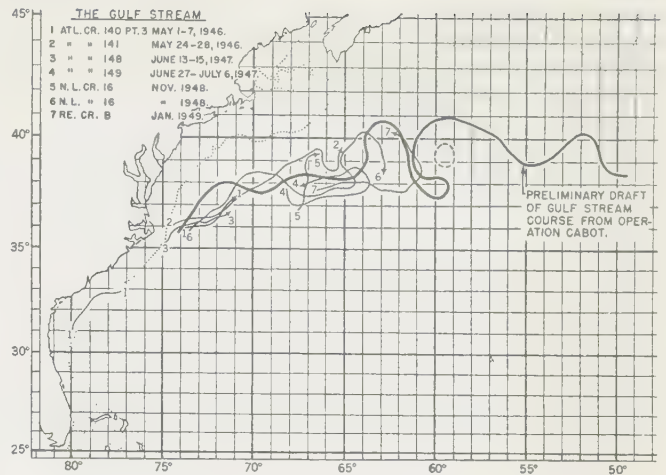
Large variations in the Kuroshio current off Japan were found to appear in 1936, and remained until 1943, when observations were discontinued. The variations had disappeared when observations were resumed in 1946. A failure of the rice crop in some areas of Japan was attributed to an influx of cold water which temporarily displaced the course of the Kuroshio.

A single, comprehensive theory of the wind-driven ocean circulation was published and showed that wind stream, acting upon the water, is sufficient cause to produce the major surface features of the North Atlantic circulation.

Pollution of tidal waters stimulated extensive studies in Canada and the United States. Using the river water as a tracer, the exchanges with the sea were evaluated. A theory was developed to predict the distribution of fresh and salt water in an estuary from the topography of the basin, river flow and the tidal range.

A submerged narrow mountain ridge was discovered west and south of the Hawaiian chain by the mid-Pacific expedition of the Scripps Institution of Oceanography, La Jolla, Calif., and the United States navy electronics laboratory. Bottom cores showed that many centres of vulcanism had existed in the Pacific in relatively recent time. Seismic explorations made by the British weather ship "Weather Explorer," showed a thickness of 7,700 ft. of unconsolidated sediment in the northeast Atlantic ocean.

The British research vessels, "Discovery II" and "William Scoresby," left London to continue the pre-World War II work



GULF STREAM MEANDERINGS (dark line) between Cape Hatteras, N.C., and the tail of the Grand Banks of Newfoundland, as recorded at the Woods Hole Oceanographic institution, Mass., after the multiple ship survey, Operation "Cabot" (Notations at top left indicate research vessel and cruise, as: "Atlantis" cruise No. 140, part 3; "New Liskeard," cruise No. 16; "Rehoboth," cruise No. 8.)

of the "Discovery Investigations." Formerly under the colonial office, the work was transferred to the admiralty as a part of the National Institute of Oceanography. The Danish research vessel, "Galathea," left Copenhagen in October for a two-year round-the-world cruise, chiefly to obtain marine biological and hydrographic data.

A review of the deepest soundings known in the ocean indicated that the greatest depth that had been found was the "Cape Johnson Deep," 34,440 ft., in the Mindanao trench off the Philippine Islands. Greater values for some depths in the same area were thought to be incorrect. Depths to 24,420 ft. were found in the vicinity of the Aleutian trench, and many new sea-mounts were discovered, especially in the northeast Pacific. (See also COAST AND GEODETIC SURVEY, U.S.; MARINE BIOLOGY.)

**BIBLIOGRAPHY.**—"Some Results of a Multiple Ship Survey of the Gulf Stream," *Tellus* (1950); "On the Correlated Fluctuations of the Kuroshio Current," *Oceanogr. Mag.*, vol. 1, no. 1 (Japan); "On the Wind-Driven Circulation," *J. Met.*, vol. vii, no. 2; "Oceanography and Prediction of Pulp Mill Pollution in Alberni Inlet," *Bull. Fish. Board of Canada*, vol. 83; "Seismic Experiments in the Atlantic Ocean," *Nature*, vol. 165, no. 4188; "The Greatest Depth in the Ocean," *Trans. Am. Geophysical Union*, vol. 31, no. 3; "Oceanographic Activities of the U.S. Coast & Geodetic Survey," *ibid.*, vol. 31, no. 5. (C. O'D. I.)

**Office of Education, U.S.:** see EDUCATION; FEDERAL SECURITY AGENCY.

**Ohio.** A north central state of the United States, popularly known as the "Buckeye state," Ohio officially became a state of the union on Feb. 19, 1803. Area: 41,222 sq.mi., including 100 sq.mi. of water; pop. (1950 census): 7,946,627. Capital: Columbus. The principal cities with 1950 preliminary census population figures are: Cleveland 909,546, Cincinnati 500,510, Columbus, 374,770, Toledo 301,358, Akron 273,189, Dayton, 243,108, Youngstown 167,643, Canton 116,312.

**History.**—After an election campaign which was watched closely by the whole country because of the efforts of labour unions to defeat Senator Robert A. Taft (Republican), Ohio voters gave him a plurality of 431,184 votes over the Democratic candidate, State Auditor Joseph T. Ferguson in the Nov. 7, 1950, election. The official totals were: Taft 1,645,643 and Ferguson 1,214,459. Gov. Frank J. Lausche (D.) also was re-elected, defeating State Treasurer Don H. Ebricht (R.), 1,522,249 to 1,370,570. Others elected were: George D. Nye (D.) as lieutenant governor; Ted W. Brown (R.) as secretary of state; Roger W. Tracy (R.) as treasurer; C. William O'Neill (R.) as attorney



general; and George H. Bender (R.) as congressman-at-large. Elected to the Ohio supreme court were: Carl V. Weygandt (chief justice), Edward S. Matthias, William L. Hart and Henry A. Middleton. Shortly after his re-election Gov. Lausche announced that he had offered all members of his cabinet reappointments and all had indicated that they would continue in their posts. Republicans won control of both houses of the Ohio general assembly.

State officers in 1950 were: governor, Frank J. Lausche (D.); lieutenant governor, George D. Nye (D.); secretary of state, Charles F. Sweeney (D.); auditor, Joseph T. Ferguson (D.); treasurer, Don H. Ebright (R.).

There was no session of the Ohio general assembly in 1950. In May Gov. Lausche ordered the state highway department to proceed with a survey for the proposed Ohio turnpike which would link up with the Pennsylvania turnpike and a route was chosen across northern Ohio.

**Education.**—In 1950 the state had 3,074 elementary schools with a total enrolment of 817,380 and a teaching staff of 24,268; 1,211 secondary schools with an enrolment of 399,054 and a teaching staff of 15,416. State expenditures on education in 1950 were \$224,902,747. The state director of education in 1950 was Clyde Hissong.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The average number of recipients of general relief in Ohio in 1950 was 31,663 and the total assistance extended (December estimated in each case) was \$16,672,037. The average number receiving aid for the aged was 125,648 and they received \$69,588,857; aid to dependent children 14,432 cases, received a total of \$11,387,756; aid to the blind 3,854 cases, received a total of \$2,087,299. Benefits paid by the Ohio bureau of unemployment compensation totalled \$82,186,000 in compensation for 3,610,000 weeks of unemployment. Nearly 1,000 members of the bureau's staff were laid off in 1950 as the declining number of claims resulted in a reduction of federal funds. About 10,000 persons were taken off the state poor relief rolls late in the year as a federal law went into effect covering permanently and totally disabled indigents.

Ohio had four penal institutions with an average daily population in 1950 of 9,058; and two industrial schools with an average daily population of 950. Two conservation work camps were in operation during the year and four more were under construction. Started as an experiment, these camps proved very successful and ultimately it was expected that close to 10% of the men in crowded Ohio penitentiary would be permitted to work in such camps in the state forests. The men maintain the roads in the state forests, plant trees and thin the underbrush. The total operating cost of all welfare department institutions in the fiscal year 1950 was \$27,257,000.

**Communications.**—Ohio had 86,582 mi. of highways in 1950 outside of municipalities. Of this total, 16,073 mi. were classified as rural, 28,919 mi. as county and 41,589 mi. as township. Total state expenditures on highways in 1950 was \$72,000,000.

The state had 8,400 mi. of railroads, more than 300 airports and landing fields, 3,500 mi. of certificated air line routes within its boundaries and an estimated 2,525,000 telephones in 1950.

**Banking and Finance.**—There were 419 state and private banks in Ohio with deposits (June 30, 1950) of \$3,965,090,499 and resources of \$4,311,282,011. There were 241 national banks in the state with deposits (June 30, 1950) of \$3,426,878,000 and resources of \$3,685,771,000. State chartered savings and loan institutions numbered 477 with total resources (June 30, 1950) of \$1,305,042,872, an all-time high. There were 132 federal savings and loan associations with total assets (estimated as of Dec. 31, 1950) of \$759,913,853.

The state budget for the 1949-51 biennium was \$629,180,804. There was a net cash balance of \$68,769,035 at the end of the fiscal year 1950. It is unconstitutional for the state to have a debt except for \$200,000,000 for a soldiers' bonus for which special provision was made by a constitutional amendment.

**Agriculture.**—The large total harvested acreage of principal crops in

Table I.—Leading Agricultural Products of Ohio

Crop	1950	1949	Average, 1939-48
Corn, bu. . . . .	174,928,000	202,552,000	166,283,000
Wheat, bu. . . . .	46,596,000	60,002,000	44,400,000
Oats, bu. . . . .	41,292,000	48,024,000	42,204,000
Barley, bu. . . . .	728,000	464,000	783,000
Rye, bu. . . . .	665,000	270,000	872,000
Buckwheat, bu. . . . .	266,000	248,000	310,000
Popcorn, lb. . . . .	26,400,000	20,425,000	23,768,000
Hay, tons . . . . .	3,994,000	3,556,000	3,707,000
Soybeans, bu. . . . .	23,232,000	20,592,000	17,547,000
Tobacco, lb. . . . .	26,430,000	29,140,000	24,559,000
Sugar beets, tons . . . . .	288,000	252,000	269,000
Maple syrup, gal. . . . .	134,000	150,000	196,000
Apples, bu. . . . .	3,534,000	5,446,000	3,828,000
Peaches, bu. . . . .	927,000	1,194,000	871,000
Pears, bu. . . . .	205,000	272,000	300,000
Grapes, tons . . . . .	18,300	15,800	16,606
Potatoes, bu. . . . .	7,600,000	6,270,000	8,174,000
Truck Crops, commercial, for fresh market, tons . . . .	92,600	84,600	108,900
Truck Crops, commercial, for processing, tons . . . .	217,500	232,200	260,000

Ohio in 1950 was 10,674,000; in 1949 it was a record 10,851,000 ac. Total cash receipts from farm marketings in Ohio in 1950 through October were \$765,055,000, as compared with \$802,660,000 in the same period of 1949, according to the United States department of agriculture. The 1950 marketing receipts consisted of \$531,235,000 from livestock and products and \$233,820,000 from crops.

**Manufacturing.**—The number of Ohio manufacturing establishments rose from 9,543 in 1939 to 12,303 in 1949. Total value added by manufacture in Ohio in 1947 was \$6,359,006,000 compared with \$2,116,434,000 in 1939, according to the census of manufactures made by the bureau of the census of the United States department of commerce. The average number of production workers in 1947 was 988,446 and they were paid wages totalling \$2,727,481,000.

Table II.—Principal Industries of Ohio

	Value added by manufacture 1947	1939
Food and kindred products . . . . .	\$413,216,000	\$182,183,000
Tobacco manufactures . . . . .	14,504,000	5,804,000
Textile-mill products . . . . .	58,183,000	23,803,000
Apparel and related products . . . . .	127,753,000	52,392,000
Lumber and products, excl. furniture . . . . .	37,521,000	14,924,000
Furniture and fixtures . . . . .	128,293,000	29,484,000
Paper and allied products . . . . .	199,107,000	61,057,000
Printing and publishing industries . . . . .	322,283,000	147,174,000
Chemicals and allied products . . . . .	347,226,000	110,516,000
Petroleum and coal products . . . . .	95,811,000	30,369,000
Rubber products . . . . .	381,215,000	141,067,000
Leather and leather products . . . . .	68,293,000	33,972,000
Stone, clay and glass products . . . . .	293,881,000	112,442,000
Primary metal industries . . . . .	852,772,000	331,973,000
Fabricated metal products . . . . .	634,746,000	192,628,000
Machinery (except electrical) . . . . .	1,251,011,000	351,070,000
Electrical machinery . . . . .	471,593,000	116,775,000
Transportation equipment . . . . .	483,421,000	125,225,000
Instruments and related products . . . . .	41,381,000	10,219,000
Miscellaneous manufactures . . . . .	136,796,000	43,357,000

**Mineral Production.**—According to the U.S. bureau of mines, the value of mineral production in Ohio in 1949 was \$244,444,000, as compared with \$284,816,000 in 1948 and \$243,391,000 in 1947. These figures do not include pig iron, coke and other manufactured products derived from minerals, which are included in Table III below.

Table III.—Principal Mineral Products of Ohio

Mineral	Value, 1949	Value, 1948	Value, 1947
Pig iron . . . . .	\$430,627,906	\$469,653,906	\$380,383,106
Bituminous coal . . . . .	123,053,152	155,129,035	131,344,763
Coke . . . . .	111,443,394	128,843,686	98,973,704
Clay . . . . .	7,697,492	8,307,821	7,704,329
Stone . . . . .	27,419,158	27,552,017	23,633,433
Ferroc alloys . . . . .	18,725,301	21,852,890	15,976,882
Lime . . . . .	20,321,387	21,473,401	17,685,220
Cement . . . . .	22,388,726	20,496,930	16,611,421
Sand and gravel . . . . .	14,955,657	15,149,848	14,195,288
Petroleum . . . . .	10,060,000	15,190,000	10,440,000
Natural gas . . . . .	10,432,000	12,901,000	13,548,000
Salt . . . . .	5,134,923	5,884,343	6,815,639
Natural gas liquids . . . . .	447,000	640,000	499,000
Peat . . . . .	143,247	162,073	181,117
Other minerals . . . . .	2,081,719	2,214,080	1,976,666

(P. By.; X.)

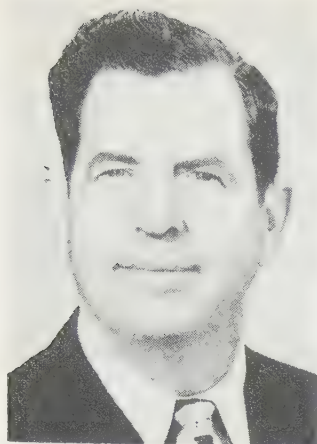
**Oil:** see PETROLEUM.

**Oils and Fats, Vegetable and Animal:** see VEGETABLE OILS AND ANIMAL FATS.

**Oklahoma.** A west south central state of the United States, admitted as the 46th state on Nov. 16, 1907. The name "Oklahoma" is from the Choctaw Indian words meaning "red people," and was first applied to the Indian territory in 1866. The popular name "Sooner state" was from the term "sooner" used in referring to a person who entered and staked a claim sooner than the law stipulated when the first public lands in the Indian territory were opened to white settlement by the run for homesteads, April 22, 1889. Area: 69,283 sq.mi., including 387 sq.mi. of water surface. Pop. (1950 census): 2,233,351, a loss of 103,083 or 4.4% since the 1940 census. The two largest cities with 1950 preliminary census population are Oklahoma City, the capital, 242,450; and Tulsa, 180,586. Other cities are: Muskogee, 37,255; Enid, 35,976; Lawton, 34,527; Norman, 26,972; Shawnee, 24,457; Ponca City, 20,185; Stillwater, 20,155; Bartlesville, 19,262; Okmulgee, 18,298; Ardmore, 17,831; McAlester, 17,809; Ada, 15,935; Chickasha, 15,753.

**History.**—In the state election, Nov. 1950, the total vote cast for three gubernatorial candidates was 644,276, the Democratic candidate winning by a vote of 392,308 to the Republican candidate's vote of 313,205. Two Republicans out





JOHNSTON MURRAY, Democrat, elected governor of Oklahoma, Nov. 7, 1950

of Oklahoma's eight representatives in the U.S. congress were elected. Mike Monroney, Democrat, was elected United States senator, having won the Democratic nomination in the primary election over the incumbent, United States Senator Elmer Thomas from Oklahoma. The chief state officers, all Democrats, elected in Nov. 1950 were: Johnston Murray, governor; James E. Berry, lieutenant governor; John D. Connor, secretary of state; Wilburn Cartwright, state auditor; Mac Q. Williamson, attorney general; A. S. J. Shaw, state treasurer; Oliver Hodge, superintendent

of public instruction; Charles G. Morris, state examiner and inspector; Jim Hughes, commissioner of labour; Buck Cook, commissioner of charities; Donald F. Dickery, commissioner of insurance; Andy Payne, clerk of supreme court; John M. Malloy, chief mine inspector. The question of U.S. participation in a world government, submitted in the Nov. 1950 election by action of the 22nd state legislature, was defeated by a large vote of the people. The 23d state legislature, which was to convene in Jan. 1951, would have 118 members: 99 Democrats and 19 Republicans.

**Education.**—The total enrolment in Oklahoma public schools for the term 1949-50 was 499,311 pupils (elementary and high school), with 18,256 teaching positions. The total cost of maintaining the elementary and high schools in the state was approximately \$72,000,000. State institutions of higher learning included the University of Oklahoma (Norman) and the Oklahoma Agricultural and Mechanical college (Stillwater), both graduate schools; and Oklahoma College for Women (Chickasha), Panhandle Agricultural and Mechanical college (Goodwell), Langston university (Negro, at Langston), and six colleges primarily for teacher training (Ada, Alva, Durant, Edmond, Tahlequah, Weatherford), all state-owned senior colleges. There were 16 two-year junior colleges, of which 7 were state-owned (including the Oklahoma Military academy at Claremore), 4 were independent with church affiliations and 5 were municipal. There were also 6 independent senior colleges with church affiliations.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—On Dec. 1, 1950, the Oklahoma department of public welfare reported 124,084 active assistance cases. Of these, 99,892 were old-age assistance cases, each receiving an average of \$45.24 per month (a total of \$4,518,982); 21,483 dependent children families, each receiving an average of \$51.56 per month in the care of 55,102 children (a total of \$1,107,731); and 2,709 blind cases, each receiving an average of \$47.39 per month (a total of \$128,381). On Dec. 31, 1950, the state department of health reported that 47 counties in Oklahoma, representing 79.3% of the state's population, were covered by full-time local health departments. State supported institutions included two tuberculosis sanatoriums, eight hospitals (six mental hospitals, one school for mental defectives, and one hospital for epileptics), two orphanages, three schools for deaf and blind, four schools of correction, one reformatory and one penitentiary.

**Communications.**—The Oklahoma department of highways spent on contract construction during the period from Jan. 1, 1950, to Dec. 31, 1950, a total of \$28,948,044.56, and was responsible for a highway system of 10,143 mi. The total public open road mileage in Oklahoma was approximately 95,000 mi. Railroad and electric mileage approximated 6,000 mi., not including sidings.

**Agriculture.**—The Oklahoma national stockyards (Oklahoma City) reported receipts of cattle and calves in Nov. 1950, at 57,179 head compared with 80,992 head in Nov. 1949. The U.S. department of agriculture (Oklahoma City office co-operating with the state board of agriculture) reported that the 1950 value of 25 principal crops and commercial truck crops was \$291,496,000 compared with \$396,456,000 in 1949. The decline of about \$105,000,000 was the result of a decline in crop production caused by insects, dry weather, fewer acres planted and other factors.

**Manufacturing.**—The Oklahoma employment security commission reported that the total nonagricultural employment was 463,000 persons, from Jan. 1 to June 30, 1950; and the total wages paid the state's

manufacturing group, in the same period, was \$90,000,000, with a monthly average of 64,000 persons employed. In addition to the manufacture of petroleum by-products, the manufacture of lumber, cement, products from glass sands and from clays and the printing business were important industries in Oklahoma.

**Mineral Production.**—Minerals produced in Oklahoma included petroleum, natural gas, natural gasoline, liquefied petroleum gases, asphalt, zinc, lead, stone, sand and gravel, clay, salt, volcanic ash, wool rock, gypsum, and natural crystallized calcium. The State Corporation commission reported that 161,034,529 bbl. of petroleum were produced in the state in the period Dec. 1, 1949 to Nov. 1, 1950. The report made in Feb. 1950, by the bureau of business research, University of Oklahoma, gave the annual mineral production in Oklahoma for 1949: crude oil, 191,700,000 bbl.; natural gas 401,727,000,000 cu.ft.; lead, 27,397 tons; zinc, 84,289 tons; coal, 2,312,000 tons; the total value of these and other minerals was \$691,270,500.

**FILMS OF 1950.**—*Lake Murray, Oklahoma Forestry, Oklahoma Industry, On the Lakes of Oklahoma* (Photographic Service Department, University of Oklahoma). (M. H. W.)

**Old-Age Insurance:** see SOCIAL SECURITY.

**Old-Age Pensions:** see RELIEF; SOCIAL SECURITY. See also under various states.

**Oleomargarine:** see VEGETABLE OILS AND ANIMAL FATS.

**Olives:** see FRUIT.

**Oman and Muscat (Masqat):** see ARABIA.

**Ontario.** Second largest Canadian province, Ontario joined the confederation in 1867. Area: 412,582 sq.mi. Pop.: (1941) 3,787,655; (1950 est.) 4,512,500. Capital: Toronto, (1948 pop.) 747,671.

**History.**—During a session of the 1950 legislature, the Progressive-Conservative government made civil marriages legal in Ontario, and gave municipal councils power to authorize commercial sports (excepting horse racing) on Sunday afternoons if approval of electors was obtained through plebiscites. Several important tax laws were passed: a 15% to 20% tax on gross admissions to places of amusement and entertainment; a 9% tax on logging operations' profits; a 5% personal income tax (collectible by the federal government).

The Ontario Liberal party elected Walter C. Thomson as its leader, and adopted a 97-point political policy, including: use of liquor profits to reduce taxation, a full-time minister of education and co-operation with other provinces to secure more uniform standards, transfer of municipal relief responsibilities to the province, a public health plan, standardization of municipal building codes and creation of a provincial housing corporation, and extension of suffrage to 18-year-olds. Considerable public interest was evoked by a stillborn secession movement in western Ontario to create an 11th province called Aurora.

**Education.**—Provincial 1950-51 education grants to municipalities totalled \$42,420,000, up \$6,136,000 from 1949-50; grant to six universities totalled \$4,342,000, an increase of \$810,000 over the previous year. The latest revised statistics available in 1950 for provincially controlled schools were for 1947: total enrolment, 678,053; daily attendance, 597,400; teachers, 23,004; total revenues, \$78,021,255.

**Finance.**—The government estimated 1950-51 ordinary revenue at \$238,260,790, highest in history, and expenditures at \$237,256,790, including a \$20,626,000 payment into a sinking fund for debt retirement. Gross public debt stood at \$698,124,174 on March 31, 1950.

**Agriculture.**—Preliminary estimates of Ontario's 1950 grain crop ran to 208,000,000 bu., the greatest since 1920. Significant 1949 statistics included: aggregate grain production, 166,713,000 bu.; cash farm income, \$653,500,000; value of field crops, \$369,349,000; livestock, \$266,100,000; dairy products, \$142,000,000; poultry and eggs, \$79,600,000.

**Industry.**—The 1950 session of the legislature passed a labour relations act which gave the labour relations board powers formerly held by the minister of labor and made it mandatory for the board to order a representation vote where a union has 45% of the employees as members. Workers exposed to silica dust were required to hold health certificates. Industrial expansion during 1950 drew heavily on power facilities, and the Ontario hydroelectric commission spent \$12,000,000 per month and brought in 536,000 new horsepower during the year. Employment and industrial activity was at a high level, indicated by the \$1,300,000,000 private and public investment in new capital in 1950.

**Minerals.**—Mineral development during the year included discovery of important iron ore and vermiculite deposits in eastern Ontario. The 1949-discovered asbestos mine in northern Ontario went into production, and yielded a type of fibre never before found in Canada. Total mineral output of 1949 was worth \$315,000,000, about \$20,000,000 more than that of 1948. (C. C.)

**Opera:** see MUSIC.

Leading Agricultural Products of Oklahoma

	1950	1949	Average 1939-48
Wheat, bu. . . . .	43,614,000	88,725,000	71,156,000
Corn, bu. . . . .	31,725,000	29,392,000	28,171,000
Oats, bu. . . . .	14,665,000	17,460,000	25,959,000
Peanuts, lb. . . . .	116,580,000	113,900,000	89,137,000
Grain sorghums (forage), tons . . . . .	1,274,000	1,008,000	1,429,000
Grain sorghums, bu. . . . .	20,280,000	10,362,000	8,592,000
All hay, tons . . . . .	1,855,000	1,880,000	1,607,000
Cotton, bales . . . . .	230,000	610,000	502,000



**Opium:** see NARCOTICS AND NARCOTIC TRAFFIC.

**Oranges:** see FRUIT.

**Oregon.** A state of the United States, located in the Pacific northwest, Oregon was admitted Feb. 14, 1859, as the 33rd state. Area: 96,981 sq.mi., including 631 sq.mi. of water. Pop.: (1950 census, preliminary figure) 1,521,341, an increase of 39.6% from 1940. Capital: Salem (43,064); chief city: Portland (371,011).

Elective state officials (administrative) in 1950 included: governor, Douglas McKay; secretary of state, Earl T. Newbry; treasurer, Walter J. Pearson; attorney general, George Neuner; labour commissioner, W. E. Kimsey; superintendent of public instruction, Rex Putnam. Re-elected in 1950 for four-year terms were Governor McKay, Kimsey and Putnam.

**History.**—In 1950 the majority in voter registration shifted from Republican to Democratic for the first time. Despite this shift, the Republican party in the 1950 general election re-elected its candidates for United States senator, for four congressional seats and for state offices and retained control of the legislative assembly. Voters at the election rejected a constitutional amendment revising the legislative apportionment, also a bill to ban the sale of liquors "promotively" advertised. They adopted amendments to increase the compensation of legislators to \$600 per annum and to finance the payment of a veterans' bonus. Also approved were bills to increase the amount of state aid for schools, to establish uniform standard time and to fix new standards for old-age assistance.

**Education.**—Enrolment in public schools during the school year 1949-50 was 281,309, including 69,020 in high schools. For the school year 1948-49 the number of teachers was 10,568 and the average annual salary received was \$3,130. The total cost of operating the public schools was \$58,161,039, and the total value of public school property was \$120,553,326.

Enrolment at seven state institutions of higher learning, 1949-50, was 19,269, not including 16,716 enrolled in extension courses. Operating costs of the state system of higher education were \$15,406,246.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Payments for unemployment compensation during the year ending June 30, 1950, totalled \$25,893,895. Expenditures for public-welfare programs (old-age and general assistance, aid to dependent children and to the blind) totalled \$25,687,637.

The number of inmates in state health, corrective and eleemosynary institutions on June 30, 1950, and operating costs for the fiscal year 1949-50 were as follows: two mental hospitals 4,375, \$2,861,657; penitentiary 1,452, \$694,776; Fairview home for feeble-minded 1,242, \$984,203; boys' training school 193, \$369,833; Hillcrest girls' training school 56, \$174,610; three tuberculosis hospitals 419, \$1,085,359; school for deaf 151, \$235,555; school for blind 71, \$122,446. Expenditures of the commission for the blind were \$115,618.

**Communications.**—Steam railway mileage Dec. 31, 1949, was 3,539.42, exclusive of second main track and sidings. Electric railway mileage was 105.6.

As of Dec. 31, 1949, there were 7,320 mi. in the state system of highways, of which 6,824 mi. were surfaced, and 32,566 mi. of county roads, of which 16,889 mi. were surfaced. A total of \$34,974,459 was expended by the state highway department during the fiscal year 1949-50.

The number of motor vehicles registered in the year ending June 30, 1950, was 733,168. The number of telephones reported in service Dec. 31, 1949, was 409,324.

**Finance.**—The state bonded debt as of July 1, 1950, was: gross \$29,427,820; net \$2,741,533. The gross debt of municipal subdivisions July 1, 1950, was \$152,318,995; net \$140,425,326. Total state revenues for the year ending June 30, 1950, were \$288,392,748. The assessed valuation for 1950 was \$1,607,876,262.

Total bank deposits as of Oct. 4, 1950, were \$1,478,647,190. Bank debits reported for the first nine months of 1950 were \$8,725,612,000.

**Agriculture.**—Estimated cash receipts from marketings for the year 1949 totalled \$366,113,000, including \$2,450,000 in government payments. Receipts from livestock and animal products were estimated at \$164,269,000 and from all crops \$199,294,000.

**Manufacturing.**—Lumbering is the major manufacturing activity in the

state. The amount of timber cut in 1949 was 6,874,953,000 bd.ft., with a value reported at \$309,000,000, green rough basis. The amount of plywood manufactured in 1949 was 709,148,000 sq.ft., three-eighths inch ply. Oregon ranks first among the states in volume of lumber manufactured.

The bureau of the census report on manufactures for 1947 showed 3,075 establishments which employed 92,114 production workers. Total wage rolls were \$265,834,000 and value added by manufacture was \$675,017,000.

**Mining.**—The U.S. bureau of mines reported the value of all mineral production in Oregon in 1949 as \$22,479,000, of which metallic production amounted to \$676,000.

(C. A. Sp.)

**Organization for European Economic Cooperation:**  
see EUROPEAN RECOVERY PROGRAM.

## Organization of American States.

During 1950 the Organization of American States (O.A.S.), in addition to considering political, economic and legal problems affecting the nations of the western hemisphere, began to feel repercussions of events in other parts of the world.

On Jan. 3, 1950, the government of Haiti charged the government of the Dominican Republic with acts affecting its sovereignty, independence and territorial integrity. In a communication addressed to the Council of the Organization of American States, the Haitian government invoked the inter-American Treaty of Reciprocal Assistance, which provides for collective action of all the American republics in the event of threats to the security of any one of them.

The Dominican Republic immediately contested the charges, and itself invoked the 1947 treaty, alleging that events in Haiti, Cuba and Guatemala were affecting its sovereignty and independence and endangering the peace of America.

To determine the facts in the situation, the Council of the Organization appointed a commission composed of representatives of Uruguay, Bolivia, Colombia, Ecuador and the United States, which visited the four countries and submitted its report on March 13.

On the basis of the reports of its fact-finding committee, the council found that the acts charged against the Dominican Republic were contrary to norms contained in inter-American agreements; that the events might have disturbed American solidarity and, if repeated, would give occasion for the application of the provisions of the Rio treaty. The Dominican government was requested to take immediate measures to prevent government officials from co-operating with subversive movements against other governments, and not to permit in its territory activities likely to disturb the peace of Haiti.

With reference to the complaint of the Dominican Republic, the Council of the Organization declared that Guatemala and Cuba had permitted to exist within their respective territories subversive armed groups which intended the overthrow of the Dominican government. The council requested Cuba and Guatemala to adopt measures to prevent the existence in their territories of groups organized on a military basis for the purpose of conspiring against the security of other countries, and asked these governments as well as that of the Dominican Republic to take measures to ensure respect for the principle of nonintervention.

Following the action of the United Nations in the case of Korea in June, the Council of the Organization on June 28 approved a resolution declaring its firm adherence to the decisions of the United Nations. In December, as the general international situation took a turn for the worse following Chinese Communist intervention in Korea, the United States requested that a meeting of foreign ministers of the American republics be held to consider questions relating to the defense of the Americas. This request was unanimously approved by the Council of the Organization, and March 26, 1951, was fixed as the opening date of the meeting to be held in Washington, D.C.

### Principal Agricultural Products of Oregon

Crop	1950	1949	Average 1939-48
All wheat, bu. . . . .	23,693,000	23,203,000	21,906,000
Oats, bu. . . . .	8,992,000	11,088,000	9,655,000
Barley, bu. . . . .	12,210,000	9,933,000	8,774,000
Corn, bu. . . . .	1,036,000	1,095,000	1,502,000
Potatoes, bu. . . . .	13,200,000	11,890,000	10,164,000
Hay, tons. . . . .	1,904,000	1,710,000	1,942,000
Apples, bu. . . . .	2,720,000	2,953,000	2,783,000
Pears, bu. . . . .	5,660,000	6,166,000	4,592,000
All cherries, tons . . . . .	19,700	37,000	21,975
All prunes, tons . . . . .	20,700	107,000	77,770
Hops, 1,000 lb. . . . .	16,279	14,718	17,040



A special meeting of the Inter-American Economic and Social council was held at the Pan American Union headquarters in Washington, D.C., from March 20 to April 10, 1950. The council decided to sponsor an Organization of American States technical assistance program, utilizing the facilities of the Pan American Union and inter-American specialized agencies able to contribute effectively to the execution of the program. A coordinating committee on technical assistance on which the co-operating agencies were represented drew up a program comprising 46 projects which was presented to the council for action. Jan. 1, 1951, was fixed as the date for the initiation of the program.

The Inter-American Council of Jurists held its first meeting in Rio de Janeiro, Braz., from May 22 to June 15, 1950. Preparations were also made for the first meeting of the Inter-American Cultural council to be held at Mexico City, Mex., in 1951. By the end of the year the following agencies had been declared specialized organizations under the terms of the charter signed at Bogotá, Colom., in 1948: The Pan American Institute of Geography and History; the American International Institute for the Protection of Childhood; the Inter-American Institute of Agricultural Sciences; the Inter-American Commission of Women; and the Pan American Sanitary bureau. On July 1 the secretariat of the Inter-American Statistical institute was incorporated into the Pan American Union. The council also declared that the Inter-American Defense board should continue to function until the American governments by a two-thirds majority should consider its labour terminated.

Agencies abolished as a result of studies undertaken by the council pursuant to a resolution of the ninth International Conference of American States included the Emergency Advisory Committee for Political Defense, the Inter-American Trade Mark bureau, the Permanent American Aeronautical commission, the Inter-American Coffee commission, the Inter-American Development commission, the Central Pan American Bureau of Eugenics and Homiculture, the Pan American Railway committee and a number of international law agencies which had functioned prior to the establishment of the Council of Jurists.

On July 26, 1950, an agreement was signed between the Council of the Organization and the International Labour organization (*q.v.*) providing for close co-operation and co-ordination between the two organizations. A similar agreement with the United Nations Educational, Scientific and Cultural organization (U.N.E.S.C.O.) was approved by the council on Oct. 4, 1950, and was subsequently signed in Havana, Cuba, by the secretary-general of the Organization of American States and the director-general of U.N.E.S.C.O. at a regional meeting of the latter held in the Cuban capital. A further agreement between the O.A.S. and U.N.E.S.C.O. was signed in July 1950 providing for the establishment of a fundamental education centre in Mexico City and at the Pan American Union in Washington.

Inter-American specialized conferences held during 1950 included the 2nd Inter-American Statistical congress which met at Bogotá, Colom., from Jan. 16 to 27; the 13th Pan American Sanitary conference in Ciudad Trujillo, Dom. Rep., from Oct. 2 to 10; the 5th general assembly of the Pan American Institute of Geography and History at Santiago, Chile, from Oct. 16 to 20; and the 4th Inter-American Conference on Agriculture at Montevideo, Urug., from Dec. 1 to 12.

On Nov. 15, 1950, Ambassador Hildebrando Accioly, representative of Brazil, was elected chairman of the Council of the Organization of American States for the coming year, succeeding Ambassador Luis Quintanilla of Mexico. At the same time Ambassador René Lepervanche Parparcén of Venezuela was elected vice-chairman to succeed Ambassador Héctor David

Castro of El Salvador.

(W. MR.)

**Osteopathy.** Osteopathy is a complete school of medicine (the art and science of prevention, diagnosis and treatment of disease and injury) founded by Andrew Taylor Still in 1874. Its emphasis on normal body mechanics as being essential to health distinguishes it from other schools of practice. The practice of osteopathy is licensed in all states of the U.S.

Enrolment in the six accredited osteopathic colleges in the United States, located in Chicago, Ill., Des Moines, Ia., Kansas City, Mo., Kirksville, Mo., Los Angeles, Calif., and Philadelphia, Pa., numbered approximately 1,900 students in 1950. The colleges admitted 504 freshmen chosen from more than 2,600 qualified applicants.

Expansion of the teaching facilities of the colleges and their associated clinical hospitals received new impetus in 1950. The five-year \$7,500,000 Osteopathic Progress Fund campaign was successfully terminated during the year. The campaign was re-activated to embrace lay contributions as well as those from the profession, with an over-all goal of \$22,500,000.

The research project in neurophysiology, begun in 1947 at the Kirksville College of Osteopathy and Surgery, Kirksville, Mo., was further expanded in 1950 by additional grants from the U.S. public health service. Other research projects were instituted or expanded by funds derived from the sale of special Christmas seals.

The board of trustees approved for registration 195 osteopathic hospitals as meeting the standards and qualifications of the association's bureau of hospitals and the American College of Osteopathic Surgeons. Of these, 63 were approved for interne training and 33 for graduate training in the specialties. There was a total of 8,439 beds available in osteopathic hospitals in the United States in 1950.

The 54th annual convention of the American Osteopathic association was held in Chicago, Ill., in July 1950. Vincent P. Carroll, Laguna Beach, Calif., succeeded H. Dale Pearson, Erie, Pa., as president, and R. C. McCaughan, Chicago, was re-elected executive secretary of the association.

On Oct. 1, 1950, there were 11,490 practising osteopathic physicians and surgeons in the United States, Canada and other countries, 8,190 of them being members of the association.

(J. R. Fo.)

**Ottawa.** The capital of Canada, at the confluence of the Ottawa and Rideau rivers, in the province of Ontario, covers 28,134 ac. Pop.: (1941) 154,951; (1949) 191,442.

During 1950 considerable progress was made on the construction of the \$721,000 Mackenzie King bridge over the downtown section of the Rideau canal to relieve traffic congestion. Grading and groundwork progressed on the \$2,500,000 job of moving the Canadian National railways freight yards from the centre of town two and a half miles south. The federal government granted the city \$962,392 in lieu of taxes, compared with \$500,000 in 1949. The city council rejected a plea to put Sunday afternoon commercial sport to a plebiscite. The financial position of the corporation of the city of Ottawa on Jan. 1, 1950 was as follows: taxable assessment for general purposes, \$189,267,082; gross debenture debt, \$15,291,625; sinking fund, \$2,639,732; assets, \$74,909,980; liabilities, \$19,339,521. The taxes for 1949 amounted to \$8,824,625. In Sept. 1950 the employment index was 134.8 (Sept. 1949, 134.5); the Sept. 1950 aggregate pay roll index was 228.6 (Sept. 1949, 221.1). Bank clearings in 1950 amounted to \$5,833,050,703, compared with \$5,824,784,094 in 1949.

(C. Cy.)

**Outdoor Advertising:** see ADVERTISING.



**Outer Mongolia:** see MONGOLIAN PEOPLE'S REPUBLIC.

**Pace, Frank, Jr.** (1912– ), U.S. government official, was born in Little Rock, Ark., on July 5. He received his bachelor's degree from Princeton university in 1933 and his law degree from Harvard university in 1936. In that year he became assistant district attorney in the 12th judicial district in Arkansas. From 1938 to 1940 he was general counsel of the Arkansas state department of revenue. In 1942 he was commissioned a second lieutenant in the army air corps, and served for four years in the air transport command, reaching the rank of major.

Early in 1946 he was made a special assistant to the U.S. department of justice dealing with tax matters, and in May of that year he became executive assistant to the postmaster general. In Jan. 1948 he was appointed assistant director of the bureau of the budget, and a year later Pres. Harry S. Truman nominated him to the position of director of the budget. Late in March 1950 the president nominated him to become secretary of the army. He participated in the emergency planning involved in the defense of South Korea against North Korean Communist invaders, and in the defense mobilization planning. It was under his authority, delegated from the president, that the U.S. army seized the railroads of the nation on Aug. 27 to avert a nationwide strike of trainmen and conductors.

**Pacific Islands, British.** Under this heading are grouped the crown colonies and protectorates administered by the governor of Fiji and high commissioner for the western Pacific. Included are the colony of Fiji, the Gilbert and Ellice Islands colony, the British Solomon Islands protectorate, the protected state of Tonga and the Anglo-French condominium of the New Hebrides (*q.v.*). Areas: Fiji 7,040 sq.mi.; Gilbert and Ellice Islands 375 sq.mi.; Solomon Islands 12,400 sq.mi.; Tonga 250 sq.mi. Populations: Fiji (1946 census) 259,638, (1949 est.) 276,000; Gilbert and Ellice Islands (1949 est.) 36,000; Solomon Islands (1949 est.) 95,000; Tonga (1949 est.) 46,000. Chief town: Suva (capital of Fiji), pop. (European only, 1946) 2,266. Governor of Fiji and high commissioner for the western Pacific, Sir Leslie Brian Freeston.

**History.**—In Feb. 1950 in Fiji the legislative council considered the report of a constitution revision committee and decided against any important changes. The people of Fiji subscribed more than £57,000 for a war memorial antituberculosis fund, to which the government added £20,000. A colonial development and welfare grant of £25,800 was also available for this work, and the campaign had already started in 1948; there had been 486 cases in 1947 and 120 deaths in 1948. A ten-year development plan was approved costing £4,500,000 with emphasis on hydroelectric power and road development.

On March 13, 1950, the ruler of Tonga, Queen Salote Tupou, who had reigned for 32 years, celebrated her 50th birthday and the festivities were marked by the receipt of a personal message of congratulation from King George VI.

In the Solomon Islands the nativistic movement known as "marching rule" continued to lose ground during the year in consequence of firm handling by the government and of an acceleration in the development of social services, including education and the co-operative movement.

The native copra trade, helped by high prices, continued to prosper during 1950, recovery from destruction of the war being particularly marked in the Solomons. Progress was made in the Solomons with the building of the new capital at Honiara and the opening of the first government boarding school at Auki.

**South Pacific Conference.**—For all the islands the most significant event of the year was undoubtedly the visit of their

representatives to the South Pacific conference in Suva.

The South Pacific commission, an advisory body set up by agreement in 1947, was designed to develop, by international co-operation, the economic and social welfare of the inhabitants of the territories administered by its members in the South Pacific. Its members were Australia, France, the Netherlands, New Zealand, the United Kingdom and the United States. The permanent headquarters of the commission were at Nouméa in New Caledonia and it had two auxiliary bodies, the research council and the South Pacific conference. In 1949 the research council drew up a program of 28 research projects, of which 13 were concerned with economics, 10 with social development and 5 with health. During 1950 work was started on several of these projects, including a mass education experiment and a tuberculosis survey.

On April 24, 1950, the first meeting of the South Pacific conference was opened at Suva under the chairmanship of the high commissioner for the western Pacific, Sir Leslie Brian Freeston. The purpose of this conference was to enable native representatives from all the islands included in the sphere of the South Pacific commission to meet together periodically to discuss and promote all matters concerned with their common welfare. The conference lasted two weeks. Discussions ranged over a wide field, including economic, social and health conditions, the diversification of crops, fishing methods, handicrafts and the co-operative movement.

**Finance and Trade.**—Currency: in the Solomons, Gilbert and Ellice Islands and Tonga, British and Australian currency are legal tender, though Tonga issues its own notes (Tonga pound=\$2.24 U.S.) and in all these territories the exchange standard system is based on Australian currency; in the New Hebrides sterling and French currency are both legal tender; the Fijian pound was valued at \$2.52 U.S. in Oct. 1950.

	Revenue 1950 est.	Expenditure 1950 est.	Imports 1949	Exports* 1949
Solomon Islands . .	£A536,581†	£A536,581	£A450,063	£A582,263
Gilbert and Ellice Islands . . . . .	£A393,268‡	£A393,268	£A124,779	£A283,967
Tonga . . . . .	£A302,000§	£A323,243§	—	—
New Hebrides   . .	£150,000	£220,000	—	—
Fiji . . . . .	£F3,754,132	£F3,655,485	£F6,990,977	£F6,843,866

\*Including re-exports. †Including grant-in-aid, £A204,588. ‡Including grant-in-aid, £A101,610. §1949–50 est. ||Condominium only; British and French administrations have separate budgets.

Principal exports: copra, phosphates (Ocean Island), sugar and gold (Fiji).

See G. K. Roth, "Fiji: Seventy-Five Years of Native Administration," *Corona* (London, Sept. 1950). (K. G. B.)

**Pacific Islands, French.** Under this heading are grouped two French overseas territories and the Anglo-French condominium of New Hebrides (*q.v.*).

New Caledonia and its dependencies have an area of 7,654 sq.mi.; pop. (1949 est.) 50,000. The native population is Melanesian with Polynesian admixtures. The area of New Caledonia proper is 6,533 sq.mi. Nouméa, pop. (1946) 10,466, is the seat of the commissioner general for the Pacific ocean, Pierre Cournaire.

The French Settlements in Oceania, consisting of the Society Islands (the largest of which is Tahiti), the Marquesas, Tuamotu and other smaller islands, have an area of 1,545 sq.mi. and a population (1949 est.) of 59,000. The native population is Polynesian, mainly Christian. Papeete, on Tahiti Island, pop. (1946) 12,428, is the seat of the governor, René Petitbon.

**History.**—Debates by the assembly of the French union at Versailles concerned the composition and competence of a representative territorial assembly for New Caledonia. By 103 votes to 19 the assembly decided in favour of a single electoral college and universal suffrage. In January the fourth session of the South Pacific commission at Nouméa was attended by 21 representatives of Australia, France, the Netherlands, New Zealand, the United Kingdom and the United States.

The other French settlements in Oceania are, like New Cale-



donia, agricultural lands largely devoted to raising copra and vanilla which represent 72% of the exports. Nevertheless 60% of the food requirements were covered by imports. The government therefore concentrated on developing food cultivation and fruit crops for export. The building industry, long paralyzed by lack of materials, made a vigorous start in 1950, notably at Papeete. For the ten-year plan for the economic equipment of the territory, a sum of 1,277,500,000 fr. C. F. P. was allocated. (See also FRENCH UNION.)

**New Caledonia.—Finance.**—Budget (1950 est.) balanced at 334,900,000 fr. C. F. P. The franc C. F. P. (Colonies Françaises du Pacifique) = 5.5 M. fr. (metropolitan francs). Exchange rate (Dec. 1950): U.S. \$1 = 349.85 M. fr.

**Foreign Trade.**—(1949): Imports 711,300,000 fr. C. F. P.; exports 426,100,000 fr. C. F. P.

**Transport and Communications.**—Roads (1946): 4,021 km. Ships entered (1949): 602; cargo (metric tons): unloaded 279,600; loaded 229,700; passengers carried: arrivals 1,803; departures 1,969.

**Agriculture.**—Main crops (1949, metric tons): rice 700; maize 1,000; cassava 2,500; sweet potatoes 4,000; potatoes 1,100; peanuts 1,200; copra 1,900; coffee 800. Livestock (1949): cattle 94,000; sheep 6,000; goats 7,000; pigs 11,000.

**Mineral Production.**—(1949, metric tons): nickel ore 93,900; nickel mattes 4,000; chrome 88,800; gypsum 17,100.

**French Settlements in Oceania.—Finance.**—Budget (1949 actual) balanced at 159,500,000 fr. C. F. P.

**Foreign Trade.**—(1949): Imports 589,600,000 fr. C. F. P.; exports 472,300,000 fr. C. F. P. Main exports (1949, metric tons): phosphate rock 239,532; copra 25,123; vanilla 294.

**Transport and Communications.**—Shipping, cargo carried (1949, Tahiti and Makatea, metric tons): unloaded 55,800; loaded 218,500.

**Agriculture.**—Main crops (1949 est., metric tons): maize 300; cassava 400; taros 10,000; copra 28,600.

**Mineral Production.**—Phosphate rock (1949) 265,000 metric tons. (C. A. J.)

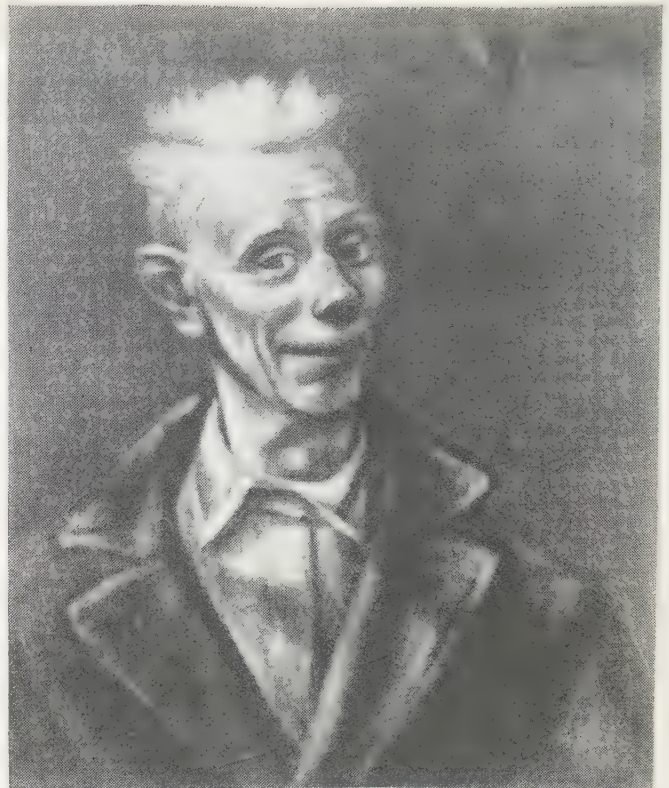
**Pacific Islands under Trusteeship:** see TRUST TERRITORIES.

**Painting.** In the year 1950 confusion with respect to criteria of value and directions for the future dominated exhibitions and criticism. In Europe the issues could not easily avoid the division of political allegiances between communism and capitalist democracy. In France and Italy the "cold war" was continued in the field of painting, with the left wing supporting an optimistic social realism and the right a near or pure abstract art.

Italian painting still appeared to be the most vital in Europe, but nowhere had an important young artist yet arisen to take a sure place among the old masters of modern art. Younger French painters were numerous, their work tasteful, but unexciting; English painting remained dominantly derivative of 20th-century French art. Modern styles were being revived in western Germany and Austria and were frequently supported by occupation authorities. In spite of Franco, Spain could boast of artists who worked in the near-abstract, international style of the west, along with artists whose fascist style approximated that of the U.S.S.R., Yugoslavia and other east European countries. Israel continued to support the art of painting with emphasis on French and German expressionism.

The major European exhibition of the year was the 25th Venice Biennial, the first since 1942 and hence since the defeat of fascism. There were about 4,000 works from 22 countries. The Italians, who were thus reintroduced to modes of expression they had not seen for years, seemed most taken by the Mexican contribution of one-man shows by four major artists, David Siqueiros, José Orozco, Diego Rivera and Rufino Tamayo. The United States contribution stressed John Marin; the German, Max Beckmann; the French, Henri Matisse.

In the United States, the year 1950 was marked by the rapid spread of abstraction to the extent of a virtual inundation. This was apparent in art schools, in most regional exhibitions, and in such national shows as the Whitney in New York city, the Carnegie in Pittsburgh, Pa. (first postwar International), the Walker in Minneapolis, Minn., the Virginia museum in Rich-



HENRY MATTSON'S "Self Portrait," awarded the Carol H. Beck gold medal for the best portrait in oil submitted to the 145th annual exhibit of painting and sculpture at the Pennsylvania Academy of the Fine Arts in Jan. 1950

mond, the Art Institute of Chicago and the Pennsylvania academy in Philadelphia. The Metropolitan museum in New York city inaugurated a new policy of showing modern art annually. The choice of the jury for the first exhibition seemed to threaten the cause of abstraction, and was boycotted by a group of leading *avant-garde* painters. When the exhibition opened, however, the abstract trend was again dominant. The issue in mid-century seemed no longer between abstract and representational idioms, but rather how to distinguish work of high quality from "academic" abstractions or superficial daubing. The usual criteria seemed increasingly inadequate, and Europe no longer seemed able to provide guidance.

Controversy centred around such artists as Jackson Pollock, Arshile Gorky, William De Kooning and Robert Motherwell, who were strongly supported by the Museum of Modern Art in New York city. The agitation generated the previous year by an announcement of the Boston Institute of Contemporary Art, which was interpreted in some quarters as a "reactionary" move, was calmed by a new and dignified manifesto encouraging freedom of expression, signed by representatives not only of the Boston institute but also of the Museum of Modern Art and the Whitney museum. Later in the year the International Association of Art Critics, meeting in Venice, passed a similar resolution condemning restraints upon the rights of the artist to free expression and exhibition.

Another controversy during the year, regarding the genuineness of a supposed Van Gogh self-portrait owned by William Goetz of Los Angeles, was settled by a precedent-making decision of the U.S. treasury department's bureau of customs. After a jury of experts was unwilling to accept the picture as an original, the Port of New York Customs authority made a surprisingly competent investigation of the painting and authenticated it to the apparent satisfaction of the art world.

Other anniversaries celebrated in 1950 were the 75th of the Art Student's league, New York city, and the 125th of the





"TRANSITION," an urban landscape in water colours by Leonard Cutrow which was awarded the 1950 gold medal of honour by the American Water Color society

National Academy of Design, New York city. One of the most important conferences of the year brought together painters and museum directors at Woodstock, N.Y., with a result which promised greater museum support of living artists in the future. *Life* magazine made a contribution to contemporary painting by collecting an exhibition of young American painters (under 36), which was shown at the Metropolitan museum and part of it published in *Life*. Universities, particularly in the middle west, continued to present major exhibitions of modern art, but support of contemporary painting by big industries, through exhibitions and prizes, largely ceased. (See also ART EXHIBITIONS; ART SALES; MUSEUMS; SCULPTURE.)

FILMS OF 1950.—*Art and Life in Italy* (Coronet Instructional Films). (L. D. L.)

**Paints and Varnishes.** Paint sales in the United States for 1950 were estimated at about \$1,100,000,000, slightly exceeding the previous peak sales in 1948. This high rate of production was made in spite of increasing costs and scarcity of raw materials following the outbreak in June of hostilities in Korea. In the last half of the year various imported materials related to paint became scarce, particularly tung oil and hog bristles. Stocks of flax and rosin held by the government in price support programs were dissipated to the point where these materials rose sharply in price. Limitation by the government on the use of cobalt in paint promised to become a severe handicap to paint manufacturers, since cobalt is the most active and least replaceable of the metallic driers. Almost all cobalt comes from Africa.

The use of safflower oil as a drying oil increased. A fast drying fraction of fish oil was introduced commercially on a new and economic basis by the use of propane refining. Commercial success was attained in production of dimerized fatty acids by a new catalytic process.

Ether resins, developed in recent years from a phenolic intermediate, and epichlorohydrin were so much in demand that a new plant was erected for their production. Small commercial production was begun on orthophenanthroline as a drier supplemental to manganese. Allyl sucrose and a styrene copolymer of this was proposed as another polymer-forming material for coatings, while the older allyl starch gained sufficient commercial success in lacquer-type coatings to warrant a price reduction. Ethyl hydroxyethyl cellulose was another new compound in the lacquer field.

An English development proposed the use of calcium plumbeate under United States and British patents as a pigment having rust-inhibitive properties superior to red lead.

There were several offerings of auto polishes based on silicone polymers which were claimed to have superior water repellence. Manufacturers of automotive refinishing enamels became concerned about nonadherence of their enamels over coatings of silicone polish. Finishes based on vinyl polymers reached new peaks of resistance to abrasion, alkalies and related chemicals in service on railway hopper cars. Two companies offered trade sales wall paints with strong claims of low odour during drying. Fluorescent poster and billboard colours were widely used.

A new challenge to the performance of protective coatings was made in May by the United States navy's bureau of aeronautics which asked for a finish for the leading edges of aeroplanes, which are made of aluminum, magnesium and other alloys, which would withstand erosion by air and rain at speeds of 700 m.p.h.

By 1950, graduate and undergraduate courses in paint technology were offered in a score of colleges throughout the country, in contrast to a very few courses offered 20 years earlier. An industry-sponsored co-operative research program on the fundamentals of drying oil chemistry was being carried on in 15 college and other laboratories, and an annual symposium on the theoretical aspects of coatings technology had been established by the American Association for the Advancement of Science. (Jo. C. W.)

**Pakistan.** A self-governing member of the Commonwealth of Nations, Pakistan is a federation of provinces, whose areas and populations are shown in the table.

	Area (in sq.mi.)	Population (1941 census or est.)
Sind . . . . .	48,136	4,535,000
West Punjab . . . . .	62,100	15,800,000
North-West Frontier province:		
(a) Administered area . . . . .	14,200	3,038,067
(b) Tribal area . . . . .	24,986	2,500,000
Baluchistan . . . . .	134,002	857,835
Total, West Pakistan . . . . .	283,424	26,730,902
East Pakistan (East Bengal). . . . .	54,100	41,880,000
Total. . . . .	337,524	68,610,902

Pop. (March 1, 1950, est.): 75,000,000. Languages: Urdu, Punjabi, Baluchi and Pashtu in West Pakistan and Bengali in East Pakistan; English used as a medium of instruction in higher education. Religion: Moslem (72.9%); Sikh, Hindu, Christian, Parsee and other minorities. Chief towns (pop. 1941 census): Karachi (cap., 359,492; 1948 est. c. 1,000,000); Lahore (671,659; 1948 est. c. 1,000,000); Dacca (213,218); Rawalpindi (181,169); Multan (142,768); Sialkot (138,348); Peshawar (130,967). Governor general: Khwaja Nazimuddin; prime minister: Liaquat Ali Khan (q.v.).

**History.**—At the end of April 1950 the prime minister, Liaquat Ali Khan, set out on a prolonged tour of the U.S. and Canada. The chief object of his visit was to enable the western democracies to obtain a clearer understanding about what Pakistan stood for, and the odds against which it had to struggle. On his arrival at New York city he was met by Harry S. Truman, president of the U.S., and on May 4 he addressed the house of representatives. In Canada he was the guest of the governor general, and addressed the houses of parliament. On his way home he was officially entertained by the British government.

Relations with India still left much to be desired, though some of the causes of disagreement were temporarily settled by the Delhi pact. On the other hand, widely felt disappointment was aroused by the failure of Sir Owen Dixon, the mediator appointed by the U.N. Security council, to reach an understanding over Kashmir (q.v.). Apart from the political and religious aspects of the question, Kashmir was vital to the existence of Pakistan because of the water supply. The six rivers necessary



to Pakistan's economic life, irrigating approximately 20,000,000 ac., all rise beyond Kashmir's northern or eastern frontiers. Water was the lifeblood of West Pakistan and its control by a hostile neighbour would mean ruin.

What water was to the Punjab, jute was to East Bengal. Of the total world yield of jute 75% was grown in the Brahmaputra and Meghna valleys, and the acreage planted in jute was under the control of the government, which fixed the annual quota in order to prevent profiteers from devoting to it land which would otherwise be planted with rice, the staple food of the country. At the root of the trouble with India over jute was the devaluation of the rupee. Here India had followed the United Kingdom and the other commonwealth countries with which its economy was closely bound. Pakistan, on the other hand, saw no reason for taking such a step. It had a favourable trade balance and feared that devaluation could lead to inflation. The jute from East Bengal was processed in Calcutta for export and the dispute which arose over prices led to the hold-up of 300,000 bales. India retaliated by stopping the supply of coal which Pakistan regarded as a violation of the interdominion agreement.

Trade between the two states came to a standstill, and railway communications were interrupted to such an extent that tea and other commodities from Assam could reach Calcutta only by a special link line. In Calcutta, mills were closed and unemployment led to fresh outbreaks of communal rioting. The disastrous migrations which had been successfully dealt with two years previously started again and threatened to reach unmanageable proportions.

Fortunately the seriousness of the situation was realized in time by the leaders of both countries. After correspondence on the subject Liaquat Ali Khan journeyed to Delhi and started conversations with Jawaharlal Nehru, prime minister of India, with a view to reaching a mutual understanding. Arrangements were made for the supply of 300,000,000 lb. of raw jute by Pakistan, in return for an equivalent supply of manufactured goods by India. In a joint declaration, the prime ministers expressed their determination to punish rioters, recover looted property, protect minorities and provide facilities for refugees who were already moving, while discouraging large-scale migra-

tions. A joint tour of the affected districts in Bengal by the minority ministers, which lasted for 13 days, had also a remarkable effect in restoring confidence (*see* INDIA).

In food grains the country was self-supporting, and the export trade to the United Kingdom in jute, raw cotton and tea had trebled. In the first half of 1950 it amounted to £34,250,000. In October members of the International Bank for Reconstruction and Development mission arrived to discuss the government's application for a loan of £80,000,000 for industrial expansion. Pakistan's strength lay in the fact that, unlike India, it was untroubled by internal dissensions. Communism was non-existent and the only political party was the Moslem league. The chief obstacles were the dearth of trained administrators, the dislocation of trade with India and the crushing burden of military expenditure in Kashmir. (For the Plan for Co-operative Economic Development in South and Southeast Asia *see* CEYLON. *See also* UNITED NATIONS.) (H. G. RN.)

**Education.**—Baluchistan: schools (Oct. 1949): primary 186, secondary 23, private 4, European 2, institutions of higher education 1; total pupils 18,500. North-West Frontier Province: recognized educational institutions (1947-48): for males 1,059, pupils 101,377; for females 156, pupils 11,035. Sind: schools (March 1946): primary for boys 2,327, pupils 165,653; for girls 398, pupils 40,257; secondary for boys 206, pupils 34,810; for girls 37, pupils 9,262. Colleges 9, students 3,700.

**Finance and Banking.**—Budget: (1949-50) revenue Rs. 754,600,000, expenditure Rs. 1,293,800,000; (1950-51 est.) revenue Rs. 772,800,000, expenditure Rs. 1,157,000,000, including defense Rs. 500,000,000. Internal debt (1948-49): Rs. 894,000,000. Currency circulation (Sept. 1950): Rs. 1,686,000,000. Gold and foreign exchange (Sept. 1950): U.S. \$449,000,000. Bank deposits (Sept. 1950): Rs. 1,065,000,000. Monetary unit: Pakistani rupee with an exchange rate of Rs. 3.32 to U.S. \$1.

**Foreign Trade.**—(1949) Imports Rs. 1,273,000,000; exports Rs. 898,000,000. Main sources of imports: U.K. 31.2%; India 15.3%; U.S. 10.7%. Main destinations of exports: U.K. 22.2%; India 10.0%; France 8.7%; U.S. 7.9%. Main imports: cotton piece goods 22.6%; cotton twist and yarn 14.7%; machinery and millwork 7.4%; vehicles (excluding locomotives, etc.) 5.6%. Main exports: raw cotton 46.0%; raw jute 32.5%; black tea 6.4%; raw wool 4.1%.

**Transport and Communications.**—Roads (1949): 55,913 mi. Licensed motor vehicles (Dec. 1949): cars 17,000; commercial 12,000. Railways: (1949) 6,682 mi., freight ton-miles (1947-48) 1,979,000,000; passenger-miles (1947-48) 4,334,000,000. Shipping (1949): merchant fleet 120,000 gross tons. Air transport (1949, six months): 1,175,250 mi. flown. Telephones (Jan. 1949) 16,454. Radio receiving sets (1949) 75,000.

**Agriculture.**—Main crops (metric tons, 1949): rice 12,403,000; wheat (1950) 4,080,000; barley 132,000; maize 430,000; sugar, raw value, 1,035,000; jute 820,000; cotton, ginned, 208,000; linseed 12,000; sesame seed 29,500; rapeseed (1948) 251,000; chick-peas 798,000; tea 20,000; tobacco 79,000. Livestock: cattle (1947-48) 24,296,000; buffaloes (1947-48) 5,600,000; goats (1939) 7,982,000; sheep (1947-48) 6,145,000; camels (1947-48) 454,000; horses (1947-48) 470,000; mules (1947-48) 41,000; chickens (1947-48) 22,248,000; ducks (1948-49) 5,063,000. Wool production, greasy basis, 12,000 metric tons in 1949. Milk production (metric tons, 1948): cow 2,477,000; goat and buffalo 3,340,000. Fisheries (annual est.): total catch 183,475 metric tons.

**Industry.**—Employment (1949): all industries 662,000; manufacturing 200,000. Fuel and power: coal and lignite (1949) 336,000 metric tons; electricity (1949) 169,000,000 kw.hr. Raw materials (metric tons, 1948): rock salt 140,000; chromite 16,000. Manufactured goods (metric tons, 1949): cotton cloth and yarn 13,600; glassware 7,300; vegetable oils 90,400; cement 325,000.

**FILMS OF 1950.**—*The Promise of Pakistan* (March of Time Forum Films).

**Palaeontology.** Reflecting the basically descriptive nature of palaeontology, the results of study on fossil back-boned animals published in 1950 were predominantly morphologic and systematic. A large balance of the annual bibliography, however, comprised the responses of many workers to the necessity, always dictated by such increases in factual data, of reviewing the broad geologic and biologic principles and methods of the science. Of perhaps greatest general interest from among these latter contributions was a compilation of papers by 11 eminent scientists entitled *Paléontologie et Transformisme*, which presents some of the major evolutionary problems, interpretations and theories.

**Fishes.**—Offering an account of the vertebrates, chiefly ostracoderms, from the "Passage Beds" and Old Red Sandstone of the Welsh borders, E. I. White demonstrated that these fossils are useful over a wide area in zoning the Downtonian and Dittonian



MOSLEM REFUGEES from Kashmir huddled for shelter in an abandoned aeroplane hangar at Jhelum, Pak., in 1950, pending a plebiscite to determine whether Kashmir would become part of India or Pakistan



rocks, and discussing the Silurian-Devonian boundary problem argued fixing it at the Ludlow Bone-Bed. Additional studies on lower fish groups included an attempt by R. M. Robertson to establish standard taxonomic criteria for families, genera and species within the agnathous order, Osteostraci; an admirable analysis of the neurocranium of *Jagorina* by E. A. Stensio; and the description of a late Devonian arctolepid from continental deposits in New York state by R. H. Denison from which it was concluded that slowly evolving arthrodiran stocks persisted in fresh waters throughout Devonian times while the main radiation of the order was taking place in marine environments. E. Jarvik continued his exhaustive studies of the middle Devonian lobe-finned fishes, and E. Nielsen in the second part of his monograph on Triassic fishes described *Australosomus* and *Birgeria*.

**Amphibians.**—Continuing his general surveys of the fossil amphibians, A. S. Romer discussed the criteria for the definition of the Palaeozoic Microsauria. In this, *Hylonomus* and a number of other animals usually assigned to the group are excluded as reptiles, and the belief is expressed that the microsaurians were possibly ancestral to the living urodelan and apodous amphibians. Remains of some Tertiary salamanders from Europe received the attention of W. Herre and H. Lunau, and a new labyrinthodont from the lower Triassic of South Africa was described by R. Broom.

**Reptiles.**—Initiating a series of studies on fossil turtles, E. E. Williams presented two papers: one on the variation and selection in the cervical central articulations of living turtles, and the other on the general evolutionary picture of western hemisphere tortoises. Among new fossil forms described are a variety of mammal-like reptiles from the Permian and Triassic of South Africa (R. Broom and M. George; and F. von Huene); a *Testudo* of Miocene age from Montana (T. M. Oelrich); a crocodilian with remarkably modified teeth from Cretaceous sediments in Brazil (L. I. Price); and a large cotylosaur from the Permian of Oklahoma (J. W. Stovall). Other papers of general interest included: a discussion by F. von Huene on the early Triassic origin of the ornithischian dinosaurs; a review by W. Janensch of the systematic position of the African camptosaur, *Dysalatosaurus*; a re-examination by W. G. Kühne of the ictodinosaur genera *Mucrotherium* and *Uniserium*; and speculation on the propagation physiology of the ichthyosaurs by B. Ottow.

**Birds.**—Knowledge of the fossil avian faunas of both the eastern and western hemispheres was increased. H. Howard summarized the fossil history of birds. Remains of a Miocene flamingo were recorded by L. Miller, and comparisons undertaken by W. R. Dawson indicated that the Pleistocene towhee from the Rancho la Brea Tar Pits was smaller than its nearest living relative.

**Mammals.**—T. Edinger investigated the evolution of frontal sinuses in horses. Sinus development in mammals generally was indicated to result from the disharmonious growth of the various skull parts and it was observed that with cerebral expansion the decisive factor in the origin of frontal sinuses, such pneumatizations occurred only late in the phylogeny of many phyla. Among many other contributors, C. Couto reported on a series of carnivorous mammal remains from Brazil; a new species of chalicotheres was described by M. George from the late Tertiary of the Transvaal; C. W. Hibbard and J. A. Wilson recorded the interesting occurrence of a middle Tertiary rodent in an oil well sample from Texas; C. Stock presented a note on a hyaenarctid bear from the middle Pliocene of Chihuahua, Mexico; and A. E. Wood analyzed the history and palaeogeography of the porcupines.

In research on the history of man, interest remained centred in the fossil ape men of South Africa (R. Broom, W. E. LeGros Clark, F. S. Dawe and others). (D. H. D.)

**Palaeobotany.**—Palaeobotanists participated in the Seventh

International Botanical congress, held at Stockholm, Sweden, July 12 to 20, 1950, by presentation of papers and emendation of some of the rules of palaeobotanical nomenclature.

During the year interest continued in the identification of plant remains preserved in coal balls, as shown in a study by Sergius Mamay of Washington university, St. Louis, Mo., who reported new species of fern fructifications from several localities in the United States. In two papers Rudolf Florin of Stockholm summarized his investigations of Upper Carboniferous and Lower Permian conifers. His segregation of genera and species was based largely on observations of cuticles taken from compressions and impressions, and on the morphology of the reproductive organs, particularly the female cone. Anna Lundblad, also of Stockholm, published studies of the ferns, seed ferns and cycads of northwestern Scandia.

Joaquin Frenguelli, of La Plata, Argentina, in another of his series on the Upper Gondwana flora of Argentina, added one new genus and four new species to that flora.

A colorful cross-section of a Brazilian fossil fern trunk, 8 cm. in diameter, was described by Henry N. Andrews, Jr., of Washington university, as *Osmundites braziliensis*. Its large size and characteristic internal structure identify it as a tree fern distantly related to the considerably smaller royal and cinnamon ferns of the eastern United States. It is surpassed in size by only one other fossil osmundaceous species, *O. carneri*, from the Tertiary of Paraguay.

Collections of plants from a sequence of carnotite-bearing strata in southwestern Colorado were studied by Roland W. Brown, of the U.S. geological survey, for determining the most likely position of the Lower Cretaceous-Upper Cretaceous contact in that area. The plants, which include ferns, cycads, conifers and dicotyledons, fall into two groups that, according to comparisons with those from other regions, serve to locate the boundary with reasonable certainty at the base of a sandstone locally called the Dakota. Another study by Brown identified leaves from Oligocene strata near Sweet Home, Ore., as those of an evergreen cherry. These leaves, besides showing the usual features of *Prunus*, have glands within the blades, thus relating them to the evergreen cherries, and particularly to the laurel cherry, *Prunus laurocerasus*, of southwestern Asia. The sequoia, hydrangea, sycamore and sweet gum, associated with the cherry, indicate a genial climate for the region at that time.

Seido Endo, of Tohoku university, reviewed the Miocene maples of Japan, Korea and south Manchuria, finding 12 nominal species.

Investigation of wooden pilings recovered from the foundations of buildings ruined by the bombing of Rotterdam, the Netherlands, in May 1940, yielded to W. W. Varossieau, of Delft, some interesting facts about the deterioration of wood below groundwater level. Disintegration proceeded from the outside inward by progressive decomposition of the cellulose in the cell walls, but this was not attributed to the action of fungi. The chemical changes were accompanied by development of a cubic or prismatic structure, paralleled by the first of a series of changes during coalification and petrification of wood.

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**Palestine:** see ISRAEL; JERUSALEM; JORDAN.



**Panamá.** A republic of Central America adjoining South America, Panamá is bisected by the Canal Zone, which is leased to the United States. Area: 28,575 sq.mi.; pop. (off. est., July 1, 1949): 763,800, both exclusive of the Canal Zone. The capital is Panamá city (146,117 in 1949); other principal cities are: Bocas del Toro (2,453), Chitré (5,676), Colón (54,334), David (13,656), La Palma (1,442), Las Tablas (2,667), Penonomé (2,031) and Santiago (6,944). Language: Spanish; religion: predominantly Roman Catholic. President in 1950: Arnulfo Arias Madrid.

**History.**—Repressive measures against both Liberals and Communists highlighted Panamá's political history during 1950. In January José Daniel Crespo, former minister of interior, and three other Liberals were placed under house arrest reportedly for harbouring clandestine radio equipment. In July Crespo and another Liberal were imprisoned for 20 days for publishing charges of President Arias' complicity in the secret drug trade. Meanwhile the authorities had closed down the local headquarters of the communistic People's party, and on Nov. 2 the national assembly approved a supplementary appropriation of \$13,000 to help stamp out communism.

In June, María Santo Domingo de Miranda became the first woman member of the cabinet when President Arias appointed her to succeed Aurelio Guardia as minister of labour, social welfare and public health.

In a convention signed Jan. 26, Panamá agreed to honour \$350,000 worth of U.S. claims filed as far back as 1915. On Aug. 2, the president and his cabinet agreed to offer the United Nations use of the nation's military bases, roads, merchant marine and volunteer troops for the Korean campaign.

On the economic front the year was marked by drastic reductions of government expenditures in an attempt to balance the budget, new price controls to check inflation and a new loan to consolidate the foreign debt. The new \$10,556,875 obligation, at 3% interest, cancelled five separate loans at varying rates for an annual saving of \$240,000. During the year the government also granted free tracts from the public domain to landless farmers and special privileges to expanding industries. A world-wide boycott of Panamá-registered shipping was voted into effect April 18 by the International Transport Workers federation in an effort to force better wages and working conditions in the Panaman merchant marine. In July the government pledged to improve its shipping conditions.

**Education.**—For the 1948-49 school year there were 922 primary schools with 3,175 teachers and 101,249 students; 15 secondary schools with 316 teachers and 7,155 students; 52 professional schools and colleges with 497 teachers and 9,149 students. The national university enrolled 1,100. In 1950 the government allotted 34.7% of the national budget to public education.

**Finance.**—The monetary unit is the balboa, maintained at par with the U.S. dollar. The national budget for 1950 called for expenditures of \$32,245,919.06 (\$33,208,233.04 for 1949). At the end of 1949 the deficit was approximately \$2,500,000; the foreign debt \$15,361,529; the domestic debt \$12,119,696. As of June 30, 1949, there were 11 banks, capitalized at \$4,850,000, with reserves of \$2,106,661.35 and deposits of \$68,437,200. At the same date money in circulation amounted to 1,510,000 balboas in specie and 1,253,000 in paper.

**Trade and Resources.**—Exports during 1949 amounted to \$11,050,305 (\$10,477,272 in 1948); imports, \$62,148,370 (\$63,775,726 in 1948). About 90% of the trade was with the United States. The chief exports in 1949 were: bananas (5,788,435 stems, valued at \$6,818,991), abaca fibre (about 7,000,000 lb., at \$1,595,575), cacao (5,793,480 lb., at \$1,001,004), gold bars (300,370 gr. at \$390,870), cowhides (42,369 hides, at \$309,315), beverages (80,980 gal., at \$221,740), cabinet woods (1,134,525 sq.ft., at \$200,494) and coconuts (2,512,000 nuts, at \$131,339). Imports were mainly manufactured and semimanufactured goods. The unfavourable balance of trade was partly compensated for by sales to tourists, especially from the Canal Zone.

**Communications.**—At the end of 1949 there were 223.4 mi. of railroads and 1,479 mi. of highways. At the end of 1948, 14,932 automobiles and 6,417 trucks and buses were registered. There were 1,270 mi. of telephone and telegraph lines, 8,400 telephones, 44 broadcasting

stations and about 50,000 radios. The merchant marine as of Dec. 31, 1949, registered 725 ships totalling 3,587,049 tons.

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**Panama Canal Zone.** A United States military reservation embracing a ten-mile strip across the Isthmus of Panama, leased for the protection and administration of the Panama canal, the Panama Canal Zone has an area of 553 sq.mi., including 191 sq.mi. of fresh water. Population, exclusive of uniformed military personnel (1949 off. est.): 46,461, of whom 22,830 were U.S. citizens; (1950 census): 52,822. Administrative centre: Balboa Heights (pop. 1946: 12,623).

Governor in 1950: Brig. Gen. Francis K. Newcomer.

**History.**—In Sept. 1950 the United States government enacted a measure reorganizing the administration and accounting system of the Canal Zone with a view toward greater efficiency. The new act established two distinct agencies: (1) the Panama Canal Co., to be solely in charge of canal operations; and (2) the government of the Canal Zone, to be responsible for civil functions. The costs of the latter agency were to be calculated separately from those of the former and not computed into the base on which canal toll rates are set.

**Education.**—In 1949 there were 14 schools with 4,509 students and a junior college for whites; 14 schools with 3,277 students and a normal school for nonwhite students.

**Finance.**—Total canal revenues for the 1948-49 fiscal year were \$20,744,910.78; net expenses, \$21,217,495.11; and net capital investment as of June 30, 1949, \$721,907,811. During the fiscal year 4,793 ships passing through the canal carried cargoes totalling 25,305,158 tons and paid tolls amounting to \$20,541,230.

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**Pan American Union:** see ORGANIZATION OF AMERICAN STATES.

**Paper and Pulp Industry.** The estimated production of paper and paperboard in the United States for 1950 was about 24,000,000 short tons as contrasted with 20,304,243 tons for 1949.

This had become the sixth largest industry in the United States. The great increase in production and consumption was due to a general effort to build up inventories and the first stages of wartime buying for government requirements.

**Canada.**—The latest paper production figure available for Canada in 1950 was for the year 1948, when 6,063,646 tons were made. Including the production of the industry in Newfoundland,

Table I.—U.S. Paper Production

	1940	1945	1949
Newsprint . . . . .	1,056,304	725,475	916,042
Book . . . . .	1,655,423	1,501,015	2,151,759
Groundwood . . . . .	550,453	636,026	804,810
Fine . . . . .	735,753	1,000,794	1,027,309
Wrapping (coarse) . . . . .	2,500,818	2,403,182	2,827,330
Tissue . . . . .	733,894	157,083	199,189
Sanitary . . . . .		823,705	956,265
Absorbent . . . . .	129,410	88,643	79,458
Building papers . . . . .	682,460	883,259	1,112,688
Other paper . . . . .	60,120	238,047	270,264
Container board . . . . .	3,434,834	4,131,107	4,610,199
Folding boxboard . . . . .	1,416,452	2,092,434	2,055,471
Setup boxboard . . . . .	898,549	721,087	600,730
Building boards . . . . .	179,443	894,830	882,395
Other boards . . . . .	449,796	1,074,368	1,810,334
Total . . . . .	14,483,709	17,370,965	20,304,243

Table II.—U.S. Production and Consumption of Paper, Wood Pulp and Pulpwood

Year	Paper and Paperboard (short tons)		Wood Pulp (short tons)		Receipts of Pulpwood (cords)		
	Production	Consumption	Production	Consumption	Domestic	Imported	Total
1925 . . . . .	9,182,204	10,590,090	3,962,217	5,590,304	5,005,445	1,088,376	6,093,821
1931 . . . . .	9,381,840	11,403,850	4,409,344	6,005,718	5,896,446	826,320	6,722,766
1935 . . . . .	10,506,195	12,490,886	4,925,669	6,877,869	6,590,942	1,037,332	7,628,274
1940 . . . . .	14,483,709	16,620,632	8,959,559	9,781,739	12,307,138	1,435,820	13,742,958
1945 . . . . .	17,370,965	19,665,487	10,167,200	10,825,412	15,254,000	1,729,000	16,983,000
1948 . . . . .	21,921,757	26,106,175	12,872,292	14,346,847	20,026,000	2,307,000	22,333,000
1949 . . . . .	20,304,243	24,680,867	12,156,897	13,616,093	17,547,000	1,706,000	19,253,000



Table III.—U.S. Wood Pulp Production

Year	(In short tons)						Total
	Unbleached Sulphite	Bleached Sulphite	Total Sulphite	Ground-wood	Soda	All Others	
1935 ..	634,947	944,620	1,467,749	1,355,819	485,162	144,002	5,032,299
1940 ..	995,700	1,612,089	3,747,992	1,632,727	532,387	438,664	8,959,559
1942 ..	1,213,066	1,717,206	4,738,266	2,276,126	462,065	376,701	10,783,430
1945 ..	815,969	1,543,762	4,471,875	2,386,859	429,757	518,978	10,167,200
1948 ..	901,814	1,909,402	6,013,696	2,175,107	509,864	1,362,409	12,872,292
1949 ..	710,486	1,826,598	5,968,557	1,962,141	491,822	1,177,584	12,137,188

the most recently acquired province of Canada, the 1949 estimate of production was 6,450,000 short tons. Of this amount,

Table IV.—Canadian Paper and Paperboard Production

Kind	1947	1948	1949
Newsprint . . . . .	4,474,000	4,640,000	5,187,206
Book and fine paper . . . . .	212,000	231,000	199,317
Wrapping . . . . .	188,000	207,000	195,585
Paperboard . . . . .	655,000	708,000	797,023
Tissue . . . . .	68,000	69,000	*
Other papers . . . . .	178,000	208,000	160,838
Total (short tons) . . . . .	5,775,000	6,063,000	6,539,969

\*Included in other papers.

newsprint represented about 5,175,000 tons. In the preceding five years, newsprint capacity had been increased by nearly 600,000 tons.

Table V.—Canadian Wood Pulp Production

Year	(In short tons)						Total*
	Bleached Sulphite	Unbleached Sulphite	Sulphite	All Others	Groundwood		
1935 . . . . .	374,157	644,820	236,536	20,887	2,563,711		3,868,341
1940 . . . . .	543,987	936,558	371,569	133,164	3,305,484		5,290,762
1945 . . . . .	603,929	1,035,755	478,740	140,470	3,341,920		5,600,814
1948 . . . . .	735,346	1,404,060	816,438	77,907	4,392,680		7,426,431
1949 . . . . .	639,243	1,316,707	856,464	256,063	4,600,635		7,669,112

\*Includes all pulp screenings.

**United Kingdom.**—Although no official production figures were available for Great Britain, the output in 1949 averaged 8,914 tons per week as compared with 5,736 tons per week in 1948. During the early part of 1950 the weekly production average was 10,897 tons. If maintained this would amount to a total production of about 567,000 tons for the year. This was less than the government's estimate of 71.5% of pre-World War II production for 1950. (See also **FORESTS**.) (R. G. M.)

**Papua:** see COMMONWEALTH OF NATIONS.

**Paraguay.** A landlocked republic in south-central South America, Paraguay is bounded north and east by Brazil, south by Argentina and west by Bolivia. Area: 157,047 sq.mi., of which 95,338 sq.mi. constitute the sparsely populated Chaco, while the 61,709 sq.mi. lying east of the Paraguay river contain 95% of the population and activity. Population (mid-1949), 1,304,000. The people are a homogeneous mixture of Spanish and Guaraní stock, with some Portuguese and Italian, which has developed into a racial type. Official language: Spanish. The Guaraní tongue has survived more than the blood, but is secondary and recessive. Capital and chief centre: Asunción, pop. (1948) 130,067. Other cities: Villarica (31,081), Concepción (16,487), Encarnación (16,078). The official religion is Roman Catholic. At the end of 1950 the president was Federico Chaves, the foreign minister Bernardo Ocampos and the minister of finance Ramón Méndez Paiva.

**History.**—The Colorado party took over the country in June 1948 from the military government of Gen. Higinio Morinigo which had been in power since early 1941. Early in 1949 a military coup sought to bring back to Paraguay the exiled Liberal and Franquista leaders for a general election, but the two factions of the Colorado party united to induce other military officers to restore the party to authority. In Sept. 1949, the president, Felipe

Molas López, who belonged to the Guión (Standard) Colorado faction, was ousted by the Democrático Colorado faction in favour of Federico Chaves, who had been the head of the entire party for many years. This brought about the exile of the Guión Colorado leaders. Elections were called for July 16, 1950; and in April 1950 a party convention which included only the Democrático Colorados was held to nominate candidates for the presidency and for the congress, and to elect the governing board of the Colorado party. Federico Chaves was nominated for the presidency without opposition; likewise single lists were approved for the congress and the governing board. In a single-slate election held in July, the candidates nominated were elected to office. On Aug. 15, 1950, Chaves was inaugurated as president. The country remained peaceful during the rest of the year, though the government stated that it forestalled a number of conspiracies.

**Education.**—The latest official estimates available in 1950 were for 1946; they showed 2,000 elementary schools, of which a large number give three years of instruction, with 65,000 pupils. There was a national junior college at the capital, as well as a national school of agronomy which in 1950 had 200 students and 20 teachers. There were also several local normal schools and agricultural schools in various towns. The National university at Asunción had in 1950 approximately 1,800 students and 100 professors.

**Finance.**—As a member of the International Monetary fund, Paraguay maintained the gold parity of its currency unit, the guaraní, at 3.09 to the U.S. dollar. After Nov. 5, 1949, however, special official rates for the conversion of outside funds ranged from five to eight guaraníes per dollar, and the black market rates were higher. (The statistics in dollars used in this article have been converted at the official parity rate, and should therefore be scaled down to give practical values.) Government revenues in 1948 were \$15,000,000, with expenditures \$24,000,000; the national debt was \$22,500,000. Obligations of the government to the banks almost tripled in 1948 and 1949, standing at \$28,000,000 in Jan. 1950. Currency in circulation increased in much the same ratio, attaining \$29,300,000 in Jan. 1950. Reserves of foreign exchange and gold were about \$5,000,000, as compared with \$8,500,000 a year earlier. Total bank loans almost doubled in 1949, rising to \$36,000,000, while deposits subject to check rose 50%, reaching \$39,000,000.

**Trade and Communication.**—Paraguayan exports in 1949 were \$33,000,000, while imports were \$28,500,000. During the first quarter of 1950 the exports were \$12,000,000 (if the value in guaraníes is converted at official parity), while imports were \$8,000,000. The principal exports were quebracho extract, lumber and logs, cotton fibre, hides, canned beef, tobacco, yerba maté and petitgrain essential oil. The principal imports were non-tropical foodstuffs, textiles, machinery and metal manufactures, vehicles, chemicals, petroleum products and paper. In 1949 the sources of imports were: the United States 33%, Argentina 22% and the United Kingdom 18%. The same countries were the principal destinations of Paraguayan exports.

The low-water season in the Paraguay river early in 1950 was unusually long and severe, but the traffic later in the year compensated. The latest estimates (1948) gave 440,000 tons as the river movement, with 240,000 tons as the railway movement. The Paraguay Central railway, which is British-Argentine in control, runs 278 mi. southeast from Asunción through the best farm and forest areas to Encarnación on the upper Paraná, where it connects by car ferries with the Argentine railway systems at Posadas. It carried more than 2,000,000 passengers in Paraguay, as well as freight consisting of forest and farm products in 1950. The construction of gravel-crowned highways continued steadily in 1949 and 1950, notably in the Misiones region, and the total of such modern roads was more than 500 mi., in addition to 80 mi. of asphalt. Earth roads totalled 4,000 mi. in 1948, but many of them were primitive, for ox-drawn traffic. The number of automotive vehicles at the beginning of 1950 was 3,100, of which 1,800 were passenger cars, 1,000 were trucks and 300 were buses. The telephone system, in charge of the government, served 5,000 subscribers in Jan. 1949. The network of 137 telegraph stations is state-owned, and the railway's telegraph facilities are also used by the public. Operating to outside countries in 1949 were eight radio-telegraph and two radio-telephone circuits. There were six long-wave and three short-wave radio stations in 1948, and more than 25,000 receiving sets.

**Agriculture.**—Early in Aug. 1950 the ministry of agriculture estimated cotton production for the year at 45,000 tons, as compared with 38,000 tons in 1949. About 10,000 tons of tobacco were produced, as compared with 8,200 tons in 1949. Cottonseed amounted to 26,300 tons. The peanut crop, which was promoted by the government, for the first time attained more than 1,000 tons. The maize crop for 1950 was estimated at 127,000 tons, as against 100,000 tons in 1949; while rice production reached 20,000 tons, an increase of 5,000 tons. The 1950 crop of 220,000 boxes of grapefruit was of record size. The lemon and lime yields, at 168,750 and 149,100 boxes respectively, showed good increases. The orange and tangerine yields were lower than in 1949. Cattle were estimated at 3,369,000 head, as compared with the 1948 figure of 5,000,000. This decrease was attributed largely to increased domestic beef consumption, which was approximately 570,000 head in 1950, as well as to the diminution of imports from Argentina.

**Manufacturing.**—The production of tanning extract from quebracho wood and the production of canned beef are the principal manufacturing industries; but lumber and plywood, vegetable oils and processed yerba maté



are important semimanufactured products. There is also a substantial textile industry, making fabrics of cotton, silk and wool. Asunción has flour mills, a brewery and plants which produce furniture, shoes, soap, glass, matches, cigarettes and processed foods. The total number of industrial workmen is estimated at 50,000. Wages were increased by 30% to 50% in 1950 in consequence of the increase in the cost of living to an index of 863 based on 1938 as 100.

**Mines and Forests.**—The output of lime in 1949 was 14,000 tons, and the output of kaolin 7,000 tons. Extensive explorations for petroleum conducted by a large U.S. oil company were terminated unsuccessfully in 1949. In the first ten months of 1949 the exports of logs and lumber were valued at between \$5,000,000 and \$6,000,000.

**Point Four Program.**—The first Joint Commission for Economic Development under the Point Four program of the United States in Latin America was established for Paraguay early in Dec. 1950. It would utilize a staff of Paraguayan and U.S. technicians, and would concentrate on the improvement of basic production and of transportation to the world's markets. In part its efforts would be based on the activities of the already existing U.S. missions to Paraguay dealing with agriculture, technical education and sanitation. (W. FT.)

**Parents and Teachers, National Congress of:** see SOCIETIES AND ASSOCIATIONS.

**Paris.** Capital and largest city of France, Paris had in 1946 a population of 2,725,374. President of the municipal council, Pierre de Gaulle.

To the 1,400,000 tourists who visited the French capital during 1950, and who spent there the equivalent of nearly \$100,000,000, Paris presented an aspect not only of completely unrestricted well-being, but of luxury and abundance as well. There was a marked increase of all commodities and services that, in any way, touched upon the tourist and related luxury trades. As usual, there was a continuous program of artistic events that included opera, ballet, art shows, symphony concerts and special exhibits in the numerous state museums.

But the living conditions of an increasingly large portion of the population left much to be desired. The housing situation was critical, and more than 50,000 priority requests for official help in obtaining suitable living quarters remained unsatisfied.



WOMAN BOARDING a French army truck pressed into emergency transport service in Paris in March 1950, during a Communist-led strike by bus-line and subway employees

Salaries remained low by comparison with the cost of consumer goods and services, and in consequence, the majority of the Parisian population was unable to share in the abundance and luxury evident in the shops. To aggravate this situation, social insurance levies proved to be insufficient, and a revision with possible reduction of these services was under consideration.

The ministry of education reported that 181,000 children of all ages were enrolled in the 579 state schools located in Greater Paris Seine *département*. Educators felt, however, that the lower age groups, grown suddenly larger as a result of a sharp rise in the post-World War II birth rate, were not adequately provided for.

The city's budget for 1951 was tentatively balanced at 47,050,000,000 fr. as compared with 44,000,000,000 fr. in 1950.

(M. JOL.)

**Parks and Monuments:** see NATIONAL PARKS AND MONUMENTS.

**Parliament, Houses of.** In 1950 parliament was dissolved on Feb. 3, nominations closed on Feb. 13 and, with the exception of the Moss Side division of Manchester, polling took place throughout the country ten days later. Of the electorate of 34,269,764, the percentage voting was 84, the highest vote and the largest electorate in history, against 76% and 32,836,419 in July 1945. The final state of the parties was: Labour 315; Conservatives 297; Liberals 9; others 4. (See also GREAT BRITAIN AND NORTHERN IRELAND, UNITED KINGDOM OF.)

The 39th parliament of the United Kingdom of Great Britain and Northern Ireland, with the most evenly divided house of commons in 100 years, met on March 1 and its first session was opened by the king on March 6. Col. Douglas Clifton-Brown (Hexham) was re-elected speaker.

The small government majority was soon tested in a division; the first two divisions on the king's speech gave majorities of 14 and 25.

On Oct. 23 the members of the commons met for the first time in the new chamber, architecturally designed by Sir Giles Gilbert Scott and with engineering and structure by Oscar Faber, to replace the chamber destroyed in an air raid in May 1940. The commons chamber was designed on lines similar to the old house.

Ten by-elections were held during the year, but the only change in the composition of the house of commons after the election was the resignation from the Labour party on Aug. 4 of Raymond Blackburn (Northfield, Birmingham).

The member elected to the house of commons for Belfast West, the Rev. J. G. MacManaway, was a clergyman of the Church of Ireland and immediately after the election doubts were expressed in the house of commons as to his eligibility to sit. His case was examined by a committee of the house and the judicial committee of the privy council was asked for its opinion. Its view, that he was not entitled to be a member, was accepted by the house on Oct. 19 and his seat was declared vacant. A member also of the Northern Ireland house of commons, he continued to sit there.

During the committee stage of the Festival of Britain (Sunday Opening) bill, an amendment to prohibit the Sunday opening of the fun-fair in Battersea park was carried against the government on a free vote by 389 votes to 134.

Eight members and former members of the house of commons—all Labour—were raised to the peerage during the year.

Winston Churchill (*q.v.*) celebrated during the year the 50th anniversary of his entry to the house of commons for Oldham on Oct. 1, 1900. Lady Megan Lloyd-George completed 21 years' con-



tinuous membership of the house of commons. She had represented Anglesey from 1929.

(See also CABINET MEMBERS; LAW.)

**Pashtunistan:** see AFGHANISTAN.

**Patents.** During 1950 the United States patent office granted 48,009 patents, including 4,718 for designs, 90 for plants and 129 reissues. This was an increase of 8,200 over the 39,809 total for 1949.

Applications for patents filed in the patent office for the calendar year 1949 totalled 74,810; for the first 11 months of 1950 the number filed was 68,564. In Dec. 1950, approximately 220,000 applications were pending in the patent office, of which about 124,000 were awaiting action by the office, the remainder being under rejection awaiting response by applicants, or in interference or on appeal.

Trade-marks registered (16,829) and renewed (3,564) during 1950 totalled 20,393. This compared with 19,769 registrations and renewals in 1949. In addition, 2,053 registrations were re-published. Applications for registration, republication and renewal for the first 11 months of 1950 totalled 21,701, compared with 25,492 applications for the entire preceding year. Approximately 34,000 trade-mark applications were pending in the office in Dec. 1949, of which about 23,000 were pending before the examiners.

At the end of 1950, the patent office had granted more than 2,535,000 patents, of which about 600,000 were unexpired. More than 50,000 unexpired patents were listed on the register of patents available for licensing or sale—the new listings being published in the weekly issues of the *Official Gazette*. During the year ended June 30, 1950, more than 7,000,000 copies of United States patents and trade-marks were distributed, of which more than 800,000 were sent to libraries in the United States, and more than 1,250,000 to other countries under exchange agreements.

The project undertaken in 1948 to perfect the patent copy reference collection maintained for public use in the search room was completed in Feb. 1950; a smaller staff was continuously engaged in keeping this work current. A second edition of the booklet *Rules of Practice in Trade-Mark Cases with Forms and Statutes*, under the 1946 Trade-Mark act, incorporating amendments in the rules effective since July 5, 1947, was published in Feb. 1950. The preparation and publication of a pamphlet entitled *General Information Concerning Trade-Marks* was completed in March 1950. An office publication entitled *Patent Laws* was enlarged when republished in Oct. 1950, by the addition of a supplement containing laws relating to patents and notes to laws of interest in connection with patents enacted during the 81st congress.

An innovation to aid in the selection of a trade-mark prior to using and applying for registration was the establishment of a trade-mark index of pending applications, digesting the application data by identifying the applicant and the serial number of the case, specifying the mark sought to be registered, and describing the goods or services to which applied.

During the first year of publication of abstracts of abandoned patent applications, which commenced in the July 5, 1949, issue of the *Official Gazette*, a total of 490 cases were abstracted and printed.

Net receipts for the fiscal year ended June 30, 1950, were \$5,430,739.26. Obligations incurred under all patent office appropriations amounted to \$11,023,035.67 as compared with \$10,101,937.71 for the preceding year. (J. A. ML.)

**Peaches:** see FRUIT.

**Peanuts.** The U.S. in 1950 harvested 2,038,425,000 lb. of picked and threshed peanuts, considerably more than the 1,875,825,000 lb. of 1949, but 13% below the record 1948 crop of 2,338,470,000 lb. Acreage harvested in 1950 was 2,315,000, slightly below the 2,332,000 ac. of 1949. Average yields of 881 lb. per acre were a record high compared with 804 lb. in 1949 and an average for the 1939-48 decade of 687 lb. Yields in Virginia were a record high of 1,475 lb., and three other southeastern states made new record per acre yields.

The season average price of 1950 crop peanuts to farmers was estimated at 11.0 cents per pound, slightly above the government support price and comparable with 10.4 cents per pound in 1949. The crop was valued at \$223,406,000, as compared with a 1949 crop valued at 194,582,000. Price supports were available on peanuts produced on allotted acreages by eligible producers at 90% of the Aug. 1 parity or 10.8 cents per pound. Under

U.S. Peanut Production by Leading States

(In thousands of pounds)				
State	1950	1949	1948	Average 1939-48
Georgia . . . . .	691,200	612,000	818,300	666,233
Alabama . . . . .	335,400	290,500	354,710	295,360
Texas . . . . .	330,750	333,450	300,800	283,952
North Carolina . . . . .	248,040	243,080	346,625	315,847
Virginia . . . . .	221,250	195,960	237,800	186,333
Oklahoma . . . . .	116,580	113,900	153,000	89,137
Florida . . . . .	59,040	51,255	85,250	63,350
South Carolina . . . . .	15,750	14,300	18,200	18,312

existing legislation, price support would continue at 90% of parity on this basic crop if either marketing quotas or acreage allotments were in effect; voting growers in December approved by 71% (62 $\frac{2}{3}$ % approval required) the continuance of production and marketing controls for three more years in spite of the fact that Virginia growers (of the so-called edible-type peanut) voted disapproval. However, public agitation by some growers to have controls removed from the 1951 crop continued.

Per capita consumption of shelled peanuts in the U.S. continued at 4.4 lb., compared with a peak of 6.4 lb. in 1945, but approximated the prewar average. In spite of uptrend in price, moderate amounts were still held by the Commodity Credit corporation late in the year as available surplus stocks.

World production of peanuts in 1950 was estimated at 11,400,000 short tons, unshelled, by the U.S. department of agriculture, perhaps a new record, compared with a revised estimate of 10,878,000 tons in 1949 and a prewar average of 9,550,000 tons. The largest producer, India, with a crop of 4,099,000 tons, compared with a crop of 3,806,000 in 1949, accounted for part of the increase. China and Nigeria also showed increases, whereas Brazil and Argentina had smaller crops. The partially developed East African peanut project of the Overseas Food corporation of the British government apparently was de-emphasized and somewhat diverted to other crops. (J. K. R.)

**Pears:** see FRUIT.

**Pearson, Lester Bowles** (1897— ), Canadian politician, was born at Toronto, Ont., April 23. After serving in World War I, he graduated from the University of Toronto, went to St. John's college at Oxford university on a Massey foundation fellowship, and became history lecturer in the University of Toronto.

In 1928 he entered the Canadian department of external affairs as a first secretary. In 1935 he went as secretary to the office of the high commissioner for Canada in London, but was recalled to Ottawa in 1941 to become assistant undersecretary of state for external affairs. He was posted to Washington, D.C., in 1942 as minister-counsellor at the Canadian legation, and in 1945 he was appointed Canadian ambassador to the United States. A year





RETURNING FROM A HIKE to headquarters, during the Boy Scouts' National jamboree held at Valley Forge, Pa., during June-July 1950. The jamboree was attended by 47,000 scouts from the U.S. and abroad

later he was recalled to Ottawa to become undersecretary of state for external affairs.

In 1948 Pearson joined the cabinet as secretary of state for external affairs, and was elected to the house of commons as Liberal member for Algoma East, Ont. In 1949 he was chairman of the Canadian delegation to the United Nations general assembly, and was elected chairman of the political and security committee.

During 1950 Pearson attended the commonwealth meeting on foreign affairs at Colombo, Ceylon, in January, the North Atlantic council meeting in London in May, and the general assembly of the United Nations in September. (C. Cy.)

**Pecans:** see NUTS.

**Pemba:** see BRITISH EAST AFRICA.

**Penicillin:** see CHEMOTHERAPY; MEDICINE.

**Pennsylvania.** A middle Atlantic state and one of the 13 original states of the union, Pennsylvania is popularly known as the "Keystone state." Area, 45,333 sq.mi., including 288 sq.mi. of inland waters. Population (U.S. census, 1950) 10,498,012, an increase of 6% over 1940. Capital, Harrisburg (pop. 1950 preliminary figures, 89,091); cities with a larger population: Philadelphia (2,064,794); Pittsburgh (673,763); Erie (130,125); Reading (109,062).

The urban population in 1940 numbered 6,586,877 and the rural, 3,313,303.

**History.**—In the year 1950, many items in the program of public improvement, inaugurated by Gov. James H. Duff, were carried forward to a successful conclusion. The eastern extension of the Pennsylvania turnpike to the outskirts of Philadelphia was completed in October, and construction of a western extension

from Pittsburgh to the Ohio border, was well under way. In addition, \$113,600,000 was expended in 1950 for construction and improvement of state highways.

Outstanding among the many developments in the state's clean-stream program was the removal, during the year, of approximately 10,000,000 cu.yd. of accumulated silt from the upper Schuylkill river.

The total removed to the end of the year was more than 16,000,000 cu.yd.

Under the State Housing and Redevelopment act, 34 state housing projects and 13 urban redevelopment projects had been subsidized. During 1950, a total of \$383,777,815 was paid out to 1,066,146 veterans of World War II, as a service bonus.

In the Nov. 1950 election, James H. Duff, Republican, received 1,820,400 votes for U.S. senator, against 1,694,076 for Francis J. Myers, Democrat. John S. Fine, Republican, received 1,796,119 votes for governor, against 1,710,355 for Richardson Dilworth. Lloyd H. Wood, Republican, was elected lieutenant governor; William S. Livengood, Jr., secretary of internal affairs; John C. Bell, Jr., justice of the supreme court and Blair F. Gunther, judge of the superior court. All successful candidates for state-wide offices were members of the Republican party. The state's principal officers for 1950 included: James H. Duff, governor; Daniel B. Strickler, lieutenant governor; William S. Livengood, Jr., secretary of internal affairs; Charles J. Margiotti, attorney general; Weldon B. Heyburn, auditor-general; Charles R. Barber, treasurer.

Francis B. Haas was superintendent of public instruction and James B. Drew was chief justice.





JOHN S. FINE, Republican, elected governor of Pennsylvania, Nov. 7, 1950

**Education.**—Statistics for 1948-49, the latest year for which complete figures were available in 1950, showed a net enrolment of 1,537,261 pupils in the public schools of Pennsylvania, including 60,316 in the kindergarten, 919,856 in the elementary division and 557,089 in the secondary schools. Similarly, there were 907 kindergarten teachers, 30,126 elementary teachers, 24,025 giving instruction in high schools, 1,376 elementary principals, 861 secondary principals, 1,905 supervising officials and 1,243 other professional employees. The total expenditure, including current expense, capital outlay and debt service was \$332,568,230, of which \$278,517,949 was for current expenses. School districts supplied 64% of their receipts from local taxation, while the state government contributed 34.9% and the federal government 1.1% for current operating expenses.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—During 1950, expenditures by the department of public assistance totalled \$156,000,000, including \$103,000,000 state funds and \$53,000,000 federal funds. The assistance rolls contained an average of 90,000 old-age assistance cases, 50,000 cases receiving aid to dependent children, 46,000 general assistance cases, 15,000 blind pensioners.

The state maintains eight penal and correctional institutions for the support of which a biennial appropriation of \$14,773,000 was made for 1949-51. In addition, it owns and operates 10 medical and surgical hospitals, which received an appropriation of \$8,780,000; 4 institutions for the feeble-minded and epileptic, \$11,240,000; 17 mental hospitals, \$57,077,000; and contributed \$14,865,600 for the aid of privately operated hospitals and homes.

**Communications.**—Of the approximately 100,000 mi. of highways in Pennsylvania in 1950, 41,000 were on the state highway system under the supervision of the department of highways. Included in this state highway total were 675 mi. in the cities of Pennsylvania and 2,179 mi. in the boroughs. As of Dec. 31, 1950, 38,400 mi. were of improved type, leaving 2,600 mi. unimproved. In addition, there were 260 mi. of superhighway operated by the Pennsylvania Turnpike commission.

**Banking and Finance.**—On Oct. 4, 1950, there were 352 state banks, including 8 savings banks, with assets of \$5,290,208,615.26. These state

Table I.—Leading Crops of Pennsylvania

Crop	Production 1950	Production 1949	Average 1939-48
Corn, bu. . . . .	60,834,000	64,077,000	55,274,000
All wheat, bu. . . . .	19,184,000	21,114,000	18,158,000
Oats, bu. . . . .	29,944,000	24,630,000	25,294,000
Barley, bu. . . . .	5,644,000	5,400,000	3,740,000
Rye, bu. . . . .	202,000	202,000	613,000
Buckwheat, bu. . . . .	1,620,000	1,886,000	2,262,000
Potatoes, bu. . . . .			
(white) . . . . .	18,525,000	19,158,000	19,224,000
Tobacco, lb. . . . .	61,415,000	58,709,000	51,164,000
All hay, tons . . . . .	3,641,000	3,392,000	3,481,000
Apples, bu. . . . .	6,930,000	9,680,000	7,300,000
Peaches, bu. . . . .	2,194,000	2,451,000	1,987,000
Pears, bu. . . . .	359,000	385,000	360,000
Cherries, tons . . . . .	11,000	10,700	7,250
Grapes, tons . . . . .	23,900	14,100	16,460

banks had total deposits of \$4,743,756,356.96. In addition, there were as of Dec. 31, 1949, 784 building and loan associations with assets of \$531,475,774.56. On Oct. 4, 1950, there were 630 national banks located in Pennsylvania, with assets of \$7,537,820,000. The deposits of these national banks totalled \$6,721,476,000.

Appropriations and allocations from the general fund and motor licence fund for the biennium ending May 31, 1951 were \$1,055,532,725. The estimated receipts from these two funds were \$935,419,900. The gross debt Oct. 31, 1950, was \$550,838,000, which cash and securities in the sinking fund reduced to a net of \$510,097,300.

**Agriculture.**—The total gross farm income for 1949 was \$852,008,000, including \$847,180,000 in cash receipts from farm marketings and \$4,828,000 in federal government payments.

**Manufacturing.**—In 1949 there were 20,683 manufacturing establishments in the state, employing 1,682,556 persons to whom \$4,705,847,300

Table II.—Principal Industries of Pennsylvania

Industry	Value of Products 1949	1940
Metals . . . . .	\$7,431,844,200	\$2,944,848,400
Textiles . . . . .	1,990,017,600	795,457,200
Food . . . . .	2,054,982,000	740,801,600
Chemicals . . . . .	1,374,059,600	518,062,300
Paper and printing . . . . .	919,587,900	372,074,400
Leather . . . . .	463,623,900	174,963,900
Tobacco products . . . . .	150,647,100	92,272,300
Lumber and its remanufacture . . . . .	215,735,200	79,733,100

was paid in wages and salaries. The capital invested was \$5,733,754,900 and the value of the goods produced was \$16,944,642,800. Included as part of the latter amount, value added by manufacture was \$7,062,566,900. The value of the product of the principal industries for 1940 and 1949 is shown in Table II.

Table III.—Principal Mineral Products of Pennsylvania

Mineral	Value 1948	1940
Bituminous coal . . . . .	\$657,448,000	\$237,333,374
Anthracite . . . . .	467,051,800	205,490,000
Pig iron . . . . .	651,136,537	282,666,561
Petroleum . . . . .	63,457,000	39,700,000
Natural gas . . . . .	21,124,000*	41,733,000
Cement . . . . .	81,638,484	38,350,998
Stone . . . . .	35,189,148	19,855,478

\*Estimated value at wells.

**Mineral Production.**—The value of the principal mineral products of the state in 1940 and 1948 is shown in Table III. (J. H. Dr.)

**Pension, Old-Age:** see RELIEF; SOCIAL SECURITY. See also under various states.

**Pensions, Army and Navy:** see VETERANS' ADMINISTRATION (U.S.).

**Pepper:** see SPICES.

**Performing Right Societies:** see SOCIETIES AND ASSOCIATIONS: *American Society of Composers, Authors and Publishers.*

**Perón, Juan Domingo** (1895— ), president of Argentina, was born on Oct. 11 near Lobos, south of Buenos Aires, and was educated in military schools. He became one of the leaders of the G.O.U. (Grupo de Oficiales Unidos), a nationalist clique of young army officers who in 1943 helped overthrow the regime of Pres. Ramón S. Castillo. Perón became war minister and later vice-president under Pres. Edelmiro Farrell, and in 1946 was himself elected president on the Labour party ticket.

From 1948 on, progressive political steps were undertaken by Perón's followers to permit him to succeed himself, though this required adoption of a new constitution, which was accomplished in 1949. Though Perón himself insisted that he did not intend to run for re-election, his followers renominated him at their party convention in Buenos Aires in July 1949.

In a speech on Jan. 1, 1950, Perón declared the Argentine way of life was a model to the world of one "that does not lead to war and may lead to peace." By Jan. 10 more than 50 newspapers had been shut down for failure to emphasize national observance of the centennial anniversary of the liberator, San Martín, which Perón had proclaimed. On July 17 and again on Sept. 6, Argentine officials announced that they would abide by their obligations to support the U.N. forces in the Korean war. In the autumn the Argentine congress passed stringent laws against espionage and sabotage, which Perón's opponents termed beyond the needs of defense and capable of being used to intimidate the public.

**Persia:** see IRAN.

**Peru.** A republic situated on the west coast of South America and bounded on the north by Ecuador and Colombia, on the east by Brazil and Bolivia, on the south by Chile and on the west by the Pacific ocean, Peru has an area of 482,258 sq.mi. The population, estimated at 8,204,000 in 1949, is composed approximately of 52% "white" and mestizo and 46% Indian; there are also some Negro and Asiatic elements to the extent of about 2%. Lima, including its suburbs, has a population of about 1,000,000. It is the capital. The population estimates for the other major cities are: Callao 100,000; Arequipa 85,000; Cuzco 45,000; Trujillo 40,000; Iquitos 38,000; Chiclayo 35,000; Huancayo 35,000; Ica 25,000 and Piura 22,000.





PERUVIANS kneeling in prayer at Cuzco, after a brief but destructive earthquake that shook the ancient Inca capital on May 21, 1950, destroying an estimated 80% of its buildings

**History.**—The military junta under the leadership of Gen. Manuel Odría, which took over the executive power in Oct. 1948, continued its reform program and made definite progress toward an economic and fiscal restoration, particularly after the sol, the unit of currency, was left to find its own level in Nov. 1949. The decree of the military junta dated Jan. 8, 1949, which suspended the congress and announced the assumption by the cabinet (appointed by the military junta) of all executive and legislative authority, was modified in 1950 to provide for the restoration of constitutional parliamentary government. In accordance with this decision of the military junta a national election followed on July 2, 1950. Gen. Manuel Odría was elected president of the republic. Prior to the election of July the cabinet was composed of officers of the Peruvian armed forces; but with the restoration of parliamentary government, the departments of foreign relations, treasury and commerce, interior and police, as well as agriculture, were placed under civilian officials. The Aprista party, outlawed in 1948, was unable to rebuild the left wing movement. Their leader, Víctor Raúl Haya de la Torre, had remained a refugee in the Colombian embassy in Lima since Jan. 1949. The Peruvian and the Colombian governments agreed to submit to the International Court of Justice (*q.v.*) the question of the right of Colombia to

afford protection to De la Torre. However, the ruling of the court was considered ambiguous and the matter was resubmitted for clarification. Two other Aprista leaders fled the country. Peru accused Cuba of aiding in their escape and severed diplomatic relations; by the end of the year these had not been re-established.

(S. DE LA R.)

**Education.**—In 1948 there were 10,239 public and private primary schools with 908,695 pupils. The 103 public secondary schools had 37,256 students; there were also about 100 private secondary schools, most of which were conducted by religious orders. University education was available at four public universities—Lima, Arequipa, Cuzco and Trujillo—and at the Catholic university of Lima. Appropriations for education in 1950 comprised 16% of estimated government expenditures.

**Finance.**—The monetary unit is the sol, valued at \$0.0639 U.S. currency, free rate, on Sept. 30, 1950. Actual government expenditure amounted to 1,140,000,000 soles in 1949; revenue was 1,175,200,000 soles. The budget for the year 1950 balanced expenditure and revenue at 1,644,500,000 soles. The direct public debt on Dec. 31, 1949, totalled 1,621,996,110 soles, made up as follows: external dollar and sterling debt (including accrued interest) 447,375,145 soles; internal consolidated debt 549,662,180 soles; internal floating and short-term debt 624,958,785 soles. Notes in circulation on Oct. 31, 1950, totalled 894,000,000 soles; the gold reserve was \$28,000,000. Sight deposits on Aug. 31, 1950, totalled 1,205,000,000 soles; time deposits were 699,000,000 soles.

**Trade and Communications.**—Exports in 1949 totalled 2,107,518,091 soles; imports were 2,692,079,877 soles. Chief exports were cotton (29%), sugar (16%), petroleum and products (15%) and copper (6%). Principal customers were the U.S. (29%), Chile (17%) and the United Kingdom (15%). Chief suppliers were the U.S. (63%), the United Kingdom (9%) and Argentina (5%).

Railways (1947) totalled 2,612 mi., of which 2,101 mi. were privately owned and 511 mi. state-owned. Roads used by motor traffic on Dec. 31, 1949, totalled 19,468 mi., of which 7,903 were hard-surfaced. Motor vehicles (Dec. 1949) included 25,148 automobiles, 17,687 trucks and 2,511 buses. In 1949 the three principal air lines carried 171,879 passengers, of whom 80% were carried by Compania de Aviacion Faucett. International air service in 1950 was furnished largely by Panagra and Braniff Airways; British Overseas Airways corporation participated to some extent in the traffic. According to *Lloyd's Register of Shipping*, the merchant marine had 43 steamers and motor ships (100 tons and over), aggregating 88,164 gross tons on June 30, 1949.

**Agriculture.**—Agriculture engaged a large majority of the people; in 1949 about 3,800,000 ac. out of a total arable area of 29,500,000 ac. were under cultivation. Production of cotton, the chief export crop, was about 73,400 short tons in 1949. Sugar output included 517,783 short tons, centrifugal, and 25,731 tons, open-pan. Rice production (milled) was about 110,000 short tons.

Livestock estimates (1948) showed 2,661,995 cattle, 17,287,624 sheep, 962,471 goats, 776,941 hogs and 2,449,746 alpacas and llamas. In 1949, about 9,350 short tons of sheep wool and 3,650 tons of alpaca wool were produced.

**Manufactures.**—There were in 1949 5 cotton spinning mills, 11 cotton textile mills, 7 rayon weaving mills and a rayon yarn plant. In 1949, 50,790 short tons of fish were processed, and 15,183 tons of canned bonito and tuna and 2,879 tons of frozen swordfish were produced, largely for export to the U.S. A total of 28 fish-canning plants, most of them erected since World War II, were in operation. The cost-of-living index stood at 427 and the wholesale price index at 650 in Aug. 1950 (1937=100).

**Mineral Production.**—Production of the principal minerals in 1949 was as follows: copper 26,250 short tons; silver 10,888,000 oz.; gold 118,950 oz.; lead 62,750 short tons; zinc 74,850 short tons. Crude oil production totalled 14,796,093 bbl. (J. W. Mw.)

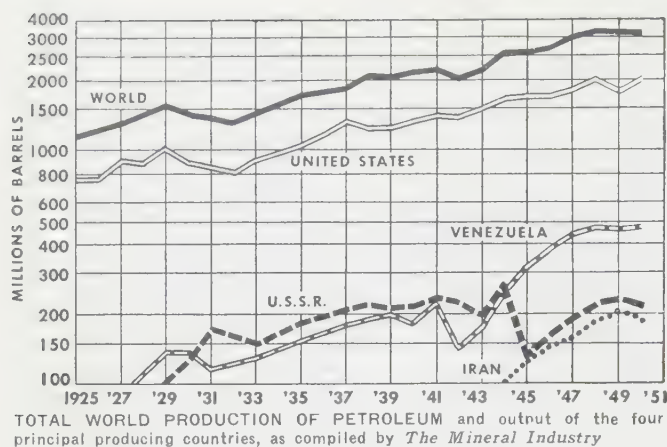
**Petroleum.** World petroleum production resumed its upward trend in 1950, averaging 10,373,000 bbl. daily, a gain of 11.5% over the previous year, and establishing a record high. This contrasted with a slight decrease registered in 1949 from 1948. In 1950 U.S. production was estimated to have averaged 5,403,000 bbl. daily, a gain of 7.2% over 1949 and falling just short of its 1948 record.

Changing patterns of supply were primary factors in the world oil production picture, with the middle east producing areas taking over the supplying of the requirements of the eastern hemisphere in ever-increasing degree and thereby cutting into the demands made upon Venezuela, the United States and other producing countries of the western hemisphere.

In 1950, western hemisphere production exclusive of the U.S. was estimated at 2,025,500 bbl. daily, an increase of 12.9%, while production of the middle east averaged 1,750,200 bbl., an increase of 24.6%.

Meantime, the U.S. demand for oil products continued to increase, necessitating considerable importation of oil, mainly from Venezuela and Colombia, but in increasing quantity from





the middle east. The estimated demand averaged 6,455,000 bbl. daily, an increase of 11% over 1949. This far exceeded the former high demand of 6,143,000 bbl. daily, set in 1948.

To meet the skyrocketing demand, and to keep the nation prepared for eventualities, the U.S. petroleum industry in 1950 also shattered its old marks in well completions, refinery capacity and runs to stills (the amount of liquid petroleum processed in refineries). The number of wells completed was around 43,000, or about 3,400 wells more than in 1948. Of this total, 8,228 were exploratory wells. The nation's refinery capacity reached a total of about 6,732,000 bbl. daily, an all-time high. Crude oil processed amounted to 2,091,085,000 bbl., compared with the previous high of 2,048,349,000 bbl. in 1948.

The U.S. industry continued its \$2,000,000,000-a-year expansion and modernization program. Capital investment in 1950 was estimated to be \$2,172,000,000, slightly less than the 1948 record of \$2,300,000,000. During 1946-50, capital expenditures averaged more than \$2,000,000,000 a year. The postwar total was \$10,000,000,000. If U.S. oil expenditures overseas were included, the over-all total exceeded \$12,000,000,000 for the period 1946-50 inclusive.

As in past years, expenditures for production operations—searching for and developing necessary oil and gas reserves and supplies—accounted for more than half of the 1950 outlay. In 1950, approximately \$1,360,000,000 was earmarked for this purpose. Refinery expenditures were estimated at \$394,000,000. Transportation estimates totalled \$324,000,000, the major portion of which was scheduled for pipe-line construction work as follows: crude oil lines \$120,000,000; product lines \$74,000,000; natural gas lines \$91,000,000. Marketing expenditures were estimated at \$281,000,000, a record high for this field.

Gross assets employed by the U.S. petroleum industry rose from \$30,200,000,000 at the end of 1949 to about \$32,000,000,000 at the end of 1950. Over-all, only the railroads and the utilities exceeded the petroleum industry in industrial capital investments.

It was estimated that \$100,000,000 was spent in 1950 in research work to find new production methods and uses for petroleum and to improve known products.

The wholesale price index of crude petroleum and petroleum products advanced only one percentage point in 1950, despite the squeeze of spiraling costs and other economic factors. This was in contrast to a 4.1 point increase in the index of wholesale prices for all commodities during the same period. The average retail price of motor fuel in 1950 declined slightly, while the average for local, state and federal taxes on motor fuel advanced slightly. The average total cost per gallon to consumers was only slightly less than that of 1949. (See also CHEMISTRY.)

(L. M. F.)

**Philadelphia.** According to the census of 1950, Philadelphia, Pa., retained its position as the third largest city in the United States with a total population (preliminary figure) of 2,064,794. This represented an increase of 6.9% over the 1940 population. There was an additional 1,500,000 population in the seven counties adjacent to the city. The net increase for the entire metropolitan area was 14.2% during the decade. These increases resulted from high levels of employment in existing establishments, the introduction of numerous new industrial and commercial establishments, and high rates of natural increase continuing throughout the decade. The administration of the city in 1950 was Republican; the mayor was Bernard Samuel.

New dwelling construction during the first seven months of 1950 totalled slightly more than 19,000 units in Philadelphia and its immediate environs. Total employment for the eight-county metropolitan area was estimated in July at 1,436,500, about 60% of which was employed within the city.

In 1950 Philadelphia forged ahead on its vast program of public improvements. Projects finished, continuing or begun on a wide variety of municipal services represented expenditures totalling \$188,000,000. The Northeast Sewage Treatment works was placed in service and work was started on the southeast and southwest plants. Construction continued on intercepting sewers and structures to eliminate storm water flooding. Numerous contracts for waterworks improvements included a new pretreatment plant at the Queen Lane works. Water mains, sewers and paving were extended to keep pace with home building. As extension of the Market street subway into west Philadelphia advanced toward completion, work began on equipping the Locust street subway. Contracts were let for a new terminal building and related construction at the Philadelphia International airport. A pier of the most modern type was added to the port equipment.

Improvement of highways jointly by the city and the state proceeded under contracts for the Penrose avenue bridge, the widening of Vine street and the repaving of the east lane of Roosevelt boulevard. An underpass at Ridge and Hunting Park avenues was opened to traffic. Land was acquired for the first section of Independence mall.

The new Youth centre for the detention and study of juvenile delinquents neared completion. A city-wide survey of public-health facilities was completed, and numerous improvements were made in the city's hospitals and health-centre facilities. Five new schools were opened and additions made on five others.

Buildings were added at the older recreation centres and work continued to place 53 newly acquired sites in use pending fuller development. A new branch library was opened.

New police and fire stations were constructed and in some instances these facilities were consolidated for greater efficiency. A rubbish incinerator for south Philadelphia was placed under contract.

Substantial progress was made toward the selection of sites for public housing and of areas for redevelopment. One project sponsored by the Society of Friends got under way. (B. SA.)

**Philanthropy:** see DONATIONS AND BEQUESTS.

**Philately.** A new problem in international postal relations was posed in 1950 by the decision of the United Nations to issue stamps of its own. Since it occupies a small enclave in the United States, the stamps are strictly "for revenue only" and the deciding consideration that swayed the delegates was a possible \$400,000 per annum of income. The U.S. post office department, which does the work anyway, was less than lukewarm over the plan, but the state department fa-



voured it.

**New Issues.**—Early in the year the post office department published the projected list of stamps for the year, and held to that list. For the first time in decades, collectors knew what to expect. The list was shorter than usual.

Eleven stamps, all three-cent values, were issued. The first, a dark-green confection, honoured the American bankers. The next, the only one not in the familiar 0.84 by 1.44-in. format (the size of the special delivery stamp) was of the "Famous Americans" design and honoured Samuel Gompers, a labour leader. During the year there were four stamps for the sesquicentennial of Washington, D.C., one for "The Gateway to the West" tied to Kansas City, Mo., one for the Boy Scouts, one for the sesquicentenary of Indiana territory, one for the railroad engineers and one for the centenary of statehood for California.

For the first time since 1932, new embossed envelope stamps were issued by the U.S.

A new definitive issue appeared for the Ryukyu Islands (Okinawa is the best known of them), which are under U.S. military administration. Canada reissued all current stamps without the bilingual "Postage-Postes" legend. A pictorial 50-cent value also appeared. Liberia issued two stamps boosting a literacy campaign. Haiti celebrated, with stamps, the bicentenary of Port-au-Prince. The new Finnish airmail stamp was the highest value stamp that democracy had issued—300 markkaa.

**Prices.**—On the whole, prices did not fluctuate much in 1950, and the increased use of superior material continued.

**Exhibitions.**—The outstanding philatelic event of the year was the Centenary exhibition at London, Eng. Originally scheduled for 1940, the 100th anniversary of the first postage stamp, it finally was held, with great éclat, in 1950. There were many exhibits from the U.S. and other non-British sources.

**BIBLIOGRAPHY.**—The standard editions of the various stamp catalogues, dated 1951, appeared in 1950. Vol. III of Robson Lowe's *Encyclopædia of British Empire Postage Stamps*, dealing with British Asia, appeared. *First Hundred Years of United States Territorial Postmarks, 1787-1887*, by Carroll Chase and Richard McP. Cabeen, which had been appearing spasmodically since 1945 in the *American Philatelist*, was issued as a book. (M. HA.)

**Philippines, Republic of the.** This republic, situated in the western Pacific ocean east of Indochina, comprises an archipelago composed of almost 7,100 islands, totalling 115,600 sq.mi. The population by the census of Oct. 1, 1948, was 19,234,182; 1949 est. was 19,356,000. The chief city is Manila, the capital, whose metropolitan area held about 1,300,000 persons. Other sizeable cities are Cebu (167,000) and Iloilo (110,000). About 10,000 U.S. citizens and 12,000 occidentals from other countries live in the islands. By official count Chinese number about 140,000, but the actual fullblooded Chinese population exceeds 200,000. Most Filipinos are Catholic in religion (Roman Catholic or native Aglipayan Catholic). In the southern islands live some 800,000 Mohammedans, while about 425,000 Protestants and almost 700,000 pagans are widely scattered.

**History.**—Early in the year 1950 President Elpidio Quirino's budgetary proposals for the fiscal year 1950-51 brought to light serious financial deficits which had been accumulating since the advent of independence in 1946. Inadequate levying and inefficient collecting of regular taxes had not produced revenues adequate to support normal government procedures in a country with a rapidly increasing population that still was faced with serious problems of war rehabilitation. Increased expenditures upon education, extraordinary expenses connected with quelling agrarian unrest and the decline of customs revenues following the imposition of drastic import controls were the specific factors crystallizing these financial problems. It became clear, in the course of the year, that inefficiency and



PHILIPPINE ARMY PATROL entering Santa Cruz after a series of raids by Huk guerrillas which brought death and destruction to 11 towns in central Luzon late in Aug. 1950

corruption within the ranks of the national government, coupled with financial misadministration, had brought the government almost to the brink of bankruptcy in a country with an abundance of resources. Early rumours of financial difficulty set off a period of coin hoarding. This was followed by rising prices and consumers' goods scarcities consequent upon tightened import controls and the outbreak of the Korean war. Finally came the refusal of banks to accept government checks when income failed to meet disbursements.

President Quirino had foreseen difficulties and early in the year invited the United States to carry out an economic survey to propose remedial measures. During the summer of 1950 the Bell Economic Survey mission studied the situation. In October their report recommended some fundamental changes in government administration which, in the course of several years, could materially improve conditions for the islands as a whole. The Bell report was well received by private citizens in the islands who had become discouraged over the inability of their government to cope with its problems. Late in the year a few steps were taken toward initiating proposals of the Bell mission, but the full implementation of the program would require time. Meanwhile the precarious financial situation of the government was expected to continue.

On the international front the Philippines took a forward step by inviting the nations of southeast Asia to participate in a conference upon common problems. Australia, Ceylon, India, Indonesia, Pakistan and Thailand accepted. The seven-nation conference met in May at Baguio and reached mutual agreement upon common problems, though no formal organization of southeast Asia countries resulted. The 1947 Philippine military pact with the United States, to expire in 1951, was extended until 1953. Under this pact the United States had supplied military equipment to the armed forces of the Philippines. During the year all military units in the Philippines were concentrated under one command. (See also FAR EASTERN UNITY.)

As 1950 began, the basic features of the agrarian problem, with its militant expression, were in a worse situation than before. Resettlement programs and the provision of new lands



during 1949 proved insufficient, for these efforts barely kept pace with the normal increase of needs in a rapidly growing population. Military attempts to dispel the Communist-led elements using the agrarian problem as their spearhead made no lasting progress. At the end of 1949 dissident forces were thought to number as many as 25,000 men, including some Chinese, who ranged throughout most of Luzon.

Early in the year 1950 the Philippine constabulary was returned to its regular police tasks, and the duty of combating the "Huks" was assigned to the army. During March, in celebration of the eighth anniversary of the founding of the Hukbalahap, extensive guerrilla raids were made upon many Luzon towns and cities. At this time, also, the name of the organization was changed to "Hukbong Mapagpalaya Sa Bayan," translated as "Nation's Liberating Forces." This change clearly indicated that agrarian reform, as such, was not the real aim of the dissident group. By July, in Nueva Ecija province in central Luzon, more than 100,000 village farmers had moved into the towns and cities for protection, considerably lessening the cultivation of rice lands throughout the province. Enlarged government programs were initiated to provide land in Mindanao, but again these programs seemed neither to attack the heart of the problem nor to promise lasting results. By the end of the year the army had made some progress toward lessening the scope of guerrilla activities, but no real advance toward eliminating them. During the latter half of the year popular opinion throughout Luzon began to crystallize against the "Huks," as they still were known, to strengthen government efforts both to suppress the dissidents and to take real steps toward a lasting solution of the agrarian and Communist problems.

**Trade and Rehabilitation.**—Most of the organized aid contributed to the Philippines by the United States was terminated during 1950. The bureau of public roads and the War Damage commission were the only U.S. agencies carrying their activity forward into 1951. War Damage commission payments during the year amounted to about \$250,000,000. Much of the aid given by the United States went to individuals rather than to government or to operating and producing organizations. Considerable government revenue was put, as matching funds, into rehabilitation programs of many sorts. This helped provoke the budgetary deficiencies noted above.

Agricultural production generally stood higher than during 1949, and the expansion of agriculture resulted in the largest crop of rice to date, about 2,800,000 tons, still not an ample supply for the islands. Coconut, sugar, manila hemp, tobacco and pineapple crops improved their positions but still fell short of providing an adequate export total. Lumber and minerals exports also increased slightly. A new and more stringent import control law went into effect in May, designed to trim down the import of nonessential consumer goods. Totals for the first half of the year indicated a marked reduction in imports, with a slight increase in exports, but the Philippines continued to import more than it exported.

The cost-of-living index for Manila fell to a new low of 320.2 in May, as against a 1941 base of 100, but by November it had risen to 357.0, its highest point since January, 1949. (J. E. Sp.)

**Philosophy.** The year 1950 found philosophers, like many others, looking back over a half century in the effort to judge the meaning and value of their individual and collective work. Philosophers of great distinction who had done some or most of their work in this period were so numerous that citation of names could at best be only a selection of representative thinkers. The names of Francis Herbert Bradley, Bernard Bosanquet, Josiah Royce, Charles Peirce, William James, John Dewey, George Santayana, Alfred North Whitehead, Bertrand Russell, Samuel Alexander, Henri Bergson, Edmund Husserl, Ernst Cassirer, would come readily to the mind of even a casual observer of the philosophical production of the 20th century. Of these men, whose work represented solid achievement in various schools of thought in the earlier part of the half-century, only a few were alive in 1950. This list, moreover, would represent but a fraction of the important people who had done original work in the period, and would not include a host of younger philosophers who had come into prominence at its close.

The 50 years were marked by the rise of numerous schools and movements among philosophers. Absolute idealism, dominant as the century opened, was vigorously attacked by pragmatism which was followed by successive waves of realism, these in turn yielding part of the ground to logical positivism and, especially after World War II, to existentialism. No school, however, was completely vanquished; each retained some adherents who continued to argue its case with vigour. Existing thus side by side, the various schools of thought kept each other very much on the alert with the result that all were invigorated by the critical and polemical attitude of the time. To observers living in the period, it seemed to be a time of unusually intense and varied philosophical activity.

Among major influences upon the philosophers, from outside the field of their specialized endeavours, were the progress of mathematics and physics on the one hand, and of psychology on the other. Two contemporary men of genius in particular stood out as contributors of utmost importance to the conception of nature and man. These were Albert Einstein and Sigmund Freud. Their work posed inescapable problems and issues for philosophy. Two other men, though of the 19th century, exerted powerful influence on the thought of the 20th as it reached the half-way point. As the influence of Karl Marx stormed through the social world, the anguish and the fear and trembling of man caught in a storm found its voice in the existentialist discoverers of the Danish genius, Søren Kierkegaard.

At year's end, the American Philosophical Association's eastern division, meeting at Toronto, undertook as part of its program an estimate of historical trends and of the then current status of certain aspects of philosophy. Such topics as "Recent Trends in Philosophy," "The Modern Distemper of Philosophy" and "The New Rationalism in Ethics" were on the agenda. Under the first of these topics, a paper by Grace A. de Laguna gave an interpretation of the period. Her argument ran as follows: In the 20th century there had been, she said, two notable movements in philosophy which were opposed to one another. Speculative philosophy had flourished with new vigour, but so had a strong current of criticism which sought to discredit metaphysics in so far as metaphysics claimed to reach a level of finality superior to that of science. The central issue had been the nature, function and scope of conceptual thought. Above and beyond such thought Henri Bergson had found intuition; George Santayana had appealed to a more primitive "animal faith." Edmund Husserl and the existentialists, in spite of differences, had urged the critical limitation of conceptual thought and had recognized transcendental insight, but at the same time they viewed reality as no fixed system but rather as characterized by indeterminateness, incompleteness and self-creative change. Charles Peirce and Alfred North Whitehead had agreed that no metaphysics expressed in conceptual terms could be final, but they had refused to invoke any sort of faith. They had attempted, instead, to justify conceptual thought by conceiving it more adequately, enlarging the scope and function of rationality so that their own speculations, though admittedly tentative, could reflect without resort to nonrational faith an indeterminate and incomplete reality. Such was Grace de Laguna's summary of main issues in speculative philosophy.

At the same meeting, while Willard V. Quine was examining "Two Dogmas of Empiricism," and William Frankena was discussing "Moral Philosophy at Mid-Century," William Pepperell Montague in more clinical mood diagnosed "The Modern Distemper of Philosophy" as due in large measure to the attempt made by such movements as behaviourism, operationalism, and logical positivism to limit philosophy to topics that can be formulated in terms of physical and sensory observation; taken separately or together these movements were unable, said Montague,



to do justice to man's deepest interests. George Boas in reply commended these schools for their insistence on precision, and suggested that the so-called modern distemper of philosophy might well have arisen from the fact that modern thinkers had taken time seriously, with all the implications which this held for theories of knowledge and reality.

Among notable philosophical works published in English in 1950, many were translations from other languages.

(E. L. MN.)

**Pholien, Joseph** (1884– ), Belgian prime minister, was born on Dec. 28 at Liège. He practised as a lawyer, enlisted in 1914 in the Belgian army as a volunteer and was demobilized as a first lieutenant. He entered politics in 1936 when as a right-wing Social Christian he was elected to the senate. He was minister of justice in the Spaak coalition cabinet (May 1938–Feb. 1939). At 56, he rejoined the army in 1940. During the second German occupation he remained in Belgium and was thrice arrested for protesting against German interference in Belgian administration. With Albert Devèze, minister of state, and Raoul Hayoit de Termicourt, attorney general at the supreme court of appeal, he signed on June 1, 1940, a legal pronouncement declaring that King Leopold (*q.v.*) was a prisoner of war and as such unable to reign—a document which gave legal basis to the Belgian government in exile. From 1945 he strongly supported the king's unconditional return. The settlement reached on the royal question (*see* BELGIUM) aroused considerable opposition inside the Social Christian party and Pholien led the Leopoldists accusing Jean Duvieusart, the prime minister, and some of his colleagues of lack of courage and energy. After the resignation of Duvieusart, Pholien headed on Aug. 15 a new Social Christian government.

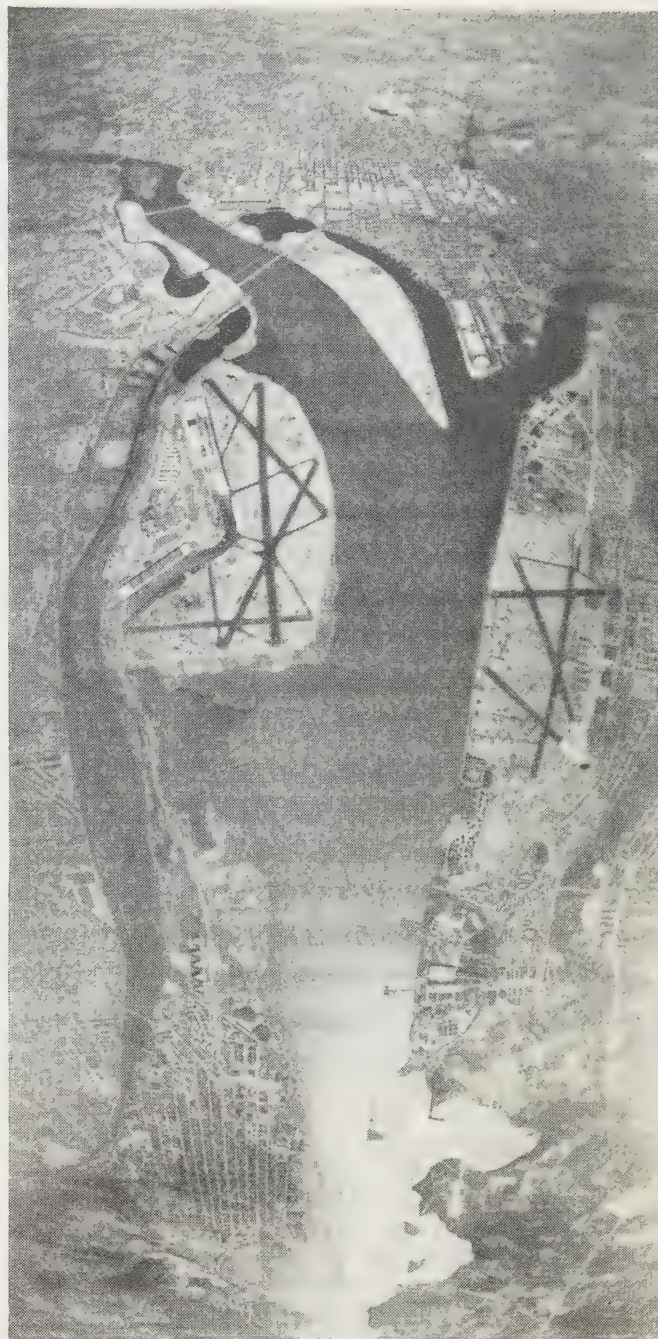
**Phosphates:** *see* MINERAL AND METAL PRODUCTION AND PRICES.

**Photography.** World production of photographic products in 1950 was well ahead of the previous year. By the close of the year, however, new war restrictions on metals and other materials were beginning to curtail the production of some products. While the United States showed a moderate increase of between 5% and 10% in the sale of photographic products, the photo industry in western Germany was rapidly regaining its dominant position in Europe with a production increase of 170% over 1949. This activity drew considerable engineering and technical personnel from the Russian occupied zone to the U.S. and British occupied areas.

Agfa Division Farbenfabriken Bayer, Leverkusen (British zone), regained its leading position in the production of sensitized materials in Europe. New building facilities were made for production of the Agfa colour print process which was perfected for commercial use. This plant was also active in the production of photographic dyes and chemicals. A new photocopy paper called PhotoRapid with a double emulsion for making copies on both sides of the paper was produced.

Voigtlaender & Son, Brunswick (British zone), introduced a new wide angle lens called the Ultragon with extremely short focal length of only 24 mm. and a viewing angle of 94°. There was a new Voigtlaender Vitessa folding camera with built-in range finder, and several other new cameras including a new model X-ray camera with the new Nokton f/1.5 lens.

E. Leitz Optische Werke, Wetzlar (U.S. zone), was in full production making more than 4,000 Leica cameras per month during 1950. Zeiss-Opton, Stuttgart, Oberkochen (U.S. zone), introduced the Contessa 35 and a new Contax IIa, the latter a refined model of the former model II. Tewe G. M. B. H., Berlin



WASHINGTON, D.C., photographed by a U.S.A.F. "horizon-to-horizon" camera being tested for reconnaissance use in 1950. The camera was mounted on a B-17 bomber flying at 10,000 ft. which gave it a horizontal distance coverage of approximately 26 mi.

(British zone), produced the revolutionary Polyfocus zoom-type view finder for use with Leica and Contax cameras, covering focal lengths ranging from 35 mm. to 180 mm. (and 28 mm. with adapter); the finder shows a constant 12 x 18 mm. image with every focal length. Arnold & Richter, Munich (U.S. zone), introduced their Arriflex II 16-mm. motion-picture camera, among the finest of its type on the market.

N. V. Philips' Gloeilampenfabrieken, Eindhoven, Netherlands (largest European manufacturers of flash lamps), showed their new Philips Flashcamera for the first time in March 1950. This camera, with built-in reflector and synchronizer, was designed for the average amateur photographer interested in making snapshots by artificial light with a minimum of equipment.

England did not introduce many new photographic products during the year. Manufacturers were required to allot the bulk



of their production for export, and consequently did not come into competition with producers from other parts of the world. The British Industries fair of May 18 and 19 was much smaller than in 1949. Such manufacturers as Kodak, Pathe, Ilford, Barnet-Ensign, Ross and others did not exhibit.

**United States.**—There was a noticeable increase in the production of specialized cameras and photo products for recording, streak cameras, X-ray, cathode ray tube cameras, the Bore Hole camera, and the Fairchild adapter for using the Polaroid Land camera for oscilloscope recordings. With this adapter equipment, made by the Fairchild Camera and Instrument corporation (New York), a finished picture could be made within 60 seconds. The J. A. Maurer company of Long Island City, N.Y., developed a 70-mm. combat camera for military use, operating by a spring motor to make five exposures on one winding. Each loading produces 25  $2\frac{1}{4} \times 2\frac{3}{4}$ -in. negatives on the 70-mm. perforated film.

Greater effort was made in the sale of equipment to young people and other beginners. Ansco produced a home construction kit which combined the hobby of photography with the fun of model building to make their Craftsman camera. Ansco also assembled three camera outfits in attractive carrying cases for beginners. Eastman Kodak company packaged two camera-flash outfits with flash lamps and films for the amateur photographer. It was notable that both the Ansco and Kodak outfits provided for the making of flash pictures, which had increased more than 500% within a few years.

Other cameras introduced in the lower price class included the Kodak Pony 135 camera for use with 35-mm. film, two new Kodak Duaflex cameras with built-in flash synchronizers and the Brownie Hawkeye camera, flash model.

The Kalart company of Plainville, Conn., continued with important developments in their camera and extensive line of products for synchronized flash photography. The Kalart II was an improved model of this  $3\frac{1}{4} \times 4\frac{1}{4}$  press-type camera with many automatic and built-in features. The most important progress in the field of flash photography came with the development of the Kalart B-C Multiflash. This battery-capacitor flash equipment would fire up to six flash lamps with 250 ft. of extension wire. The main feature was that the lamps were fired by the 250-mfd. capacitor, drawing current from a miniature 22½-v. B battery and storing it until the instant of flashing, then releasing the full stored-up charge.

Colour photography continued its steady growth in still and motion-picture photography. Ansco brought out a revised processing procedure for its colour film containing a new nonirritating developing agent. This film, as well as Kodak Ektachrome, could be processed by the individual photographer in his own darkroom.

In the motion picture field two full colour duplicating films, type 238 16-mm. and type 838 35-mm., were announced by Ansco. These improved duplicating materials were designed to produce full colour duplicates by reversal from full colour originals. Both type 238 and 838 films could be used for making release prints, or, in cases where the original camera film must be protected from wear and tear, for making printing masters.

The Eastman Kodak company made available a special paper for printing black-and-white prints from Kodak Ektacolor film, useful for making black-and-white proofs or finished prints from the colour original. Kodacolor film, daylight type, was available for the Kodak Bantam and Kodak Pony 828 cameras. Eastman also announced a new colour film which could be used to make duplicate colour transparencies equivalent to the finest original colour photographs. Known as Kodak Ektacolor Print film, the new product was the first commercially available colour film produced specifically for making duplicate colour

transparencies of superb quality directly from colour negatives. It was available in sheet film sizes and in rolls up to 40 in. in width. Strips of the film could be spliced together to form larger sheets, thus making possible the production of huge transparent photomurals in natural colours.

Gevaert's Diaversal paper for printing monochrome sepia enlargements from positive colour transparencies was made available in the United States. With this direct process it was not necessary to make a negative copy of the original colour film and then make the print. The copy is made direct and then developed under the ordinary darkroom safety light in three solutions. By the end of the year the Revere Camera company prepared its Enlarger-Viewer kit with a supply of Diaversal paper for making enlargements from original still and motion picture colour films.

Kodak Opalure Print film was a new type of quality printing material designed for making portrait and exhibition prints in either large or miniature sizes. Its velvety matte surface yielded brilliant images with depth and roundness. The film could be used for regular print-making purposes or the print could be placed in a mount for viewing by transmitted light. Window displays, lamp shades and special transparencies for home use were some of the applications for this new film. Kodak Lina-graph Drift Survey film in 16-mm. and 35-mm. widths was available for use in a standard clinometer or drift survey camera. This film was used in well drilling operations to record instrument readings as drift meters.

The photo products department of E. I. du Pont de Nemours & Co. produced a Warmtone Projection paper type 9034 offering the advantage of much greater emulsion speed than usually found in papers of this type and a warm brown image colour with conventional processing. The paper possesses stability of image colour and contrast during development, allowing the photographer to compensate for exposure errors by varying development time without objectionable changes in contrast and image colour.

Rotofilm, a new transfer film for use in making cylinders and plates in gravure printing, was also brought out by du Pont. This film consists of a cellulose acetate safety base affixed to a stripping membrane on which is coated a photographic emulsion. Exposure requires no advance preparation and can be made in a matter of seconds. Three graphic arts products were also made available by Ansco: Reprolith Ortho, Vinyl Base; Reprolith Pan; and Reprolith Ortho type B.

Most of the new cameras were made with built-in flash synchronizers. The new automatic Rolleiflex had this feature and also a built-in frame sport finder. The Rolleicord camera was back on the market with a number of improvements. A new model of the Argoflex camera also had the built-in synchronization and automatic double-exposure prevention.

Polaroid's new type 41 black-and-white film was produced for the Polaroid Land camera which takes and finishes a picture within one minute. Contrast can be controlled by changing the development time in the camera after the exposure has been made. Formerly only sepia coloured pictures could be produced with this camera. The new film will not crack or curl in dry weather because a thin film of reagent formerly left on the sepia print is carried away on the negative.

Ansco introduced a number of new photographic chemical items. Among these were Rapafix, an improved photofinishing fixer with extremely great capacity when replenished as recommended; Supradol, a specially designed photofinishing developer of great capacity; and Vividol and Vividol replenisher, in large sizes for processing finishing papers. Permadol developer was another new Ansco chemical with improved formula for general use. Permadol cut developing times and was designed for long





"PREPARING FOR BATTLE," photographed by Edward Steichen during World War II and included in an exhibit of his work at the American Institute of Architects gallery, Washington, D.C., in May 1950. The picture was taken on infra-red film aboard the U.S.S. "Lexington" just before an attack on Kwajalein Island

life when used with Permadol replenisher.

A fixed-focus Cine-Kodak magazine 8 camera was available for the amateur movie maker interested in a small convenient 8-mm. camera. The new 16-mm. Cine-Kodak Royal magazine camera was the latest addition to the magazine 16 group of movie cameras. This camera was luxuriously appointed and combined the convenience of magazine loading with the optical quality of the  $f/1.9$  Ektar lens. Other features included an improved adjustable view finder which could be set to show the fields covered by the interchangeable lenses, shutter speeds of 16, 24 or 64 frames per second, and a single frame release for animation and special titles. A Cine-Kodak Duo splicer outfit was also produced for use with silent or sound 8-mm. and 16-mm. motion picture films.

The Kodascope Pageant sound projector, weighing less than 33 lb., appeared for 16-mm. sound pictures. Low price, portability, light weight and ease of operation were the principal features, besides the high quality of sound reproduction and the lumenized two-inch  $f/1.6$  Kodak Projection Ektanon lens incorporating a field flattener.

A 15-mm. wide angle Balowstar  $f/1.3$  lens was introduced by the Zoomar corporation of New York city for use on 16-mm. motion-picture cameras and also the Cine Balowstar  $f/1.3$  lens in  $1\frac{1}{2}$ - and  $3\frac{1}{2}$ -in. focal lengths for high speed photography under

difficult lighting conditions. These two lenses were a result of new and better optical glasses, antireflection lens coatings, new methods of lens computation and improved optical machinery.

Bausch & Lomb Optical company produced two new  $f/1.5$  Animar lenses for use with 8-mm. and 16-mm. motion-picture cameras with Balcoted surfaces. This firm also made a new series of eight  $f/2$  projection lenses with focal lengths from  $5\frac{1}{4}$  to 7 in. The increased screen illumination made these lenses suitable for use in drive-in theatres and large movie houses. Bausch & Lomb also made a new high speed camera for photographing the interior patterns of the eye.

Graflex, Inc., made the Grafmatic Film holder in  $2\frac{1}{4} \times 3\frac{1}{4}$ -in. size, holding six sheets of film. This film holder has a warning signal to prevent removal until the built-in dark slide has been placed in position to protect the film from accidental fogging, and also an automatic system to prevent double exposure. The Graflex 120 roll film magazine was available for the  $3\frac{1}{4} \times 4\frac{1}{4}$  and  $4 \times 5$  cameras. The field of photographic enlarging equipment had been greatly extended and improved through the introduction of a series of accessories known as Graflargers which quickly convert sheet film cameras such as the Graphic and Graflex into cold cathode fluorescent light enlargers. This particular light source under the trade name of Aristo Cold Lite received the 1950 U.S. Camera award for the outstanding contribution of the year in its field.

Annual U.S. Camera achievement awards were presented to David Douglas Duncan, Carl Mydans, Charles D. Rosecrans, Jr. (posthumous), Leopold Mannes and Leo Godowsky.



The Museum of Modern Art in New York city presented a number of important photographic exhibitions, starting with photographs of Picasso by Gjon Mili and Robert Capa.

For the first time the Photographic Society of America compiled its own listing of exhibitions in the field of pictorial photography. Its "Who's Who in Pictorial Photography," published in the November *P.S.A. Journal*, recognized 46 exhibitions with 638 photographers meeting the requirements for listing. The society's Clark Maxwell award for the best colour print in its international exhibition went to Thomas Limborg, of Minneapolis, Minn., and its 1950 Progress medal was awarded to Loyd A. Jones of Rochester, N.Y. (See also MOTION PICTURES; MUNITIONS OF WAR; NEWSPAPERS AND MAGAZINES; TELEVISION; X-RAY AND RADIOLOGY.)

FILMS OF 1950.—*Facts about Film, Facts about Projection* (International Film Bureau); *Photographic Darkroom Procedures Series* (McGraw-Hill Book Co.). (W. D. MN.)

**Phumiphon Adundet** (BHUMIBOL ADULYADEJ) (1927– ), king of Thailand, was born at Cambridge, Mass., Dec. 5, younger son of Prince Mahidol of Songkhla (1892–1929). He succeeded to the throne on the death of his brother, King Ananda Mahidol, on June 9, 1946. The official explanation given of Phumiphon's departure two months later for Lausanne, Switz., was that the king was resuming his studies. In Sept. 1949 it was officially announced that the king and Princess Sirikit Kitiyakara (b. 1933), daughter of the Thai ambassador in London, had become engaged to be married. They returned to Bangkok at the end of March and the wedding took place on April 28. On May 5, during an impressive and traditional ceremony, he crowned himself "lord of the earth, unmatched in brilliance and power." The actual assumption of the crown by the king was witnessed by only the diplomatic corps, the senior members of the Chakkri dynasty and the members of the government.

**Physics.** The increasing technical complexity of world civilization in 1950 put increasing values on manpower possessed of high scientific skills. Attention was given to making the best use of the manpower already available, by ensuring that scientific news was quickly circulated throughout the world. To this end, although existing abstracting services were not deemed inadequate, a committee of the United Nations Educational, Scientific and Cultural Organization met in 1950 to consider the desirability and possibility of instituting an international abstracting service. The committee's affirmative recommendations awaited adoption by the International Conference of Scientific Unions before being put into effect.

During 1950 there was no discovery like that of the neutron or of nuclear fission which could alter, within the year, the primary pattern of research. But there were gradual developments of basic new ideas from the status of isolated experimental observations to that of recognized fields of research.

In times of emergency it is useful for a nation to have an accurate forecast of its potential reservoir of scientific manpower. Some interesting studies of the origins, training and movements of professional physicists were compiled and published by Marsh W. White and his collaborators. Typical of the findings was that in the U.S., depending on the geographical region, between 0.45 and 2.0 physicists per annum were derived from each million of population,—figures that were in interesting agreement with an estimate made in the 1930s for Great Britain by Sir William Bragg, who believed that the development of professional physicists was at the rate of one per 1,000,000 per year.

**Cosmic Rays.**—Although the term cosmic rays is reserved for the description of the penetrating invisible flow of energy that

descends continually upon the earth from other parts of the universe, it must be kept in mind that other types of rays, corresponding to the visible, the infra-red and the radio portions of the electromagnetic spectrum, exist at the same time though not necessarily derived from the same sources. To arrive at the correct explanation is a very puzzling matter in all cases. Probably the greatest progress in 1950 in the interpretation of the penetrating radiation came from the work of Marcello Conversi of the Institute of Nuclear Studies, The University of Chicago. This, of course, was not an isolated experiment, but followed in a tradition of The University of Chicago maintained by Marcel Schein and others following the transfer of A. H. Compton's primary research interest from X-rays to cosmic rays about 1930. Owing to the rapid development of knowledge concerning mesons, consequent upon the Nobel prize-winning work of C. F. Powell (University of Bristol) with photographic emulsions, the electrical experiments of Conversi were susceptible to reasonably consistent interpretation. A detailed listing of the new knowledge would be out of place in so general an article as this. It will be enough to say that the frequency of occurrence of the various cosmic ray particles and the variation of this frequency with altitude remained extremely complex. Although the behaviour of a particular component could, in favourable cases, be catalogued, it usually could not be related with certainty to the behaviour of another component. In many cases the origin of the particles was still a matter of conjecture. The main avenues of research that seemed to offer promise were those dealing with primary and secondary protons, and with mesons. The energies of all these particles as they occur in natural cosmic rays are, however, so large that a lapse of several years was anticipated before particle-accelerating machines of the requisite power could be built to test their behaviour in the laboratory, under controlled conditions. Meanwhile, evidence as to the properties of the rays was built up piecemeal, event by event, as the story was unfolded in observations on photographic emulsions that were exposed at high altitudes.

At the same time, physicists generally felt that the spate of tentative mathematical theory on the subject of mesons as the "cement" that binds particles together in the atomic nucleus had been singularly unproductive of real understanding of the nucleus, and that some radical new idea would be needed to explain the short-range forces that bind neutrons and protons together.

**Ingredients of the Universe.**—Thanks to the light, observed spectroscopically, that stars and nebulae send to the earth, it was possible to list with some certainty the proportions of different elements in the far reaches of the universe. Simultaneously, careful studies of meteoric matter, collected and analyzed after it impinged upon the earth, provided similar information of a more local character relating specifically to the regions of space within the solar system. The important questions to be answered were: (1) What are the proportions of different elements in the universe; and (2) is the distribution the same everywhere except for what may be called local irregularities?

It turned out that in most ordinary stars, hydrogen and helium, the lightest elements, accounted for more than 99% of the stuff of which they are composed. In the white dwarfs, however, these two light elements were absent, having been burned up, as it were, while the star went through its pre-ordained evolutionary sequence, leaving the other heavier elements, originally a tiny fraction of the whole mass, occupying a quite prominent place. Such studies as were possible indicated that, with respect to elements heavier than oxygen, stars, no matter whether large or small, dull or bright, contained different



atoms in approximately the same proportions. It must be emphasized that the data upon which such a conclusion was based were obtained only by recourse to the finest astronomical observations coupled with bold and occasionally speculative applications of difficult physical theories. Consequently, if at a later date this view had to be modified, the change would occasion no great surprise.

A comparison by Harrison Brown of the latest data on meteoric matter and on the sun and stars showed that, as far as the heavy metallic elements were concerned, the abundances were roughly the same. It was reasonable to deduce that the materials arose from a common origin. Thus, in spite of tremendous differences of location, of appearance, of temperature, of density, the universe was found to be remarkably regular in its composition.

To a philosophically minded scientist like G. Gamow, of George Washington university, Washington, D.C., such a regularity of composition presented a challenge, a suggestion that there must have been some common origin of the material, at some remote time when there was easy opportunity of thorough mixing. In working out the consequences of such a hypothesis, allowance had to be made for radioactive decay and for atom smashing and building in regions of local high temperatures. Gamow and his collaborators developed the theme in a series of papers in which they considered the evolution of an originally highly compressed blob of stuff through the series of nuclear reactions that were most likely to occur as the material flew asunder to form the expanding universe. He was able to adapt his theory so that it gave a very plausible account of the observed uniformity of composition of the universe and of the numerical relative abundances of light and heavy elements. In its latest form, the theory could not yet take care of such refinements as the reason for the natural formation of more atoms with even atomic numbers than with odd. Gamow's was an interesting attempt to establish a logical connection between basic physics and cosmology.

**Nuclear Reactors.**—Although many of the details of the U.S. Atomic Energy commission's program were held secret, the main features were given generous publicity. In spite of the temporary emotional reaction of the public to the decision to proceed with the development of the hydrogen bomb, the feasibility of constructing it apparently remained to be proved. Such a proof could not be demonstrated by the usual industrial technique of first building and testing a pilot plant, for in most aspects of nuclear engineering only a full-scale experiment is possible at all. This novel feature is consequent upon the impossibility of creating nuclear chain reactions with small (sub-critical) reacting masses.

The Atomic Energy commission was engaged in the design or construction of at least four new reactors. First, an experimental breeder reactor reached the stage of completion of the architect-engineering design. A reactor of this kind was to test the practicability of growing new fissionable material with fast neutrons and to investigate the application of liquid metals to the removal of heat from the working volume. Second, a materials-testing reactor reached the contract stage, and construction was expected to commence soon. This reactor plays the same role as the materials-testing laboratory in a conventional industrial plant. Not enough information was available concerning the ability of materials of construction to withstand the high temperatures and tremendous radioactive fluxes that occurred under working conditions in a large reactor. Third, a ship propulsion reactor was under consideration. It was expected to reach the engineering design stage about the beginning of 1951, not yet the design of a marine power plant, but the design of a preliminary unit to be operated and tested on land. Fourth,

an intermediate power breeder reactor was planned for construction at the West Milton, New York, site of the Knolls Atomic Power laboratory. Its purpose was to evaluate the possibility, hitherto untested, of using neutrons of intermediate energy to manufacture new fissionable material and to generate useful power.

**New Unstable Particle.**—In the 1920s, despite awareness among physicists of the incompleteness and inadequacy of their data, the universe was describable in terms of three fundamental particles—protons, negative electrons and photons. These three were considered to have a reasonably permanent existence apart from the possibility of their emission or absorption by more complex systems. After the discovery of the neutron and several types of meson, and especially after the recognition of the unstable (radioactive) character of these new particles, it was clear that the behaviour of matter in the universe was much more complex than the simple beliefs of the preceding generation would have predicted. From time to time new experiments were reported which could be woven into the existing web of physics only if the existence of new types of particles were admitted. Characteristic of such observations was a brief note by Gerhart Groetzinger and David Kahn in which they presented new evidence for the existence of positively charged particles appearing near beta-emitters. A few earlier investigators had tentatively identified such positive particles in cloud chamber photographs and had assigned to them a mass about twice that of the electron. But a search for the particles in conventional beta-ray spectrometers gave no confirmation of the photographic evidence. Groetzinger and Kahn implied in their note that these two items were not necessarily contradictory provided it was assumed that the elusive particles decayed so rapidly after being created that they failed to survive in detectable numbers the time of flight through the usual beta-ray spectrometer. Therefore, they built a special beta-ray spectrometer in which the path length was only 4.4 cm., about  $\frac{1}{2}$  or  $\frac{1}{10}$  of the usual distance. With this instrument they found definite evidence of positive particles accompanying the emission of negative electrons, from radioactive  $P^{32}$  in this case, to the extent of approximately one positive particle for every thousand negative electrons. Since measurements made with a beta-ray spectrometer have to be interpreted in terms of the ratio ( $m/q$ ) where  $m$  is the mass and  $q$  the charge of a particle, no determination of mass or charge separately was possible. Another supplementary type of experiment was needed to measure the momentum or the charge of these new particles.

**Harwell Nuclear Physics Conference.**—Typical of helpful conferences arranged by physicists for face-to-face exchange of information was the Nuclear Physics conference held at the British Atomic Energy Research establishment at Harwell in Sept. 1950, during which nearly 100 papers were presented, covering most of the important basic and applied aspects of the subject. A strong delegation from the U.S. was present, representing in a roughly proportional way the emphasis being placed on nuclear physics at the several special laboratories on Long Island, N.Y., in Tennessee, in Illinois, in California and elsewhere. The papers contributed by this delegation formed a considerable part of the proceedings. Much new information was reported concerning the interactions of the fundamental particles, the half-lives of mesons and of neutrons, the energy levels of particular types of nuclei, and the spins and moments of nucleons. The theory of nuclear reactors was considered, not from the point of view of the production of energy, but from the point of view of the reactor as a scientific instrument useful for the determination of nuclear cross-sections.

Papers reporting theoretical work, or experimental work, from half a dozen countries were blended in a harmonious inter-



national atmosphere. (See also STANDARDS, NATIONAL BUREAU OF.)

**BIBLIOGRAPHY.**—The reader in search of further information on recent advances in physics research is recommended to start with *Nature* (London), vols. 165, 166, and the *Physical Review*, vols. 77–80. Social and international problems of physics, and the control of atomic energy are discussed fully in the *Bulletin of the Atomic Scientists*, vol. 6, and in *Physics Today* and *The American Journal of Physics*, published monthly by the American Institute of Physics, 57 E. 55th Street, New York 22, N.Y.

**FILMS OF 1950.**—*Gravity* (Coronet Instructional Films); *Liquid Air* (Almanac Films, Inc.); *Physics Demonstrations Series* (5 short films), *Physics Demonstrations Second Series* (10 films) (McGraw-Hill Book Co., Text-Film Dept.); *The Thermometer, What Makes Things Float* (Instructional Films, Inc.). (T. H. O.)

## Physiology. Effects of Cortisone and ACTH in Man.—

Extensive metabolic studies were made on 33 patients to secure data regarding the effects of prolonged administration of cortisone and ACTH in man, the possible hazards involved in their use and the mechanism by which the favourable clinical effects were produced. Up to the close of 1950 no apparent correlation was found between the metabolic changes which were observed and the beneficial effects of therapy. The data confirmed the view that these substances are powerful hormonal agents which influence many physiological processes. When given in large doses over a long period, cortisone has the capacity to produce most of the clinical features of Cushing's syndrome such as rounding of facial contour, acne, hirsutism, muscular weakness, keratosis pilaris, oedema, amenorrhoea, cutaneous striae, mental depression, impairment of carbohydrate tolerance, negative nitrogen balance, increased excretion of corticosteroids in the urine and alkalosis. When ACTH was given, study of the excretion of urinary steroids indicated that the adrenal cortex secreted 17-hydroxycorticosterone (Compound F) rather than cortisone.

Cortisone seemed capable of depressing the functions of the adrenal cortex in man as it does in the rat. The changes in carbohydrate tolerance were not marked. Abnormal glucose tolerance curves were apparently produced in some patients but not in others. However, more pronounced effects might be expected if the patient has latent or frank diabetes. The biological effects of cortisone and ACTH should be kept in mind when they are employed therapeutically.

**Visual Purple.**—The rods and the cones are the structures in the retina which are sensitive to light. The rods contain a photochemical substance, rhodopsin or visual purple, which is bleached by light and is resynthesized in the dark. On exposure to light, visual purple yields a protein and an orange-yellow carotenoid pigment called retinene<sub>1</sub>. A more prolonged exposure to light or a more intense light results in the further reduction of retinene to vitamin A<sub>1</sub>. A deficiency of vitamin A is known to impair vision in dimly lighted surroundings.

Experiments were carried out in which synthetic retinene<sub>1</sub> was used. It was prepared from crystalline vitamin A<sub>1</sub> by chromatographic oxidation on solid manganese dioxide. Cattle or frog rhodopsin in solution bleached in the presence of a high concentration of synthetic retinene regenerated about 70% of its original content of visual purple when replaced in the dark.

Colourless rhodopsin protein which was proven to be free from native retinene<sub>1</sub> was extracted from the retina. When synthetic retinene in high concentration was mixed with the rhodopsin protein large yields of rhodopsin were obtained. Thus the synthesis of rhodopsin from vitamin A<sub>1</sub> was accomplished. Tests indicated that the naturally occurring and the synthetic forms of rhodopsin were identical. Probably the formation of rhodopsin requires only retinene and rhodopsin protein and it seems that energy is liberated in the reaction. In the reverse process the energy required for the bleaching of rhodopsin would be supplied by light.

**"Suspended Animation" in Rhythmically Contracting Structures.**—After eggs were incubated for 35 to 50 hours, the chick embryos were removed and partially dehydrated with ethylene glycol. The embryo, supported on a thin piece of mica, was immersed in liquid nitrogen at  $-195^{\circ}$  C. At this low temperature solidification occurred rapidly. The solidified embryo was removed from the liquid nitrogen a few hours later and rewarmed rapidly by placing it in a salt solution (Tyrode's) at  $40^{\circ}$  C.

The heart resumed its beating and in some instances continued beating for hours.

The embryo chick heart at this stage is small although beating rhythmically. It can be excised and treated similarly. On re-warming rhythmic contractions may occur for many minutes. This was, as far as was known to the author, the first report of survival of an entire excised organ of a vertebrate after exposure to such a cooling process.

Small pieces of amnion were excised and treated in like manner with similar results. The smooth muscle of the amnion may contract spontaneously and rhythmically. Contractions in some instances may be observed for a few hours.

The conditions permitting recovery are ultrarapid cooling (at a rate of several hundred degrees per second), ultrarapid re-warming and dehydration. Because such great speed of cooling is required, the method is applicable to small organisms or small pieces of tissue. All treated tissues or organs are injured to some extent.

The results seem to support the view that life is preserved to the extent to which crystallization is avoided. Aqueous solutions of a variety of substances when rapidly cooled may pass from the liquid to the vitreous state (amorphous solidification) without crystallization. If the cooling or re-warming occurs more slowly, crystallization with disruption of the living structure occurs.

**Mammals Thriving on Sea Water.**—Man is constantly losing water from the body by way of the skin, respiratory tract and in the excretions. Water must be replaced or the body, which consists of approximately two-thirds water by weight, will become dehydrated. Food contains water and in addition some water is obtained by oxidation of the hydrogen in the foodstuffs. Sometimes a supply of water is not available. The evidence indicates that man is not able to utilize sea water in place of drinking water. Yet certain animals such as seals and whales do not have access to fresh water.

If an animal should excrete urine with a higher concentration of salt than sea water has, water would be gained for the body.

Although the white rat had been shown to have a more powerful excretory system than other laboratory animals, yet it could not substitute sea water for drinking water. Work was carried out on the kangaroo rat, *Dipodomys merriami*. Normally this rodent does not need drinking water. In order to make it drink sea water, dry food with a high protein content was given. The large amounts of urea formed from protein are excreted by the kidneys, increasing the loss of water by way of the kidneys. It was found that if only dry food with a high protein content was given, the body weight steadily diminished, reaching about 60% of the initial weight in 16 days. If either fresh water or sea water was supplied, after a slight initial loss the weight was regained and maintained so that after 19 days the two groups of animals were alike in this respect. The blood plasma concentrations of urea and electrolytes were alike in the two groups, that is, about 156 millimolarity. Sea water from the Atlantic ocean was used in one set of experiments and from the Pacific ocean in another, having electrolyte concentrations of 545 millimolarity and 585 millimolarity, respectively. K. Schmidt-Nielsen and co-



workers had previously shown that the maximum electrolyte concentration of the urine of the kangaroo rat may reach 1,200 millimolarity, more than twice as high as sea water.

The ability of the animal to excrete highly concentrated urine enabled it to survive, using sea water in place of fresh water.

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**Pig Iron:** see IRON AND STEEL.

**Pigs:** see LIVESTOCK.

**Pineapples:** see FRUIT.

**Pittsburgh.** In 1950 the Pittsburgh district was disturbed by prolonged strikes that affected coal production, suburban bus lines and milk and department store deliveries, and forced suspension of all daily newspapers for six weeks. A record-breaking 31.3-in. snowfall, beginning on Nov. 24, paralyzed all transportation for days.

In spite of these handicaps, the University of Pittsburgh's bureau of business research reported that business activity in the district in the first 11 months of 1950 was 182.5% of the 1935-39 average, 15.7% higher than for the corresponding period in 1949, and only 1.6% less than in the 11 months of 1948. For the year, industrial production was 184.4% of the 1935-39 average, up 18.9% from 1949, but down 2.3% from 1948. Steel operations were at 97.2% of capacity, 24.6% above 1949 and 4.4% above 1948.

Bituminous coal production in Pennsylvania was 15.6% in excess of 1949, but 23.2% less than in 1948. For the first 11 months numbers employed were 111% and payrolls 247.9% of the 1939 average.

Department store sales for 11 months were 3% above the corresponding period of 1949.

The rebuilding program sponsored by the Allegheny Conference on Community Development progressed. Demolition was begun on 13 ac. at the confluence of the Monongahela and Allegheny rivers to make way for a major traffic interchange and a memorial park, and in the adjoining 26-ac. tract acquired by the Urban Redevelopment authority, where ground was broken for three multistory office buildings, privately financed. Construction proceeded on the high-speed Penn-Lincoln parkway to connect the downtown area with the western extension of the Pennsylvania turnpike, also being built.

Jones & Laughlin Steel corporation announced that it would build 11 additional open-hearth furnaces at its south side works, instead of 6 as originally planned, at a total cost of \$400,000,000, on land made available through the Redevelopment authority. The Pennsylvania Railroad company pushed toward completion a large freight warehouse and terminal.

At the University of Pittsburgh medical centre ground was broken for a nurses' home and a 1,000-bed veterans' hospital. John Christian Warner was inaugurated fourth president of Car-

negie Institute of Technology.

The 1950 U.S. census fixed the population of Pittsburgh at 673,763 (preliminary figures), 12th in the nation, and that of Allegheny county at 1,508,255. The Pittsburgh metropolitan district numbered 2,205,544.

Taxable real estate for 1951 in Pittsburgh was \$1,017,800,000; in Allegheny county, \$2,239,700,000. (C. F. Ls.)

**Pius XII** (1876- ), the 262nd successor of St. Peter in the see of Rome, was elected by the cardinals in conclave on his 63rd birthday, March 2, 1939, and was crowned as pope on March 12.

In 1950 Pope Pius welcomed an estimated 3,000,000 visitors who went to Rome to do penance and to gain the special indulgences extended to pilgrims during the Holy Year. After the close of the Holy Year the pope issued a bull on Dec. 25 extending the spiritual benefits of the Holy Year to the entire world in 1951.

Concern for the thousands of orphans and needy children in war-torn lands was expressed by Pius XII in a broadcast to 3,000,000 children in the schools of the United States opening the annual Lenten children's collection for the victims of war. In the encyclical, *Anni Sacri*, the pope called upon priests and laity to combat antireligious forces by a crusade of prayers for a new order in the world based on "truth, justice and charity."

Addressing several thousand French teachers and students of both Catholic and public schools, Pope Pius said that not faith but those who deny or discard God should be considered the real enemies of learning and science. Explaining that "between the concrete results of scientific investigations and the essential gifts of faith there is not and cannot be any irrevocable opposition," the pope continued: "As for the occasional divergencies, they must be attributed to the errors to which human judgments easily become subject, but never to any objective and irreconcilable contrast between science and faith."

In a letter to the prefect of the Sacred Congregation for the Propagation of the Faith, on the occasion of the International Missionary congress, the pope said: "The Church has no desire to rule over peoples or to vest itself with power in merely temporal matters; its anxiety is to bring the heavenly light of Faith to all nations and to promote human civilization and fraternal concord among peoples."

*Summi Maeroris*, an encyclical published in July, urged bishops throughout the world to pray for peace among the nations. This encyclical was a reply to the so-called Stockholm peace appeal issued by the Communist-organized Permanent Committee of World Congress and of the Defenders of the Peace which demanded outlawing of atomic weapons.

Pope Pius warned theologians against a too conciliatory doctrinal attitude toward non-Catholics in his encyclical *Humani Generis*. It indicated the Vatican did not intend to compromise on questions of faith and morals and warned against projects of union with other Christian churches unless they were based on Roman Catholic doctrine.

In June the pope called upon the people and governments to pool their resources in a world-wide campaign to bring about social justice and to halt the march of atheism and materialism. This was believed to indicate the pope's support of United States economic policy, according to Vatican circles.

Making the first solemn dogmatic definition uttered by the pope alone since the definition of the doctrine of the Immaculate Conception in 1854, Pope Pius XII proclaimed, on Nov. 1, the dogma of the corporal assumption of the Blessed Virgin Mary to heaven.

Concern for peace was shown by Pope Pius in an encyclical letter in December calling on all Roman Catholics throughout the world to start a crusade of prayers to avert war. In his



Christmas broadcast also, the pope appealed to the Soviet Union and the western powers to enter into direct negotiations to avert war. (See also ROMAN CATHOLIC CHURCH; VATICAN CITY STATE.) (J. LAF.)

**Plague, Bubonic and Pneumonic.** The World Health organization (United Nations) proposed, in its meeting of Dec. 1949, to implement active measures against plague. A committee whose membership was composed of persons experienced in experimental and practical aspects of the subject was organized and agreement was reached on the designation of some members to the execution of specific studies. After general discussion, it was decided that a more definite knowledge of the extent of dissemination and the delimitation of endemic areas was of fundamental importance. More specifically, it was agreed that the relationship of wild rodent plague to that of domestic rodents was to be studied, and Africa was selected as the site for these observations. Demonstrations of control methods by the use of rodenticides, pulicides and practically applicable rat-proofing were to be carried out in Bombay province, India, and possibly in Madagascar. A recommendation was made for a study of the disinfestation of rice by fumigation with liquid hydrocyanic gas, as in practice at Colombo, Ceylon, but because of the danger inherent in the use of the liquid gas, alternative methods were selected, which included the application of cyanogas (calcium cyanide) by pouring the powdered chemical over the rice while in bin storage, also the use of methyl bromide and acrylon. Treatment of pneumonic plague by the administration of streptomycin was set for trial in South Africa and China. Prophylaxis was to be investigated by the administration of sulfadiazine or sulfamerazine to the contacts of cases. Studies were to be made toward establishing a world-wide nomenclature of animal reservoirs and plague vectors.

The significance of these proposals for organized investigations under a central agency was attested by the world-wide incidence of plague, the suggested variations in its epidemiology in different areas and in the diversities among reports concerning its control and the treatment of cases. Between January and June 1950, human cases were reported to have occurred in Africa—83 cases, of which 45 were in Madagascar; Asia—Burma, 342 cases, China 943 (Fukien province, 696), India 36,529, Indochina 492, Java 339, Thailand 56, and a scattered few in other eastern countries; South America—Ecuador 14, Peru 16, Venezuela 5; North America—the United States 3.

In Bolivia, the disease was apparently of low-grade endemicity with occasional outbreaks of epidemic proportions. Seventeen years earlier a severe epidemic had occurred among a small population of the department of Chuquisaca in which there were 1,000 deaths. Five years later, there was a recurrence in this and neighbouring departments involving 150 reported cases, of whom 62 died. After 1948 antiplague measures were practised but during July of 1950 five cases were reported within a few days, suggesting an epidemic outbreak. A survey indicated that similar periodic outbreaks of lesser proportions had occurred in Venezuela.

An analysis of ten years' observations and experiments in Kenya, Africa, indicated a seasonal epidemicity, and disclosed factors which were at variance, apparently, with those operative in other parts of the world. *Xenopsyllus cheopis* and *brasiliensis*, *Dinopsyllus lypus* and *Ctenophthalmus cabirne* are the four common fleas in the area, and all transmit plague under experimental conditions. *Rattus* and *Mastomys coucha* are the common rats, and the latter species is probably the predominant animal reservoir of the endemic. *X. brasiliensis* is regarded as the most important vector to both rats and man. The plague outbreaks and seasons are accompanied by a marked increase in the number of *Rattus*. As many of these were trapped during one week of an

outbreak as during four months of a quiescent period. The absence of *Rattus* is a main factor in the absence of the disease. The flea index of both *Rattus* and *M. coucha* was much higher during the quiescent period than during the outbreak. It is not a high flea index but a prevalence of *Rattus* that is responsible for the initiation and continuance of an outbreak; and the number of fleas on a rat has no correlation with its sickness or health. It was suggested that *X. brasiliensis* is stronger, numerically, during the initial plague period, and declines with the subsidence of the epidemic. During the subsidence, the ratio of males to females increased, and in the quiescent periods, males predominated, numerically.

Other observations indicated that all fleas do not leave dead rats at once, some species leave sooner than others. *X. cheopis* leaves early, others remain for days. *X. cheopis* is associated more with rats living underground, and *X. brasiliensis*, with those living in roofs. *X. cheopis* areas are distinguished by an intensity of human infections, whereas *X. brasiliensis* areas show a low incidence in man. No satisfactory explanation of this difference had been developed.

The development and use of new chemicals as rodenticides continued during the year. A report of the use of sodium fluoracetate during four years in the deratization of ships indicated that poisoning by this chemical was gaining precedence over fumigation. It was distributed as a 1 to 256 aqueous solution tinted with nigrosine, as a warning, in crateriform paper cups of three-quarter fluid ounce capacity. The number of cups placed on a ship depended upon its size, structure, cargo and degree of rat-proofing, but averaged 60 to 70. The period of exposure averaged about 18 hours, after which the rats and cups were collected, and the latter promptly destroyed by burning. The efficiency of the procedure was regarded as a kill of 91.8% of the rats estimated to have been on the ship. As an additional measure of precaution the cups of poison were placed in and surrounded by an ample area heavily dusted with dichloro-diphenyl-trichlorethane (DDT) for the purpose of killing fleas which left the rats. Many of the latter died within short distances of the cups.

A compound, 3 ( $\alpha$  phenyl  $\beta$  acetyl) 4 hydroxy coumarin, related to dicoumarol, was proposed by the Wisconsin Alumni Research foundation to be used as a rodenticide under the name W.A.R.F. 42. A field test of this compound was made in a second-class residential section of a city in the United States. The number of rats per city block was estimated, and a box of poisoned bait, one milligram of the poison to a gram of finely ground corn, was set out for each colony detected. Control conditions were maintained for reference. It was concluded that the kill averaged 84.5% under the conditions of the test and based on the estimates of the numbers of rats previously present and those subsequently found dead. It was considered that the poison was relatively harmless to handle. Three to five days exposure as bait was the more effective period. The results of poisoning were short-lived since a survey of the area three months after the poisoning operations indicated that there had been an increase of 88% of the post-poisoning population. In the undisturbed reference city blocks, the population continued without change.

An outbreak during 1950 of five cases of pneumonic plague in Calcutta appears to have been satisfactorily controlled by the administration of sulfadiazine and streptomycin. Such treatment had been relatively successful among laboratory animals under varying experimental conditions, but pneumonic plague in man results in a fatality rate of high degree.

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**Plant Industry, Soils and Agricultural Engineering,**  
**Bureau of:** see AGRICULTURAL RESEARCH ADMINISTRATION.

**Plastics Industry.** The plastics industry in the U.S. broke all records in 1950 when it produced more than 1,500,000,000 lb. of synthetic resins and cellulose as compared with a little more than 1,000,000,000 lb. in 1949. While the figures are subject to individual interpretations and varied methods of compilation, Table I gives a working comparison.

Table I.—*Production of Synthetic Resins and Cellulosics*  
 (in pounds)

	1949	1950*
Cellulose plastics (all)††	90,500,000	127,000,000
Phenolics††	250,500,000	376,500,000
Urea and melamine†	115,500,000	174,000,000
Styrene and styrene-derivative polymers and copolymers†	222,500,000	300,000,000
Vinyls†§	302,000,000	411,000,000
Miscellaneous†	125,500,000	266,000,000
Total	1,106,500,000	1,654,500,000

\*Last four months estimated.

†Includes fillers, plasticizers and extenders.

‡Excludes data on protective coating resins.

§Includes data for spread coating and calendaring-type resins.

||Includes data for acrylic, polyethylene, nylon and other moulding materials.

¶Includes data for about 100,000,000 lb. of coumarone-indene and petroleum resins plus alkyd, nylon, silicone and other resins for miscellaneous uses.

Source: United States tariff commission figures and *Modern Plastics* estimates.

The outstanding feature of the plastics industry during 1950 was the increasing number of large extrusion machines put into service. As shown in Table II, only 3 machines of 30-oz. or larger capacity were delivered in 1947; in 1950, 91 were delivered.

Table II.—*Injection Machines Delivered, by Size*

	2-oz. or less	3-, 4-, 6-oz.	8-, 10-oz.	12-, 16-oz.	20-, 28-oz.	30-oz. and more
1947	74	48	34	103	23	3
1948	182	74	39	81	21	12
1949	392	52	103	113	6	34
1950*	181	113	156	229	34	91
Total	829	287	332	526	84	140

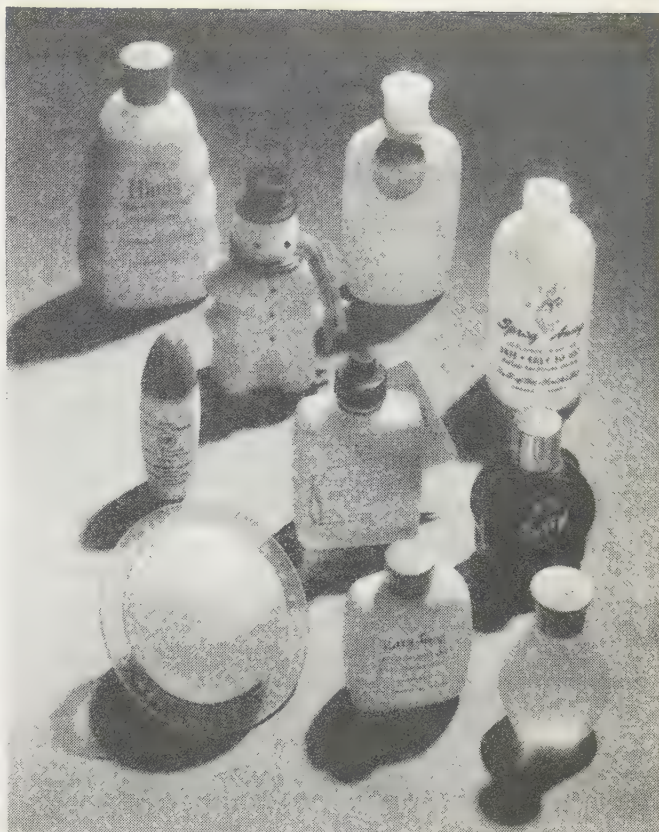
\*Sixty-five machines of 4- to 32-oz. size not included for 1950, because of lack of information on exact size. A similar ratio exists in the other years since it has never been possible to obtain the exact size of every machine shipped.

**Benzol.**—The threatened shortage of benzol in 1950 was largely made up by imports. In the first eight months United States imports of benzol were 4,500,000 gal. from Great Britain; 3,000,000 gal. from Poland and Czechoslovakia; and 800,000 gal. from Canada. Contracts were made for about 45,000,000 gal. to be imported from the United Kingdom over a year's time, starting in the summer of 1950. Benzol users asserted that this imported material plus domestic production would be enough to assure a sufficient supply of benzol for the facilities available to handle it in 1951—provided, of course, that there was no all-out war.

**Styrene.**—The big 1950 increase in polystyrene was spread out among all types of applications, but the most spectacular growth was in the ever-increasing size of moulded pieces. Refrigeration parts and equipment, housewares, wall tile, novelties, toys and premiums, and television parts were the leading products.

Production of polystyrene moulding material approached 250,000,000 lb. in comparison with 184,000,000 lb. in 1949. Production increased from 16,000,000 lb. in February to almost 25,000,000 lb. in September, yet there were estimators in the industry who claimed that 30,000,000 lb. or more could have been absorbed in each of the last six months. In 1949 the largest month's consumption (October) had been 19,000,000 lb., and the monthly average had been about 15,000,000 lb. Thus, moulders used more than 33½% more polystyrene in 1950 than in 1949.

**Polyesters.**—The styrene-based polyesters, which contain



"PLAXPAK" BOTTLES being used to package toiletries, chemicals and other products in 1950. Made of polyethylene, a plastic, the bottles are squeezable and therefore useful for creams and liquid sprays, and were impervious to certain acids affecting glass

about one-third styrene, were manufactured in 1950 in quantities at least three times that of 1949 when 3,000,000 lb. were turned out. Corrugated sheet for skylights and other structural forms was claimed to be the biggest outlet. Polyesters were being used to an increasing extent in the manufacture of washing machine tubs and in dishwashers, and they were used in making such commodities as tote boxes for bakeries and textile mills. The aviation industry and the boat industry also used considerable quantities.

**Cellulosics.**—Cellulose acetate and cellulose acetate butyrate moulding powder production was around 80,000,000 lb. in 1950 in comparison with 56,000,000 lb. in 1949. Materials were on allocation for months, and many millions of pounds more could have been sold if they had been available.

Acetate usage not only grew because of a general increase in demand for all plastics, but also benefited by intense design and merchandising campaigns by material producers; by a low-cost opaque material that met with wide acceptance; by higher heat- and flame-resistant materials that proved highly successful in Christmas tree ornaments, electrical appliance housings and kitchen cutlery. Butyrate, as usual, continued to advance in applications where its stability was highly desirable, but gained particular acceptance in transparent housings where visibility is desirable and made definite inroads into the pipe market because of its toughness and noncorrosive properties.

Cellulose propionate (Forticel) was discontinued in 1950, not only because of material shortages and pressure of work on other materials, but because other hard formulations of acetate were developed, capable of doing almost the same job as any other cellulosic and at the same price as standard material.

Acetate film of less than 0.003 gauge increased in volume by between 4,000,000 and 5,000,000 lb. over the amount used in 1949. This increase resulted largely from a new dry extrusion



process that got under way in 1950.

Interest in ethyl cellulose for moulded items reached its highest point since 1945. Scale models for advertising promotion, textile bobbins, tool handles, large-size refrigerator pieces, extruded wire coating for use in blasting operations, and sporting goods items such as shotgun shell casings, bowling pins, golf club faces and football helmets in ethyl cellulose were all beginning to make their presence felt in the markets.

**Acrylic.**—Acrylics were under allocation by producers before the end of the year. Moulding material was sold in the greatest quantity ever reached. Automobile medallions, lenses, etc., were by far the largest outlet, but large moulded signs were beginning to show up in increasing quantities.

**Polyethylene.**—Polyethylene was first of the plastics to feel the direct impact of increased military demand. One of the most widely discussed military applications was the WD-1 assault wire used for telephonic communications in the field. The wire requires about 14 lb. of polyethylene and 9 lb. of nylon per mile.

At the beginning of 1950 it was estimated that total capacity for polyethylene production was somewhere between 50,000,000 and 60,000,000 lb. annually. A great portion of it was used for film and sheeting. Thin gauge was used for packaging, refrigerator bags and in various types of consumer goods. Extruded pipe that would not corrode began to find a market. Polyethylene dishware factories sprang up in various parts of the country.

**Phenolic.**—The phenolic branch of the plastics industry produced more than 370,000,000 lb. of material in 1950 compared with slightly more than 250,000,000 lb. in 1949. A good portion of this increase was in moulding material where there was a growth of from 131,000,000 lb. in 1949 to considerably more than 210,000,000 lb. in 1950.

Phenolic laminating-resins production increased from 40,000,000 lb. in 1949 to almost 70,000,000 lb. in 1950. Decorative laminates continued to make gains, but industrial laminates constituted the bulk of the business.

Miscellaneous phenolic resins for use in brake linings, grinding wheels, rock-wool binder, cast resins, wood waste and foundry moulds or cores showed almost a 20% production increase in 1950. The two newest—wood waste and foundry core resins—were reported to account for about 7% of the total production.

**Urea and Melamine.**—Urea and melamine resins made large gains in production in 1950. The moulding powder and laminating resins gained more than 45% in 1949. Of the almost 70,000,000 lb. produced during the year, substantially more than 50,000,000 lb. were estimated to be urea, compared with an average production of about 30,000,000 lb. during 1949. Urea crystal, the material from which the plastic is made, became scarce toward the end of the year.

The supply of melamine was limited during the last quarter of 1950. The demand for laminating resin used in decorative laminates, and the wide acceptance of melamine moulded dishware, were probably the leading factors in this situation.

**Vinyl.**—Everything in this category—including plasticizer, filler and all types of vinyl including vinyl chloride and copolymers, butyral, formal, acetate, alcohol and saran—consumed a total of more than 500,000,000 lb. in 1950. There were sizable increases in every end use. Film of less than ten gauge continued its lead as the largest volume user with the principal end uses continuing to be draperies, shower curtains, raincoats and tablecloths. An even greater percentage of growth was in unsupported sheeting. The increase was generally credited to more volume in the automotive upholstery field, a more extended use of upholstery to include different styles in chairs, and considerably more use of vinyl in luggage.

The fabric coating increase included an increase in the use

of plastisols and organosols for spread coating. Perhaps 60% of this material was spread-coated, and was encroaching on the calendering field. Nearly all the materials with a seven- or eight-mil coat were now spread-coated, as were even some of the thicker materials. Fabric-backed upholstery for the automotive trade is generally calendered because it is more economical in long runs, but such items as automotive visors, kick plates and trim may be spread-coated, since they do not require heavy sheet. (See also MUNITIONS OF WAR; RAYON AND OTHER SYNTHETIC FIBRES.)

(C. A. BN.)

**Platinum:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Pleven, René** (1901— ), French prime minister, was born on April 13 at Rennes. After graduating in law at the University of Paris, he chose a business career and at the outbreak of World War II was managing director of an industrial company in Great Britain. He went to the U.S. as deputy chairman of the French Air mission but was back in France at the time of the capitulation. He joined Gen. Charles de Gaulle in London and was sent to assist in rallying French Equatorial Africa to the Free French cause. After his return to London, he became commissioner for economy, finance and the colonies in the French National committee in Sept. 1941. He was minister of colonies in the French provisional government at Algiers (June 1943) and minister of finance in De Gaulle's first government formed in Paris (Nov. 1944); subsequently he added the portfolio of national economy to that of finance, retaining both until Jan. 1946. Pleven was a member of the first constituent assembly (Oct. 1945-May 1946) and of the national assembly elected on Nov. 10, 1946. He held no further ministerial office until Oct. 1949 when he became minister of national defense in the Georges Bidault government. After its defeat on June 24, 1950, he declined the president's invitation to form a new government and remained minister of defense in the Henri Queuille government June 30-July 1. On July 11 Pleven was confirmed as prime minister by the national assembly and the following day formed a coalition cabinet of M.R.P. (*Mouvement Républicain Populaire*), Radicals, Socialists and a few smaller groups.

**Plums:** see FRUIT.

**Plutonium:** see ATOMIC ENERGY.

**Pneumonia.** During the year 1950 terramycin was added to the list of effective antibiotics. This new agent, which resembles aureomycin in almost every important respect, was, like the latter, found effective against almost all the bacteria which are important in the causation of pneumonia. Early reports of the use of terramycin in experimental infections and some limited observations on patients suggested that terramycin, like aureomycin, is also effective against the rickettsias, including Q fever, and also appeared to have a beneficial effect on the so-called viral pneumonias, although the exact causative agent of the latter was still unknown. Details concerning the isolation and properties of terramycin and the results of studies on this agent in a number of laboratories and clinics were presented at a conference held by the section of biology of the New York Academy of Sciences on June 16 and 17, 1950.

In one series of cases of pneumococcal pneumonia, aureomycin was found to be at least as effective as penicillin. In those cases the fatality rate actually was lower and the temperature fell more rapidly in the patients treated with aureomycin than in a larger series of patients previously treated with penicillin at the same hospital and under the direction of the same physicians. This was of particular interest because when cul-



tures of pneumococci obtained from patients with pneumonia are grown in the presence of various antibiotics, their growth is completely inhibited by concentrations of penicillin which are considerably smaller than those of aureomycin required to produce the same effect. In experimental infections of cotton rats or chick embryos with a virus obtained from cases of pneumonia, aureomycin was found to be much more effective than chloromycetin, but direct comparisons of the effects of these agents in viral pneumonias in human patients had not been reported.

A great deal more of controlled experience would be needed before any judgment was made concerning the relative effects of the newer agents on the pneumonias caused by these or other microbial agents. In the meantime, it was safe to say that, among such antibiotics as penicillin, streptomycin, aureomycin and terramycin, there was a choice of effective and beneficial agents available for the treatment of patients with almost every one of the specific types of pneumonia. This aspect was becoming increasingly important, because with the widespread use of chemotherapy and antibiotics for all types of infections, an increasing number of people were rendered sensitive to one or another of these agents so that they might have serious reactions when it was administered to them. Fortunately, the person who is sensitive to one antibiotic and has unfavourable reactions when it is administered may still be able to tolerate the other agents and may be treated effectively with one or another of them. In addition, when a patient with pneumonia fails to respond favourably to one of the antibiotics, treatment with another may still prove successful.

Statistical data from the Metropolitan Life Insurance company reflected the effect which the introduction and widespread use of these successive therapeutic agents had produced on the death rate from pneumonias among its policy holders. These data showed more or less constant decline in deaths from pneumonia, particularly since 1935. The latest figures for death rate recorded for this disease were less than one-fourth what they were in 1935.

The common cold and influenza are known to be most important predisposing factors in cases of pneumonia. In addition, because of their great prevalence—throughout the large part of the year in the case of the common cold and during epidemics in case of influenza—these simple illnesses are a major source of disability and result in a large number of man-days lost to industry. Many attempts have been made, therefore, to prevent and to cure these diseases. During 1950 the antihistaminic drugs, which had been proved to have considerable usefulness in the treatment of certain allergic conditions, were widely publicized as having a most decisive effect in preventing and curing the common cold. Subsequently, however, it was shown by numerous separate and independent groups of observers on the basis of extensive and carefully controlled studies that the antihistaminic drugs seem to have neither preventive nor curative effects on the common cold.

Other studies published during the year indicated that neither the common cold nor influenza viral infections, when uncomplicated by other infections such as bacterial pneumonia and streptococcal sore throats, were favourably influenced by early treatment with penicillin and the same was probably true of the other antibiotics that were available.

In the case of influenza the problem of preventive vaccination was complicated by the demonstration of many new variants of influenza viruses among the strains isolated from acute cases during recent outbreaks. Vaccines produced with older standard strains of influenza virus appeared to offer little protection against infection with some of these newer viruses, although they were closely related to some of them. However, much of

the morbidity and mortality from influenza in the past had been associated with complicating infections, chiefly pneumonia caused by common bacteria. It was believed that the early use of the new antibiotics in severe cases of influenza, or if they were given as soon as such complications were suspected, might be expected to limit the mortality and reduce or eliminate some of the serious complications of this epidemic disease.

Additional knowledge was accumulated concerning the widespread occurrence of Q fever. This influenzalike disease was first recognized in Australia and was later found to be frequently associated with pneumonia and to occur in some parts of the United States, in the Balkan countries and in almost all other European and middle eastern countries. A survey was published in 1950 which indicated how widely prevalent this disease had been in southern California. Epidemiologic studies carried out there indicated that Q fever had been occurring in the Los Angeles area for several years and that as many as 50,000 persons may have been infected with the causative microbe of this disease in recent years. A sizable proportion of these infections caused many persons to have an acute illness, with fever for two or more days, but the illness was not recognized as Q fever. The most frequent and most important sources of human infection were local dairy cows, their very young calves and some of their raw products, particularly raw milk and hides. The persons most apt to have been infected were those who used raw milk in their households, those whose residences were located near a dairy or livestock yard, those who worked in industries handling live or recently killed local dairy cows and young calves (employees in dairies, meat-packing plants and fat-rendering plants) and employees handling the raw products of such animals, such as workers in creameries or hide plants.

An outbreak of Q fever was also reported in Philadelphia, Pa., among workers in a wool-processing plant. The workers were engaged in handling and processing raw wool and goat hair. In this connection it is of interest that the causative agent of Q fever (*Coxiella burnetii*) was isolated from the milk of sheep, and in some cases of the disease there was a history of contacts that specifically suggested sheep as a source of infection. *Coxiella burnetii* was also recovered from the dust-laden air of a dairy in southern California and from dust-laden air of a sheep ranch in northern California. These findings lent further support to the contention that the air-borne route is an important if not the most significant one for the natural infection of human beings with Q fever. Some progress was also made toward developing an effective vaccine for the protection of persons who may be heavily exposed to Q fever infection.

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**Poetry:** see AMERICAN LITERATURE; BOOK PUBLISHING; CANADIAN LITERATURE; ENGLISH LITERATURE; FRENCH LITERATURE; LITERARY PRIZES; RUSSIAN LITERATURE; SPANISH-AMERICAN LITERATURE; SPANISH LITERATURE.



**Poland.** A people's republic of eastern Europe, Poland is bounded on the east by the U.S.S.R., on the south by Czechoslovakia, on the west by Germany and on the north by the Baltic sea. Area: (before Sept. 1, 1939) 150,052 sq.mi.; (after Aug. 2, 1945) 120,359 sq.mi.—a reduction by one-fifth, the result of the annexation of 68,667 sq.mi. by the U.S.S.R. and of the establishment of a new western frontier along the rivers Oder and Neisse which, together with the partitions of East Prussia between Poland and the U.S.S.R., gave Poland an area of 38,974 sq.mi. Population: (before Sept. 1, 1939) 35,339,000; (Feb. 14, 1946, census) 23,929,757; (Dec. 1950 est.) 25,036,000. Language: Polish. Religion: overwhelmingly Roman Catholic. Chief towns (with latest est. pop.): Warsaw (Warszawa) (cap., Nov. 1, 1950, 673,959); Łódź (July 1, 1949, 615,000); Cracow (Kraków) (Dec. 1, 1949, 347,517); Poznań (July 20, 1950, 341,678); Wrocław (Sept. 1, 1948, 299,000); Szczecin (Dec. 1, 1949, 201,000); Gdańsk (Danzig) (Sept. 1, 1948, 164,000); Katowice (Sept. 1, 1948, 163,000).

President of the republic: Bolesław Bierut; prime minister: Józef Cyrankiewicz.

**History.**—Soviet control over Poland's home affairs, armed forces, economy and cultural life was further tightened during 1950; the nation's imposed isolation from the west seemed complete, social intercourse between Poles and the western diplomatic corps was reduced to a minimum and by the end of the year the only western correspondent left in Warsaw was Edward A. Morrow of the *New York Times*.

At a meeting of the central committee of the Polish United Workers' (Communist) party, held in Warsaw from May 8 to May 10, the chairman, B. Bierut, forecast a depression in the U.S. and increasing divergencies between the foreign policies of the U.S. and Great Britain. He insisted that at home the party should be more vigilant in unmasking class enemies, foreign spies and saboteurs.

The Communist grip on the government increased during the year. Cyrankiewicz, a former Socialist, remained formally prime minister, but the real power was in the hands of the three Communist deputy prime ministers, Hilary Minc, A. Zawadzki (appointed on May 3) and Hilary Chelchowski (appointed on June 14).

The fourth deputy prime minister was Antoni Korzycki, leader of the United Peasant party. During the year this party was once more heavily purged.

The fiction of a coalition government was maintained during the year: Jan Rabanowski, who in March was elected leader of the Democratic party, continued to serve as minister of transport.

On March 20 the *sejm* abolished the offices of provincial governor (*wojewoda*), of district administrator (*starosta*), of mayor (*burmistrz*) and of chairman of the rural council (*wójt*), establishing instead popular councils on the soviet model; these were responsible to the state council (*rada państwa*), a small body of picked Communists presided over by Bierut and similar to the presidium of the supreme soviet of the U.S.S.R. This reform put an end to such little self-government as remained and heralded the introduction of a new soviet-inspired constitution which simplified the control of the country by the Politburo of the Communist party.

Until Feb. 1950 the duration of compulsory military service was 18 months and recruits were conscripted at 21. On Feb. 4 the *sejm* increased the general period of service to two years (three years in the air force and the navy and 27 months in the home security formations) and the age of conscription was lowered from 21 to 20 years. By this procedure the Polish armed forces consisted from October of three age groups and comprised about 510,000 men.

The high command of the armed forces was exclusively composed of high-ranking soviet officers of Polish origin or with Polonized names.

The trouble which had been fermenting between the Communist regime and the Roman Catholic Church for five years came to a head. Hostilities were opened by the government on Jan. 23 when, under the pretext of preventing misuse of goods and money, it seized control of Caritas, a charitable organization receiving funds and relief goods from public collections in Poland and abroad (mainly from the U.S.) and also subsidies from the state. The Polish hierarchy met in Cracow on Jan. 30 and on Feb. 12 a statement was read from the pulpits throughout the country. Four days later Adam Cardinal Sepieha, archbishop of Cracow, and Msgr. Stefan Wyszyński, archbishop of Gniezno and Warsaw and primate of Poland, addressed a letter to Bierut accusing the government of bad faith in dealing with religion and the church. The government replied on Feb. 27 by a communiqué accusing the hierarchy of hostility toward the people's Poland. On March 20 a law was passed by the *sejm* by which all estates and farms exceeding 250 ac. owned by the church were to be seized together with all livestock and buildings.

On April 14, in the name of the hierarchy but without the sanction of the Holy See, an agreement was signed by Msgr. Zygmunt Choromański, bishop auxiliary of Warsaw, Msgr. Tadeusz Zakrzewski, bishop of Plock, and Msgr. Michał Klepacz, bishop of Łódź; for the government the document was signed by Władysław Wolski, minister of public administration, and by two members of the Politburo, Edward Ochab and Franciszek Mazur. The agreement included a guarantee by the state of religious tuition in the schools, of pastoral care in the armed forces, hospitals and prisons, of the continued activity of the Catholic university at Lublin, and of publication of Catholic books and periodicals. It also recognized the pope as the authoritative and supreme head of the church in matters of faith, morals and ecclesiastical jurisdiction; in other matters, however, the hierarchy was to be guided by the state. The bishops agreed to support efforts directed toward "the preservation of peace and to oppose tendencies working for the preparation of a new war"; they also stated that the recovered territories east of the Oder-Neisse line belonged perpetually to Poland and undertook to ask the Holy See to recognize Polish sovereignty there by appointing diocesan bishops in place of the apostolic administrators in Wrocław, Gdańsk, Gorzów, Opole and Olsztyn.

On the day of signature of the agreement Cardinal Sapieha arrived in Rome and on April 20 was received by the pope, returning to Cracow on May 9. Two days earlier an Office for Religious Cults was established at the presidency of the council of ministers with a Communist, Antoni Bida, as director. Failing to carry out the April agreement, the government suppressed religious tuition in more than 1,000 schools and the police continued to harass the clergy. On Sept. 12, after a special episcopal assembly at Częstochowa, Cardinal Sapieha and Archbishop Wyszyński addressed a second letter to Bierut surveying the previous five years and protesting that despite assurances the government was waging an unrelenting struggle against religion and the church. The government replied by countercharges. On Oct. 24 Bida sent a note to Msgr. Choromański, secretary to the hierarchy, accusing the church of an attitude antagonistic to Poland's national interests because it had failed to recognize the new frontiers and to appoint bishops in the recovered territories. The Communist regime was thus able to bring its campaign against religion onto ground where it had almost the whole nation behind it.

On June 5 a delegation of the eastern German government led by Walter Ulbricht, deputy prime minister, arrived in Warsaw to discuss outstanding questions between the two countries. An





OPEN-AIR PEASANT MARKET in Lemberg, showing used personal belongings for sale. These and agricultural products were among the few articles permitted free commercial exchange in Poland in 1950, the prices of most other goods being fixed by the soviet government

agreement recognizing the Oder-Niesse line as the permanent frontier was initialed. It was signed on July 6 at Zgorzelec-Görlitz, a town on the river Neisse divided in two by the new frontier. (See also GERMANY.)

**Education.**—Schools (1949-50): kindergarten 5,860, pupils 343,000; primary 22,417, pupils 3,242,000, teachers 76,560; secondary (1948-49), lower grade 335, pupils 197,110, higher (liceum) grade 486, pupils 140,893; secondary vocational 1,131, pupils 183,440; teachers' colleges 149, students 31,000; higher vocational institutions 39, students 16,988; universities 8, technical colleges 5 and other institutions of higher education 14, students 92,444.

**Finance and Banking.**—Budget (prerevaluation): (1949 est.) balanced at 612,058,000,000 zlotys; (1950 est.) balanced at 1,265,800,000,000 zlotys. Currency circulation (Dec. 1948, last figure published): 128,800,000,000 zlotys. A drastic currency revaluation was introduced on Oct. 28, 1950, to bring the zloty at par with the soviet rouble. Banknotes were exchanged at the rate of 100 old zlotys to 1 new zloty except in the case of industrial workers and collective-farm peasants who were allowed to exchange their cash at the ratio of 100 to 3; savings accounts and all bank deposits up to 100,000 zlotys were revalued at the rate of 100 to 3; wages and prices were reduced at the same ratio. The new exchange rate was U.S. \$1=4 zlotys.

**Foreign Trade.**—Figures for 1949 were issued in roubles: imports 2,530,000,000 roubles, exports 2,476,000,000 roubles.

**Transport and Communications.**—Railways (Jan. 1948): 21,415 km.; freight traffic (1949, monthly average) 2,724,000,000 ton-kilometres; passenger traffic (1949, monthly average) 1,752,000,000 passenger-kilometres. Roads (April 1947): 96,605 km. Licensed motor vehicles (April 1948): cars 24,240, buses and trucks 28,957, motorcycles 24,561. Shipping (May 1949): merchant vessels 46, total tonnage 164,989 gross registered tons. Freight traffic in Polish ports (monthly averages, metric tons, 1949): unloaded 238,000, loaded 1,171,000. Air transport (1948): Polish air lines, kilometres flown 2,400,000, passengers flown 77,522; foreign air lines, passengers flown 6,960. Telephones (Jan. 1948): subscribers 137,400. Radio receiving set licences (July 1949): 1,054,551 including 335,489 home loud-speakers.

**Agriculture.**—Main crops (in metric tons, 1949): wheat 1,781,000; rye 6,759,000; barley 1,028,000; oats 2,333,000; sugar, raw value 825,000; potatoes 26,670,000. Livestock (mid-1949) cattle 6,345,000; horses 2,541,000; pigs 5,818,000; sheep 1,617,000; goats 654,000. Fisheries: total catch (1949 est.) 69,600 metric tons.

**Industry.**—Fuel and power: coal (1949) 74,076,000 metric tons; electricity (1949) 8,148,000,000 kw.hr.; crude petroleum (1948 est.) 132,000 metric tons. Raw materials (metric tons, 1949): steel ingots and castings 2,304,000; lead (1948) 18,500; zinc (1948) 120,000. Manufactured goods (metric tons, 1949): cotton yarn 91,200; wool yarn 38,-

500; rayon filament yarn 9,000. Cement (1949) 2,340,000 metric tons. BIBLIOGRAPHY.—T. Komorowski, *The Secret Army* (London, 1950); A. Zoltowski, *Border of Europe* (London, 1950). (K. SM.)

**Pole Vaulting:** see TRACK AND FIELD SPORTS.

**Police.** An important development of 1950 was completion of the report of the Committee on Police Conditions of Service (for England and Wales) which was appointed in 1948 by the home secretary, with Lord Oaksey acting as chairman. This review promised to rank with the report of the Desborough committee in 1919 British police recruiting difficulties since World War II had been so severe that the findings of the Oaksey committee proved especially timely. The committee's first report, in 1949, had proposed immediate pay increases and certain preliminary improvements in conditions of service, so that 1950 witnessed a perceptible advance in the rate of recruitment. Nevertheless, the 127 police forces of England and Wales and the 36 forces in Scotland showed only gradual recovery of a manpower depletion that stemmed back to midwar shortages. Emphasis was accordingly being placed upon an increasing use of training facilities at regional police schools, and further motorization and mobile radio service for uniformed patrols. By these recourses it was anticipated that the reduced strength might be offset by improved methods.

By contrast, police in the United States were increasing in number in 1950; the preceding ten years had witnessed a 20% enlargement of the ratios.

Table I.—Numerical Strength of U.S. Municipal Police Forces

(Number per 1,000 inhabitants)			
Population groups of cities		1950	1940
Group I—Over 250,000	.....	2.44	2.12
Group II—100,000 to 250,000	.....	1.78	1.45
Group III—50,000 to 100,000	.....	1.76	1.37
Group IV—25,000 to 50,000	.....	1.65	1.23
Group V—10,000 to 25,000	.....	1.51	1.05
Group VI—Less than 10,000	.....	1.42	1.04
		1.95	1.61

Police salaries also continued their rapid upswing, reaching a 1950 average cost for cities of \$6.72 per capita for local population. This level was more than 50% higher than that prevailing five years before. As yet, however, there was no evidence of a systematic approach to the policeman's hire, such as the Oaksey committee had maintained, and in the United States the entire issue was being allowed to drift on an uncharted course in response to inflationary influences. Highest salary paid for the rank of patrolman was \$4,375, with national averages ranging between \$2,520 and \$2,760 per annum. Per capita expenditures for all police purposes rose to \$8.04, thereby emphasizing the need for considering numbers and salaries together.

Enlarged quotas of police, an unparalleled wealth of equipment, increased salaries, shorter hours and liberal pension arrangements had operated to raise the formal standards of policing in the United States during a generation or so. But since the onset of World War II city police had been relatively unsuccessful in solving their cases, as shown in Table II. While the marked decline in effecting arrests for burglary and larceny was disturbing in its implications, it must be borne in mind that reduction in the amount of crime is the ultimate aim of all policing.

Table II.—Per Cent of Crimes Cleared by Arrest in U.S. Cities

Uniform Crime Classification (Part II)	1949	1944	1939
Murder and nonnegligent manslaughter	93.7	90.8	87.4
Manslaughter by negligence	85.1	81.5	87.7
Rape	80.2	74.8	81.8
Robbery	39.5	38.7	41.9
Aggravated assault	77.2	75.7	76.5
Burglary	29.0	31.6	34.0
Larceny	21.6	23.2	25.1
Auto theft	27.3	24.4	24.4



The International Criminal Police commission, representative of the police forces of western Europe, met in Paris during the summer of 1950. In both Europe and the orient the countries still under occupation by western military forces were permitted to enlarge their independent spheres of police activity.

The International Association of Chiefs of Police held its 57th annual conference at Colorado Springs, Colo., Oct. 7-12. Total registration exceeded 1,300 police administrators and conference guests. Official representatives from the United States, Canada, Great Britain, Belgium, Formosa, Germany and Japan attended. Discussions of public relations, organized gambling and Communist activities were included, among other subjects. Walter F. Anderson, director of the North Carolina state bureau of investigation, was elected president of the association for the ensuing year. (See also CRIME; FEDERAL BUREAU OF INVESTIGATION; SECRET SERVICE, U.S.)

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(Br. S.)

**Poliomyelitis:** see INFANTILE PARALYSIS.

**Political Parties:** see COMMUNISM; DEMOCRATIC PARTY; ELECTIONS, U.S.; REPUBLICAN PARTY; SOCIALISM; also under individual countries.

**Polo.** The 1950 polo season in the United States got off to a good start in Florida where visiting players from Chicago, Detroit, New York and Texas participated in matches from January to the end of March.

California once again played host to the Hurricanes, a well-known Long Island, N.Y. team, and to the four Gracida brothers from Mexico. In the first game of the Pacific Coast Open championship, the Hurricane team defeated the California team 13 to 9 and went on to defeat the Mexican team in the finals, 19 to 8. However, in the California-Mexico series, Mexico defeated the California team 7 to 4 and 8 to 5 in a two-out-of-three series.

The National Inter-Circuit and Twelve Goal tournaments were held at the Oak Brook Polo club at Hinsdale, Ill., during August.

California sent a team to Long Island to take part in both the National Twenty Goal tournament and the National Open championship. This team was defeated in the first game of the Twenty Goal by the Bostwick Field team which, in turn was defeated by a Milwaukee team. In the National Open the California team worked its way into the finals but was defeated by the Bostwick Field team.

In November a United States team went to Argentina to compete for the Cup of the Americas, which was at stake for the first time since 1936. In two closely fought matches, they were defeated by an Argentine team, the Venado Tuerto. (L. M. L.)

**Popular Music:** see MUSIC.

**Population, Movements of:** see REFUGEES.

**Populations of the Countries of the World:** see AREAS AND POPULATIONS OF THE COUNTRIES OF THE WORLD.

**Population Statistics:** see CENSUS DATA, U.S.

**Porto Rico:** see PUERTO RICO.

**Portugal.** A republic of southwestern Europe. Portugal forms part of the Iberian peninsula and is bounded east and north by Spain. Area: 35,413 sq.mi., including Azores (888 sq.mi.) and Madeira (302 sq.mi.). Pop. (1940 census) 7,722,152; (mid-1949 est.) 8,491,000, including Azores (1940 census, 286,885) and Madeira (250,124). Language: Portuguese. Religion:

predominantly Roman Catholic. Chief Cities (pop., 1940 census): Lisbon (cap., 709,179); Oporto (262,309); Funchal, Madeira (54,856); Coimbra (35,437). President of the republic, Marshal Antonio Oscar de Fragoso Carmona; prime minister, Antonio de Oliveira Salazar.

**History.**—A major cabinet reorganization, announced on July 31, 1950, included the creation of three new ministries: presidency (João Pinto da Costa Leite), defense (Col. Fernando dos Santos Costa) and corporations (Soares de Fonseca). The two former, integrated in the presidency of the council, lightened the administrative burden weighing on Salazar; the third was previously an undersecretaryship. Six other ministries changed hands, Trigo de Negreiros becoming minister of the interior, Aguedo de Oliveira of finance, Brig. Abranches Pinto of the army, Paulo Cunha of foreign affairs, Comdr. Sarmiento Rodrigues of colonies and Ulisses Cortes of economy.

Communist trials included one of seven men accused of planning to overthrow the government and assassinate the prime minister.

The 1950 budget showed little change from 1949 in ordinary expenditure (4,300,000,000 escudos), while extraordinary expenditure was down by nearly one-third to 900,000,000 escudos. Total receipts were estimated to allow a credit balance of 3,000,000 escudos. There was no increase in taxation, and export duties were substantially reduced. The financial year 1949 closed with a surplus of 47,000,000 escudos. Steep increases in import duties on various manufactured goods—cars, electrical equipment, industrial machinery and tools—were imposed in September in protection of new industries and of the country's trade balance; ranging from 10% to 1,000%, the increases averaged about 50%.

Economic Cooperation administration aid to Portugal in the second year (1949-50) amounted to \$31,500,000, of which \$27,500,000 were long-term loans and the remaining \$4,000,000 convertible grants. Hydroelectric development, the rebuilding of the merchant navy and the equipping of certain basic industries were first charges on the National Development fund. Import restrictions on trade with Spain were lifted in March, in furtherance of the policy of the Organization for European Economic Cooperation of freeing intra-European trade. A claim from Great Britain, France and the United States for the surrender of 43.9 tons of gold, alleged to be German war loot deposited in Portugal, was contested by the Portuguese government. Sharp falls in sardine catches for the second year in succession, indicating the possibility that the fish may be leaving Portuguese waters, severely hit the important sardine packing industry. The 1949 catch was 34,000 metric tons, as compared with 120,000 tons in 1944.

Portugal, not having requested U.S. military assistance along with the other North Atlantic treaty powers in the autumn of 1949, did so in Aug. 1950, and a survey mission of the U.S. state and defense departments visited Lisbon to examine the request.

Visa requirements for travellers spending only a few days in Portugal were lifted in May, and by an agreement in August the reciprocal exemption from visas already in force with the U.S. was extended to include Madeira. (W. C. AN.)

**Education.**—Schools (1947-48): primary 10,411, pupils 549,712, teachers 14,080; private elementary, pupils 59,938; secondary (*licéus*) 43, pupils 20,642, teachers 1,063; private secondary, pupils 24,974; technical 58, pupils 39,151, teachers 1,527; commercial 8, pupils 3,125, teachers 204; colonial high school, students 134, professors 17; universities 3, students 8,629, professors and lecturers 467; institutions of higher education 3, students 4,717, professors and lecturers 284. Illiteracy (1940) 49%.

**Finance and Banking.**—Budget: (1949 actual) revenue 5,667,300,000 escudos, expenditure, 5,666,400,000 escudos; (1950 est.) revenue 5,271,500,000 escudos, expenditure 5,268,300,000 escudos. National debt (1948) 12,515,000,000 escudos. Currency circulation (Aug. 1950) 7,680,000,000 escudos. Bank deposits (July 1950) 16,640,000,000 escudos. Monetary unit: escudo, with an exchange rate (Nov. 1950) of 28.90 escudos to the U.S. dollar.

**Foreign Trade.**—Imports (1949) 9,048,000,000 escudos; exports (1949) 4,092,000,000 escudos.



**Transport and Communications.**—Roads (1948): 16,276 mi. Licensed motor vehicles (Dec. 1949): cars 61,000, trucks 20,000. Railways (1948): 2,240 mi.; passenger-miles (1948) 810,000,000; freight carried (1949) 3,600,000 tons. Shipping (July 1949): merchant vessels over 100 gross tons 338; total tonnage 526,373. Telephones (1948): 124,639. Radio receiving set licences (1949): 187,385.

**Agriculture and Fisheries.**—Main crops (metric tons, 1949): wheat 411,000, (1950) 561,000; barley 101,000; oats 109,000; maize 220,000; rye 133,000, (1950) 158,000; rice, paddy, 74,000; potatoes (1948) 994,000; dry beans 59,000; grapes, total, 1,360,000. Production of wine (1948) 818,000 metric tons. Production of olive oil (1949) 89,000 metric tons. Livestock (Dec. 1948): cattle 1,000,000, sheep 4,000,000, hogs 1,200,000. Meat production (1949) 79,000 metric tons. Fisheries, total catch (1949): weight 184,347 metric tons; value 882,000,000 escudos.

**Industry.**—Fuel and power (1949): coal 444,000 metric tons, lignite 112,000 metric tons, manufactured gas 38,000,000 cu.m., electricity 834,000,000 kw.hr. Raw materials (metric tons): lead (1949) 2,040, tin ores (1948) 1,856, wolfram (1948) 2,617, pyrites (1948) 565, cork (1948) 131,459, kaolin (1948) 25,849. Manufactured goods (metric tons, 1949): cement 518,000, cotton piece goods 24,000, cotton yarn 30,400.

**Portuguese Colonial Empire.** Under this heading are grouped the Portuguese possessions in Africa and Asia. Their total area is approximately 803,835 sq.mi. and the total population (mid-1949 est.) 12,967,000. Certain basic facts and figures relating to the Portuguese colonies are given in the accompanying table.

**History.**—Substantial progress was made on the construction of the main dam in the new hydroelectric works at Mabubas, on the river Dande, Angola. This undertaking, among the largest ever carried out in the colony, was expected to revolutionize industrial development in Luanda, the capital. A 20-yr. agreement concerning the port and railway of Beira, Mozambique, was concluded in Lisbon on June 17 between the Portuguese, British, and Southern Rhodesian governments. By it Portugal undertook to maintain the port and railway in a state adequate for traffic from the Rhodesias, to exempt from transit dues goods passing

through Beira, and to establish a free zone in the port. The British and Southern Rhodesian governments guaranteed sufficient traffic to keep the port busy. The Economic Cooperation administration provided \$57,500 for a survey to lay the groundwork both for better railways between Southern Rhodesia and Mozambique and for port improvements at Beira and Lourenço Marques. In October the Portuguese government applied to the same agency for a loan toward the construction of a new quay at Beira.

As a consequence of less attractive labour conditions in India after its independence, the trend of emigration from Goa shifted from India to British and Portuguese East Africa. Remittances sent home by emigrants continued to play a large part in making up the heavily adverse trade balance in Goanese economy. By an agreement with the Holy See the Portuguese government renounced its rights, under the "Patronate of the Orient," in the nomination to the bishoprics of Mangalore, Quilon, Trichinopoly, Cochin, São Tomé de Meliapor and Bombay.

Minor incidents affecting China and Macao were reported. Portuguese troops opened fire on a Chinese patrol boat which violated territorial waters near Macao on March 6. The Chinese returned the fire and withdrew. Portugal rejected a charge of having several times flown aircraft over Chinese territory in October and November, saying that it had no air forces in Macao.

(W. C. AN.; X.)

**Post Office.** **United States.**—Revenues of the post office department for the fiscal year 1949-50 amounted to \$1,677,486,967.30. Additional postage that would have been collected if the service had been on a regular pay basis in the case of penalty and franked mail, free-in-county mail, differentials in second-class mail matter and free matter for the blind

Portuguese Colonial Empire

Country and Area (In sq.mi.)	Population Est. 1949; percentages as of 1940 (000's omitted)	Capital, Status, Governor	Principal Products Exports—1948 (In metric tons)	Imports and Exports (In thousand escudos) (1948)	Road, Rail and Shipping	Revenue and Expenditure (In thousand escudos) (1949 est.)
<b>AFRICA</b>						
Angola (Portuguese West Africa) 481,351	4,597 (Europeans 1.2%; Negroes 98.7%)	São Paulo de Luanda (pop. 40,000); colony; governor- general: Capt. Silva Carvalho	coffee 53,404 beans 47,897 sugar (raw) 36,964 sisal 15,842 fish 15,177 palm oil 8,502 diamonds (carats) 672,985	imp. 1,215,614 exp. 1,090,949	rds. (1949) 21,772 mi. rys. (1949) 1,711 mi. shpg. (entered, 1948): vessels 515 net tonnage 1,274,530	(1949 est.) balanced at 791,285
Cape Verde Is. 1,557	139 (Europeans 3%; Half-castes 65%; Negroes 32%)	Praia (pop. 6,000); colony; gov- ernor: Major Alberto Alvez Rogadas	mineral oil 401,173 coal 75,862 fish 246 hides and skins 58	(1948) imp. 403,102 exp. 237,959	rds. (1947) 344 mi. shpg. (entered, 1948): vessels 989 net tonnage 3,638,530	(1949 est.) balanced at 46,758
Portuguese Guinea 13,948	431 (Europeans 0.4%; Negroes 98.9%)	Bissau; colony; governor: Raimundo Serrão	peanuts 39,195 coconuts 12,121 rice 1,568 hides and skins 387 wax 182	(1948) imp. 185,162 exp. 129,114	rds. (1947) 1,818 mi. shpg. (entered, 1948): vessels 64 net tonnage 74,205	(1949 est.) balanced at 64,230
São Tomé and Príncipe Is. 372	62 (Europeans 2%; Negroes 94%)	São Tomé (pop. 3,187); colony; governor: Maj. Carlos de Sousa Gorgulho	coconuts 34,112 copra 26,987 palm oil 19,328 cocoa 6,967	(1948) imp. 109,133 exp. 219,645	rds. (1948) 203 mi. rys. (1949) 10 mi. shpg. (entered, 1948): vessels 118 net tonnage 451,862	(1949 est.) balanced at 43,399
Mozambique (Portuguese East Africa) 297,731	6,251 (Europeans 0.5%; Negroes 99%)	Lourenço Marques (pop. 48,000); colony; governor- general: Captain Gabriel Maurício Teixeira	sugar (raw) 54,236 copra 41,823 cotton 25,978 sisal 15,074	(1948) imp. 1,880,099 exp. 991,637	rds. (1949) 17,992 mi. rys. (1949) 1,527 mi. shpg. (entered, 1948): vessels 1,678 net tonnage 2,820,869	(1948, actual) rev. 1,390,664 exp. 1,286,592
<b>ASIA</b>						
Portuguese India 1,538	667	Nova Goa; metropolitan prov- ince; governor - general: Commander Fernando Quin- tinha de Mendonça Dias	coconuts, fish, spices, cashew-nuts, salt and copra	(1947) imp. 338,859 exp. 50,524	rds. (1949) 446 mi. shpg. (entered, 1948): vessels 3,450 net tonnage 1,149,915	(1949 est.) balanced at 88,970
Macao 6.2	400 (Europeans 0.5%; Asiatics 98.6%)	Macao; colony; governor: Com- mander Albano Rodrigues de Oliveira	fish and cement	(1947, in thousand patacas*) imp. 25,315 exp. 9,746	shpg. (entered, 1947): vessels 9,502 tonnage 1,221,256	(1949 est.) balanced at 95,109
Timor 7,332	420	Dilli (pop. 7,000); colony; gover- nor: Capt. Cesar de Serpa Rosa	coffee, sandalwood, sandal root, copra and wax	(1948) imp. 51,461 exp. 6,326	shpg. (1948): vessels 144 tonnage 27,182	(1949 est.) balanced at 57,880

\*Pataca = 16.07 escudos.





"THE WONDERFUL WIZARDS OF WASHINGTON," a cartoon by Manning of the McNaught Syndicate, Inc., published in 1950

and the cost of aircraft service over the postage revenue derived from air mail was estimated at \$120,000,000.

The expenditures of the department for the fiscal year amounted to \$2,222,949,081.60, of which amount \$119,568,535.48 was on account of prior years. There was \$120,938,636.10 unpaid on account of the 1950 fiscal year. This left a total expense of \$2,224,319,182.22, resulting in a gross operating deficit on accrual of \$546,832,214.92. This amount did not include pending retroactive payments to railroads, but did include a 25% interim increase granted participating railroads by the Interstate Commerce commission. It also included the estimated increased cost for pending establishment of permanent rates on air mail routes by the Civil Aeronautics board.

The tremendous increase in the volume of mail handled by the post office department for other branches of the government had been a matter of concern to congress and the department for a number of years. Thousands of tons of forms, pamphlets, circulars and supplies were sent by government departments and establishments free of postage under the penalty privilege.

All envelopes, wrappers, cards and other articles bearing the indicia for matter mailed free of postage by all government departments and agencies must be procured or accounted for through the postmaster general. During the fiscal year ended June 30, 1950, 1,230,000,000 free pieces weighing 87,500,000 lb. were mailed for other government departments, an increase of 22,000,000 pieces and 6,300,000 lb. over 1949.

On June 30, 1950, war savings stamps were on sale at 41,464 offices. Sales from July 1, 1949, to June 30, 1950, amounted to \$13,876,750.05. During the fiscal year savings bonds with a sale value of \$328,423,687.50 were sold. At the close of the fiscal year 1950, bonds were on sale at 26,563 post offices.

Through the 41,464 post offices and 3,951 stations being conducted under contract agreement, as well as 2,236 stations and branches, there were received, transported and delivered 45,060,000,000 pieces of mail matter during the fiscal year having a weight of 11,525,000,000 lb., an increase of 1,505,000,000 pieces

but a decrease of 100,000,000 lb. from the previous year.

Delivery service was established in 219 additional cities during the fiscal year, thereby increasing to 4,632 the number of cities in which this service was operated.

During 1950 it was impossible to deliver 18,922,309 letters, an increase of 4.63% from the previous year. A total of 3,881,790 letters were returned to the senders. Letters containing valuable enclosures numbered 368,554, of which 89,825 contained money amounting to \$196,224.61. There were also 788,964 unclaimed parcels and articles found loose in the mails. A total of 135,312 were returned to the senders. The remaining 653,652 parcels were sold at public auction and \$211,699.31 was realized.

On June 30, 1950, there were 158,977 mi. of domestic air-mail routes in the United States—an increase of 3,663 mi. over the previous year. Eight new domestic air-mail routes were established. A new six-cent stamped air-mail envelope was placed on sale for the first time during the year 1950.

**Rural Delivery.**—The rural delivery routes in operation on June 30, 1950, required a total daily travel of 1,486,098 mi. by rural carriers in providing service to approximately 31,457,836 patrons. Operation of the service resulted in an expenditure of \$162,787,400 for the fiscal year compared with \$152,800,000 for the previous year. Amounts saved through consolidation of routes were utilized to establish new routes and provide extension of existing routes.

**Postal Savings.**—Postal savings depositors numbered 3,779,784 for 1950, a decrease of 4.66% from the preceding year. The balance due depositors by outstanding certificates of deposits was \$3,097,061,857, a decrease of \$180,111,449 or 5.5%. In addition there was held in trust for depositors accrued interest of \$113,302,612 and unclaimed deposits of \$254,592, making a total of \$3,210,619,061. At the end of the fiscal year, postal savings certificates were on sale at 8,233 depositories, including 1,020 branches and stations, and savings stamps were on sale at all post offices and practically all branches and stations.

**Buildings.**—During the fiscal year ended June 30, 1950, the post office department operated 3,169 government-owned buildings, but on July 1, 93 of these were turned over to the public buildings service for maintenance and operation. (I. Gc.)

**Canada.**—Although total post-office revenues for the 1949-50 fiscal year were \$101,277,434, compared with \$95,957,468 for the similar 1948-49 period, the 1949-50 net credit balance was down to \$1,888,914, compared with \$2,975,781 for the previous year. This reflected post-office wage and salary increases and the increased cost of mail transportation. The 1950-51 parliamentary vote to the post office for railway mail service was \$9,005,000. In Oct. 1950 the federal cabinet passed an order in council boosting by 25.8% the amount paid the railways. Among other 1950 post-office developments were the following: postal notes were discontinued; sales of the philatelic section during the 1949-50 fiscal year totalled \$384,308, compared with \$214,731 for the year before; in November Canadian artists were invited to submit designs for new stamps, at the rate of \$300 per accepted stamp.

FILMS OF 1950.—*Your Postal Service* (March of Time Forum Films). (C. Cv.)

**Potash:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Potatoes.** Total production of white potatoes in the U.S. in 1950 was again very large at 439,500,000 bu., the fourth largest crop on record; the 1949 crop was 411,565,000 bu., and the average for the decade was 403,284,000 bu. Harvested acreage reached a new record low of 1,847,000, 3% less than that of 1949 and about two-thirds the decade average of 2,654,200 ac. Per acre yields reached a new high record of 237.9 bu. per acre, as compared with about 215 bu. in 1948 and 1949 and a 1939-48



U.S. Potato Production by Leading States  
(In thousands of bushels)

State	1950	1949	1948	Average, 1939-48
<b>Late Crop</b>				
Maine . . . . .	61,750	70,215	74,305	56,252
Idaho . . . . .	46,610	36,000	45,000	36,548
New York . . . . .	34,315	30,660	38,035	31,686
North Dakota . . . . .	22,230	21,645	20,000	18,665
Colorado . . . . .	18,600	18,810	21,450	16,618
Pennsylvania . . . . .	18,525	19,158	19,425	19,224
Minnesota . . . . .	17,640	17,000	17,280	18,349
Michigan . . . . .	17,460	17,160	16,350	18,136
California . . . . .	16,875	15,750	14,965	11,997
Wisconsin . . . . .	15,015	13,600	13,050	12,894
Oregon . . . . .	13,200	11,890	12,710	10,164
Washington . . . . .	11,780	10,080	12,600	8,953
Nebraska . . . . .	11,270	8,840	10,335	10,731
<b>Intermediate Crop</b>				
New Jersey . . . . .	12,980	8,554	13,629	11,142
Virginia . . . . .	9,405	9,126	11,529	8,883
Kentucky . . . . .	2,418	2,730	2,542	3,616
Missouri . . . . .	2,346	2,432	3,128	3,597
<b>Early Crop</b>				
California . . . . .	31,200	29,370	32,400	19,701
North Carolina . . . . .	10,368	8,127	10,430	9,302
Florida . . . . .	5,664	5,428	3,745	4,150
Alabama . . . . .	3,955	3,432	3,640	4,318
Texas . . . . .	2,752	3,686	4,356	4,560
Tennessee . . . . .	2,200	2,250	2,322	3,190
Arkansas . . . . .	1,863	2,080	2,366	3,192
South Carolina . . . . .	1,768	1,650	1,408	2,563

average of only 154.6 bu. per acre. Maine set a new record of 475 bu. per acre.

An average price of approximately 98 cents per bushel was estimated for the crop, as compared with \$1.29 for the 1949 crop; prices during 1950 varied between a high of \$1.36 per bushel in January to 86 cents in October, the variation being related not only to different types and seasonal factors but also to the fact that the support level dropped from 90% on the 1949 crop to 60% on the 1950 crop. Prices for a time in the autumn of 1950 dipped below support levels (\$1.68 per hundredweight national average) as the production of seven states, representing about 25% of the total crop, which had disapproved marketing orders and hence were not eligible for price support, came to market. It was estimated that government operations would eventually absorb nearly 100,000,000 bu. of the 1950 crop. Under existing law, there would be no price supports on 1951 potato production.

Consumption per capita in 1950 was approximately 108 lbs., the same as in 1949, but only 82% of the pre-World War II average.

Canada again had a very large crop and prices were low; substantial amounts were exported to the U.S. even in the face of the lower prices and an abundant supply in the states.

Estimated world potato production in 1950-51 of 8,580,000,000 bu. was 6% above the 8,062,000,000 bu. of 1949-50 and 3% above the prewar average. Acreage yields averaged 163 bu., exactly the same as the prewar average and 10 bu. more than in 1949-50. Acreage devoted to potatoes amounted to 52,783,000, slightly above the previous year and comparable with 51,000,000 ac. prewar.

The U.S.S.R. produced 2,850,000,000 bu., about one-third of the total world crop and 50,000,000 bu. more than in 1949. The European crop (excluding the U.S.S.R.) of 4,860,041,000 bu. was slightly less than the prewar average but large compared with the 4,418,296,000 bu. of 1949.

**Sweet Potatoes.**—The U.S. sweet potato crop of 1950 amounted to 58,729,000 bu., 6% more than the 55,368,000 bu. crop of 1949, but 5% below the 61,786,000 bu. average for the previous decade. The 562,800 ac. harvested was slightly larger than the 550,700 ac. of 1949 (the second smallest of the century) but substantially less than the 683,300 ac. average 1939-48. The average yield of 104.4 bu. per acre was a new record; comparable figures were the 100.5 bu. of 1949 and the 90.8 bu. average of the decade. Louisiana, as usual, was the leading producer (10,290,000 bu.), followed by North Carolina (6,785,000 bu.), Georgia (5,850,000 bu.) and South Carolina (5,671,000 bu.). The season average price to producers for the 1950 crop was estimated at \$1.72 per bushel, well below the \$2.15 per bushel

for the 1949 crop, hence an estimated value for the crop of \$100,743,000, compared with \$118,776,000 for the smaller crop of 1949. (See also FOOD SUPPLY OF THE WORLD; VEGETABLES.)

(J. K. R.)

**Poultry:** see LIVESTOCK.

**Powell, Cecil Frank** (1903— ), English physicist, was born at Tonbridge, Kent, Eng., Dec.

5. He was educated at Judd school, Tonbridge, and at Sidney Sussex college, Cambridge. After gaining first-class honours in parts I and II of the Natural Science tripos in 1924-25 he worked for a time under C. T. R. Wilson, studying the condensation of steam. From Cambridge he went in 1928 to Bristol to be research assistant to A. M. Tyndall. His earliest researches there were concerned with the discharge of electricity in gases, on which he published many papers.

In 1938 he began to work on problems in nuclear physics. An experimenter of the highest technical skill, he evolved and perfected by 1946 a method of observing the tracks of elementary particles by means of an instrument combining a photographic emulsion and a microscope. This instrument found its widest application in nuclear physics, and by 1950 its use had led to important discoveries. Of these the discovery by Powell and his collaborators G. P. S. Occhialini and C. M. G. Lattes of the heavier  $\pi$  meson in 1947 was one of the most fundamental. Powell also carried out intensive researches on the nature of the primary cosmic rays by exposing his special plates at high mountain altitudes. He was awarded the Nobel prize for physics in 1950. He was Melville Wills professor of physics in Bristol university since 1948 and a fellow of the Royal Society since 1940. Powell was joint author with Occhialini of a monograph on *Nuclear Physics in Photographs* (1947) and published numerous other works.

(W. J. Bp.)

**Prasad, Rajendra** (1884— ), Indian statesman, was born in Saran district, Bihar, India, Dec.

3. He was educated at the Presidency college, Calcutta. In 1920 he gave up a promising legal career and joined Mahatma Gandhi in his nonco-operation movement. He later became general secretary of the Indian National Congress party and a member of its working committee, and in 1934 and 1939 was president of the annual sessions of the party. From 1947 to 1950 he was Congress party president. He was often imprisoned for his part in the civil disobedience movement, his last term being from 1942 to 1945. His only cabinet office was that of member (later minister) for agriculture and food in the interim and fully constituted governments of 1946-48. He was chairman of the constituent assembly from Dec. 1946 and, two days before the proclamation of the Republic of India on Jan. 26, 1950, was named its first president. When he opened the first republican parliament on Jan. 31, the president said that it was the firm policy of his government to maintain friendship with all other nations and, addressing an emergency session at the end of July, emphasized that the Korean conflict had made it "even more necessary than before that there should be co-operation among independent countries of Asia."

**Precious Stones:** see GEM STONES.

**Presbyterian Church.** The western section of Reformed Churches throughout the world holding the Presbyterian system, within the United States of America, numbered 12 branches of Reformed Churches in 1950, and included 18,461 ministers, 18,571 churches and 4,521,607 communicant members.

Negotiations for union among the various members of the World Presbyterian alliance were carried on during the year.



The United Presbyterian Church of North America was negotiating for a union with the Reformed Church in America, the Associate Reformed Presbyterian Church, the Presbyterian Church in the United States (Southern) and the Presbyterian Church in the United States of America (Northern). A plan for union of the latter two bodies was also in the process of development.

The Presbyterian and Reformed Churches were also participating actively in a program of union beyond the reaches of the alliance. In Dec. 1949 the Greenwich conference, comprising delegates from churches with a combined membership of 15,000,000, was held and an organization known as the Conference on Church Union was formed. Delegates from the Presbyterian Church, U.S.A., and from the Evangelical and Reformed Church were present. The Presbyterian Church, U.S., sent an observer. Presbyterians participated actively in an interdenominational movement, known as the National Council of the Churches of Christ in the U.S.A., that met in Cleveland Nov. 28-Dec. 1, 1950. This council brought together eight denominational agencies of 29 major Protestant and Eastern Orthodox communions, comprising 150,000 churches and 31,000,000 communicant members. Its purpose was to unify the work of the different denominations at home and in the mission field. The major Presbyterian and Reformed bodies joined in this movement for unity of action.

The various branches of the Presbyterian Church launched a movement, known as the New Life movement, to evangelize those outside of the Christian church and awaken nominal members. Lay workers visited the unchurched peoples to win them to a positive allegiance to Christ. During the three years in which this movement had been in effect the increase in membership amounted to 658,583. This was an increase in new members over a corresponding three-year period, just prior to the New Life movement, of 194,000. There was a need for additional ministers to meet the increase in membership and population. In the fall of 1950 the enrolment of young men in theological seminaries increased to such an extent that enlarged facilities were required. The Presbyterian Church in the U.S.A. created a special lay committee on theological education to develop plans for raising \$8,000,000 to provide facilities for the education of young men for the ministry.

**Europe.**—The eastern section of the alliance met in Strasbourg, Fr., from Aug. 24 to 28, 1950. Twelve nations were represented by 20 European churches at this meeting. No delegates were present from churches outside of Europe, and the need for new sections in Asia, Australasia and Africa, where many younger churches were arising, was discussed. In addition to the work within each branch of this section the matter of union was foremost. To avoid obstacles to union where doctrinal issues had arisen, the Strasbourg conference emphasized the fact that the Reformed doctrine is "founded on the Word of God," and goes beyond Calvin to the Bible as its foundation. The work of reconstruction and aid to displaced persons was furthered during the year by continued assistance from churches in America. (See also CHURCH MEMBERSHIP.) (G. S. K.)

**Presidents, Sovereigns and Rulers.** The following list includes the names of those holding chief positions in their countries as of Jan. 1, 1951:

Country	Name and Office	Accession
Afghanistan . . .	Mohammad Zahir Shah, King . . . . .	1933
Albania . . . . .	Shah Mahmud Khan, Prime Minister . . . . .	1946
	Omer Nishani, Chairman of the Praesidium of the People's Assembly . . . . .	1946
Arabia, Saudi . . .	Gen. Enver Hoxha, Prime Minister . . . . .	1944
Argentina . . . . .	'Abd-al-'Aziz Ibn-'Abd-al-Rahman Ibn-Faisal Ibn-Sa'ud, King . . . . .	1927
Australia . . . . .	Gen. Juan Domingo Perón, President . . . . .	1946
	William John McKell, Governor General . . . . .	1947
	Robert Gordon Menzies, Prime Minister . . . . .	1949
Austria . . . . .	(Vacancy) <sup>1</sup>	
	Leopold Figl, Chancellor . . . . .	1945

Country	Name and Office	Accession
Bahrein . . . . .	Sulayman bin Hamid al-Khalifa, Sheikh . . . . .	1942
Belgium . . . . .	Baudouin, Prince Royal . . . . .	1950
	Joseph Pholien, Prime Minister . . . . .	1950
Bolivia . . . . .	Mamerto Urriolagoitia, President . . . . .	1949
Brazil . . . . .	Gen. Eurico Gaspar Dutra, President <sup>2</sup> . . . . .	1946
Bulgaria . . . . .	Georgi Damyanov, Chairman of the Praesidium . . . . .	1950
	Vulko Chervenkov, Premier . . . . .	1950
Burma . . . . .	Sao Shwe Thaik, President of the Union of Burma . . . . .	1948
	Thakin Nu, Prime Minister . . . . .	1948
Canada . . . . .	Field Marshal Viscount Alexander of Tunis, Governor General . . . . .	1946
	Louis Stephen St. Laurent, Prime Minister . . . . .	1948
Ceylon, Dom. of . .	Lord Soulbury, Governor General . . . . .	1949
	Don Stephen Senanayake, Prime Minister . . . . .	1948
Chile . . . . .	Gabriel González Videla, President . . . . .	1946
China . . . . .	Chiang Kai-shek, President of the National Government . . . . .	1943
	Gen. Chen Cheng, Premier . . . . .	1950
China, People's Republic of . . .	Mao Tse-tung, Chairman of the Central People's Government of the People's Republic of China . . . . .	1949
Colombia . . . . .	Laureano Gómez, President . . . . .	1950
Costa Rica . . . . .	Otilio Ulate Blanco, President . . . . .	1949
Cuba . . . . .	Carlos Prío Socarrás, President . . . . .	1948
Czechoslovakia . . .	Klement Gottwald, President . . . . .	1948
	Antonín Zápotocký, Prime Minister . . . . .	1948
Denmark . . . . .	Frederick IX, King . . . . .	1947
	Erik Eriksen, Prime Minister . . . . .	1950
Dominican Rep. . . .	Gen. Rafael Leónidas Trujillo y Molina, President . . . . .	1942
Ecuador . . . . .	Galo Plaza Lasso, President . . . . .	1948
Egypt . . . . .	Farouk I, King . . . . .	1936
	Mustafa el-Nahas Pasha, Prime Minister . . . . .	1950
Ethiopia . . . . .	Haile Selassie I, Emperor . . . . .	1930
	Bitwoded Makonnen Ehdalkatchou, Prime Minister . . . . .	1944
Finland . . . . .	Juho K. Paasikivi, President . . . . .	1946
	Urho K. Kekkonen, Prime Minister . . . . .	1950
France . . . . .	Vincent Auriol, President of the Fourth Republic . . . . .	1947
	René Pleven, President of the Council of Ministers (Premier) . . . . .	1950
Germany (East)		
German Democratic Rep. . .	Wilhelm Pieck, President . . . . .	1949
	Otto Grotewohl, Minister-President (Premier) . . . . .	1949
(West) Federal Rep. of Germany . . .	Theodor Heuss, President . . . . .	1949
	Konrad Adenauer, Chancellor . . . . .	1949
Great Britain . . . .	George VI, King . . . . .	1936
	Clement R. Attlee, Prime Minister . . . . .	1945
Greece . . . . .	Paul I, King . . . . .	1947
	Sophocles Venizelos, Prime Minister . . . . .	1950
Guatemala . . . . .	Juan José Arévalo, President <sup>3</sup> . . . . .	1945
Haiti . . . . .	Paul E. Magloire, President . . . . .	1950
Honduras . . . . .	Juan Manuel Gálvez, President . . . . .	1949
Hungary . . . . .	Sándor Rónai, President . . . . .	1950
	István Dobi, Prime Minister . . . . .	1948
Iceland . . . . .	Sveinn Björnsson, President . . . . .	1944
	Steingrímur Steinthorsson, Prime Minister . . . . .	1950
India, Rep. of . . . .	Rajendra Prasad, President . . . . .	1950
	Jawaharlal Nehru, Prime Minister . . . . .	1947
Indochina		
Cambodia . . . . .	Norodom Sihanouk, King . . . . .	1941
Laos . . . . .	Sisavang Vong, King . . . . .	?
Viêt-Nam . . . . .	Bao Dai, Chief of State . . . . .	1949
Viêt-Nam, Democratic Rep. . . . .	Ho Chi Minh, (Communist) President . . . . .	1945
Indonesia . . . . .	Achmed Soekarno, President . . . . .	1949
	Mohammed Natsir, Prime Minister . . . . .	1950
Iran . . . . .	Mohammed Riza Pahlavi, Shahanshah . . . . .	1941
	Ali Razmara, Prime Minister . . . . .	1950
Iraq . . . . .	Feisal II, King . . . . .	1939
	Abdul-Ilah, Prince Regent . . . . .	1939
	Nuri Pasha es-Said, Prime Minister . . . . .	1950
Ireland, Rep. of . . .	Sean T. O'Kelly, President . . . . .	1945
	John A. Costello, Prime Minister . . . . .	1948
Israel . . . . .	Chaim Weizmann, President . . . . .	1948
	David Ben-Gurion, Prime Minister . . . . .	1948
Italy . . . . .	Luigi Einaudi, President . . . . .	1948
	Alcide de Gasperi, Prime Minister . . . . .	1946
Japan . . . . .	Hirohito, Emperor . . . . .	1926
	Shigeru Yoshida, Premier . . . . .	1948
	Gen. Douglas MacArthur, Supreme Commander for the Allied Powers . . . . .	1945
Jordan . . . . .	Abdullah ibn Hussein, King . . . . .	1946
	Samir Pasha el Rifai, Prime Minister . . . . .	1950
Korea (South)		
Rep. of Korea	Syngman Rhee, President . . . . .	1948
(North) Democratic People's Rep. of Korea . . .	Kim Il Sung, Premier . . . . .	1948
Kuwait . . . . .	'Abdullah bin Salim al-Sabah, Sheikh . . . . .	1950
Lebanon . . . . .	Sheikh Bishara al-Khuri, President . . . . .	1943
	Riad Bey al-Sulh, Prime Minister . . . . .	1946
Liberia . . . . .	William V. S. Tubman, President . . . . .	1944
Liechtenstein . . . .	Franz Josef II, Sovereign Prince . . . . .	1938
	Alexander Frick, Prime Minister . . . . .	1945
Luxembourg . . . . .	Charlotte, Grand Duchess . . . . .	1919
	Pierre Dupong, Premier . . . . .	1937
Mexico . . . . .	Miguel Alemán, President . . . . .	1946
Monaco . . . . .	Rainier III, Prince . . . . .	1949
Morocco . . . . .	Sidi Mohammed ben Youssef, Sultan . . . . .	1927
	Gen. Alphonse-Pierre Juin, French Resident General . . . . .	1947
Nepal . . . . .	Gyanendra Jung Bahadur, King . . . . .	1950
	Gen. Sir Mohan Shumshere Jung Bahadur, Prime Minister . . . . .	1948
Netherlands . . . . .	Juliana, Queen . . . . .	1948
	Willem Drees, Prime Minister . . . . .	1948
New Zealand, Dom. of . . . . .	Lieut. Gen. Sir Bernard Freyberg, Governor General . . . . .	1946
	Sidney George Holland, Prime Minister . . . . .	1949
Nicaragua . . . . .	Anastasio Somoza, President . . . . .	1950
Norway . . . . .	Haakon VII, King . . . . .	1905
	Einar Gerhardsen, Prime Minister . . . . .	1945
Oman (Muscat) . . . .	Sir Sayyid Said bin Taimur, Sultan . . . . .	1932
Pakistan . . . . .	Khwaja Nazimuddin, Governor General . . . . .	1948
	Liaquat Ali Khan, Prime Minister . . . . .	1947
Panamá . . . . .	Arnulfo Arias Madrid, President . . . . .	1949
Paraguay . . . . .	Federico Chaves, President . . . . .	1949



Country	Name and Office	Accession
Peru . . . . .	Gen. Manuel Odría, President . . . . .	1950
Philippines, Rep. of the . . . . .	Elpidio Quirino, President . . . . .	1948
Poland . . . . .	Boleslaw Bierul, President . . . . .	1947
Portugal . . . . .	José Cynankiewicz, Prime Minister . . . . .	1947
	Marshal Antonio Oscar de Fragoso Carmona, President . . . . .	1928
	Antonio de Oliveira Salazar, President, Council of Ministers (Prime Minister) . . . . .	1932
Rumania . . . . .	Constantin Parhon, Chairman of the State Praesidium . . . . .	1948
	Petru Gроза, Prime Minister . . . . .	1945
Salvador, El . . . . .	Lieut. Col. Oscar Osorio, President . . . . .	1950
South Africa . . . . .	Gideon Brand van Zyl, Governor General . . . . .	1946
	Daniel F. Malan, Prime Minister . . . . .	1948
Spain . . . . .	Gen. Francisco Franco, Chief of State (President of the Council of Ministers) . . . . .	1938
Sudan . . . . .	Sir Robert George Howe, Governor General . . . . .	1947
Sweden . . . . .	Gustav VI, King . . . . .	1950
Switzerland . . . . .	Tage Erlander, Prime Minister . . . . .	1946
Syria . . . . .	Eduard von Steiger, President, Swiss Confederation . . . . .	1951
	Hashem el Atassi, President . . . . .	1950
Thailand . . . . .	Nazim el Kossi, Prime Minister . . . . .	1950
	Phumiphon Adundet, King . . . . .	1946
	Field Marshal Luang Pibul Songgram, Prime Minister . . . . .	1948
Tunisia . . . . .	Sidi Mohammed el-Amin, Bey . . . . .	1943
	Marcellin Marie Louis Périérier, French Resident General . . . . .	1947
Turkey . . . . .	Celâl Bayar, President . . . . .	1950
	Adnan Menderes, Prime Minister . . . . .	1950
Union of Soviet Socialist Republics . . . . .	Nikolai Mikhailovich Shvernik, Chairman of the Praesidium of the Supreme Soviet . . . . .	1946
	Generalissimo Joseph V. Stalin, Chairman of the Council of Ministers . . . . .	1946
United States . . . . .	Harry S. Truman, President . . . . .	1945
Uruguay . . . . .	Luis Batlle Berres, President <sup>1</sup> . . . . .	1947
Vatican City . . . . .	Pius XII, Pope . . . . .	1939
Venezuela . . . . .	Germán Suárez Flamerich, President . . . . .	1950
Yemen . . . . .	Sayf al-Islam Ahmad ibn Yahya, King . . . . .	1948
Yugoslavia . . . . .	Ivan Ribar, Chairman of the Praesidium of the People's Assembly . . . . .	1945
	Josip Brozovich or Broz (Tito), Premier . . . . .	1944
Zanzibar . . . . .	(Sir) Sayyid Khalifa bin Harub . . . . .	1911
	Sir Vincent Gonçalves Glenday, British Resident . . . . .	1946

<sup>1</sup>Karl Renner, president, died Dec. 31, 1950.

<sup>2</sup>Getulio Dornelles Vargas elected Oct. 3, 1950, to take office after Jan. 31, 1951.

<sup>3</sup>Jacobo Arbenz Guzman elected Nov. 10-12, 1950, to take office March 15, 1951.

<sup>4</sup>Andrés Martínez Trueba elected Nov. 26, 1950, to take office March 1, 1951.

**Prices.** In the United States at the beginning of 1950 there was a reversal of the downward trend of both wholesale and retail prices which had started in the summer of 1948 and continued throughout 1949. Wholesale prices advanced 11.4% and retail prices 4.8% in the six months following the outbreak of the Korean war, however, and for the year as a whole they advanced 15.9% and 6.5%, respectively. By December both the wholesale and consumers' price indexes had reached all-time peaks.

The wholesale price index was 134% greater than in Aug. 1939, and the consumers' price index was 81% greater than in Aug. 1939. The high price levels and corresponding shrinkage in the purchasing power of the dollar led to widespread and frequent demands for price controls. However, by the end of the year, no comprehensive system of over-all price controls had been placed in effect, although congress gave the president broad powers over prices and the president ordered the establishment of an office of price stabilization.

Wholesale prices for each major group of commodities shown in Table I, except for farm products, foods and fuel and lighting materials, reached their post-World War II highs in December. However, wholesale prices generally advanced less percentage-wise after World War II than after World War I, the notable

exceptions being farm products, foods and metals and metal products. Price increases in the latter group were roughly comparable during both periods.

The smallest relative increases were registered by fuel and lighting materials, housefurnishings, textile products and building materials respectively.

On the retail level, as reflected by the cost-of-living indexes of the bureau of labour statistics, the postwar peak in the prices of all items was reached in December. The only components which did not attain their highest levels in December were food, which was within 1% of the previous peak of July 1948, and apparel, which was within 3% of its previous high in Oct. 1948.

When compared with the post-World War I increase in the cost of living, as shown in Table II, the price rise for all items following World War II was not as severe—81% as compared with 101%. Only in food (which, however, is a sizable item in the budget of a moderate-income family for which the cost-of-living index is computed) was the price increase in the later period greater (132% compared with 126%); rent increases were only two-fifths as great, and apparel prices increased less than two-thirds as much.

Table II.—Per Cent Increase in Cost of Living (Consumers' Retail Prices), by Major Items, United States, Prewar Prices to Postwar High Points

Item	High post-World War II increase from Aug. 1939*	High post-World War I 1920 increase from July 1914
All items . . . . .	81	101
Food . . . . .	132	126
Apparel . . . . .	101	176
Rent . . . . .	21	51
Fuel, electricity, etc. . . . .	48	49
Housefurnishings . . . . .	104	†
Miscellaneous . . . . .	61	82

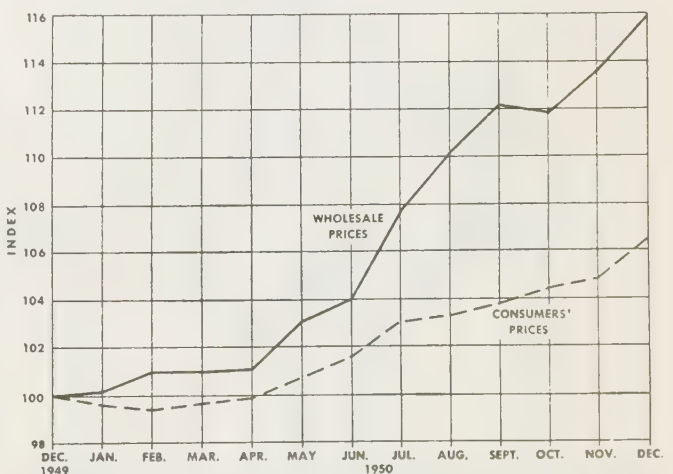
\*The high points for food and apparel were attained in July and Oct. 1948, respectively. All other items reached new peaks in Dec. 1950.

†Not available.

Source: Computed from data published by the National Industrial Conference Board for the years 1914-20 and the bureau of labour statistics for the period beginning with 1920.

As shown in Table III, wholesale prices were, at the end of 1950, 134% greater than in Aug. 1939, 87% greater than at the start of U.S. participation in World War II in Dec. 1941, and 55% greater than at the termination of price controls in June 1946. Wholesale prices rose continuously during the year, except for a temporary decline in October, and were accelerating at the end of the year. The Korean crisis led to very rapid increases in prices of basic commodities required for the defense effort and the production of civilian goods.

Substantial increases occurred in textile products, chemicals and allied products, hides and leather products, housefurnishings and products of the farm.



WHOLESALE AND CONSUMERS' PRICES in the United States, Dec. 1949-Dec. 1950 (Dec. 1949=100) (Source: U.S. Department of Labor, Bureau of Labor Statistics)

Table I.—Per Cent Increase in Wholesale Prices, by Major Commodity Groups, United States, Prewar Prices to Postwar High Points

Commodity group	High post-World War II increase from Aug. 1939*	High post-World War I 1920 increase from July 1914
All commodities . . . . .	134	148
Farm products . . . . .	227	138
Foods . . . . .	182	137
Textile products . . . . .	153	252
Fuel and lighting materials . . . . .	90	277
Metals and metal products . . . . .	98	99
Building materials . . . . .	147	218
Hides and leather products . . . . .	136	192
Chemicals and allied products . . . . .	88	123
Housefurnishings . . . . .	99	164
Miscellaneous . . . . .	92	102

\*The high points for farm products occurred in Jan. 1948; for foods in Aug. 1948; and for fuel and lighting materials in Nov. 1948. All other commodity groups reached new highs in Dec. 1950.

Source: Computed from data published by the bureau of labour statistics of the U.S. dept. of labour. Except as otherwise indicated, all computations presented in this article are based on such data.



Consumers' prices increased each month from March to the end of the year. Food prices, the most important item in the consumers' cost-of-living index, led the index down through February and then upward during the remainder of the year. Housefurnishings prices also increased more than the average. Rents rose

Table III.—Per Cent Change in Wholesale Prices, by Major Commodity Groups, United States, Selected Periods, 1939–1950

Commodity	Per cent change Dec. 1950 from							Postwar high from Dec. 1949	Dec. 1949 from Dec. 1948
	Post-war high	June 1950	Dec. 1949	June 1946	Dec. 1941	Aug. 1939	Dec. 1939		
Farm products . . . . .	-5.9	13.0	21.0	33.8	98.0	207.4	28.6	-12.6	
Foods . . . . .	-5.5	10.5	15.0	58.6	97.9	166.5	21.7	-8.5	
Textile products . . . . .	0.0	25.0	23.7	56.8	88.0	152.5	23.7	-5.7	
Fuel and lighting materials . . . . .	-1.5	2.2	4.0	54.4	73.0	86.8	5.5	-5.0	
Metals and metal products . . . . .	0.0	7.4	10.1	54.6	78.8	98.2	10.1	-3.5	
Building materials . . . . .	0.0	9.6	16.3	70.5	105.5	147.2	16.3	-5.8	
Hides and leather products . . . . .	0.0	19.7	21.5	78.6	90.4	135.8	21.5	-2.9	
Chemicals and allied products . . . . .	0.0	21.9	21.2	44.8	54.4	88.1	21.2	-12.1	
Housefurnishings . . . . .	0.0	15.7	17.8	53.9	68.1	98.5	17.8	-2.8	
Miscellaneous . . . . .	0.0	22.5	26.9	42.6	60.4	91.7	26.9	-6.6	
All commodities . . . . .	0.0	11.4	15.9	55.3	87.3	133.7	15.9	-6.9	

slowly but steadily throughout the year, and apparel prices climbed rapidly after July. By December retail prices were 81% greater than in Aug. 1939, 61% greater than in Dec. 1941 and 34% greater than in June 1946, as shown in Table IV.

Table IV.—Per Cent Change in Consumers' Prices (Cost of Living), by Major Commodity Groups, United States, Selected Periods 1939–1950

Commodity	Per cent change Dec. 1950 from							Postwar high from Dec. 1949	Dec. 1949 from Dec. 1948
	Post-war high	June 1950	Dec. 1949	June 1946	Dec. 1941	Aug. 1939	Dec. 1939		
Food . . . . .	-0.6	5.3	9.2	47.9	90.5	130.4	9.9	-3.8	
Apparel . . . . .	-2.6	6.2	5.7	24.9	71.1	95.8	8.5	-7.3	
Rent . . . . .	0.0	1.5	2.9	15.9	16.3	20.6	2.9	2.3	
Fuel, electricity and ice . . . . .	0.0	3.7	3.1	30.4	38.4	47.8	3.1	1.4	
Housefurnishings . . . . .	0.0	10.6	10.5	31.2	75.3	103.6	10.5	-6.6	
Miscellaneous . . . . .	0.0	4.3	4.2	26.7	50.4	61.4	4.2	1.0	
All items . . . . .	0.0	4.8	6.5	33.8	61.4	80.9	6.5	-2.3	

Monthly changes in the various components of the cost-of-living index are indicated in Table V, and monthly changes in the indexes of wholesale and of consumers' prices are shown in Table VI.

The relative stability of prices during the first half of the year reflected a relatively high level of employment, a continued disposition of consumers to spend, a high level of industrial output and an expanding national income. The rapid increase in prices after the outbreak of the Korean conflict reflected both consumer and industrial hoarding and the pressures of an inflationary money and credit structure on goods in actual or anticipated short supply. These sudden price increases led to immediate demands by the government for voluntary action to

Table V.—Consumers' Price Index (Cost of Living), by Major Commodity Groups, United States, Dec. 1949–Dec. 1950

(Dec. 1949 = 100)							
Year and month	All items	Food	Apparel	Rent	Fuel, electricity and ice	House-furnishings	Miscellaneous
1949							
December . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1950							
January . . . . .	99.6	99.3	99.6	100.3	100.2	99.6	99.7
February . . . . .	99.4	98.7	99.5	100.5	100.4	99.9	99.7
March . . . . .	99.7	99.3	99.6	100.6	100.9	100.0	99.7
April . . . . .	99.9	99.6	99.6	100.7	101.2	100.1	99.5
May . . . . .	100.7	101.5	99.6	101.1	99.4	100.0	99.9
June . . . . .	101.6	103.7	99.6	101.4	99.4	99.9	99.9
July . . . . .	103.0	106.4	99.4	101.7	99.9	100.5	100.5
August . . . . .	103.3	105.9	100.1	102.0	100.9	102.1	101.7
September . . . . .	103.8	105.7	102.5	102.1	101.5	105.4	102.1
October . . . . .	104.4	105.9	104.1	102.3	102.4	107.8	102.6
November . . . . .	104.8	106.2	105.0	102.6	102.9	109.1	103.2
December . . . . .	106.5	109.2	105.7	102.9	103.1	110.5	104.2

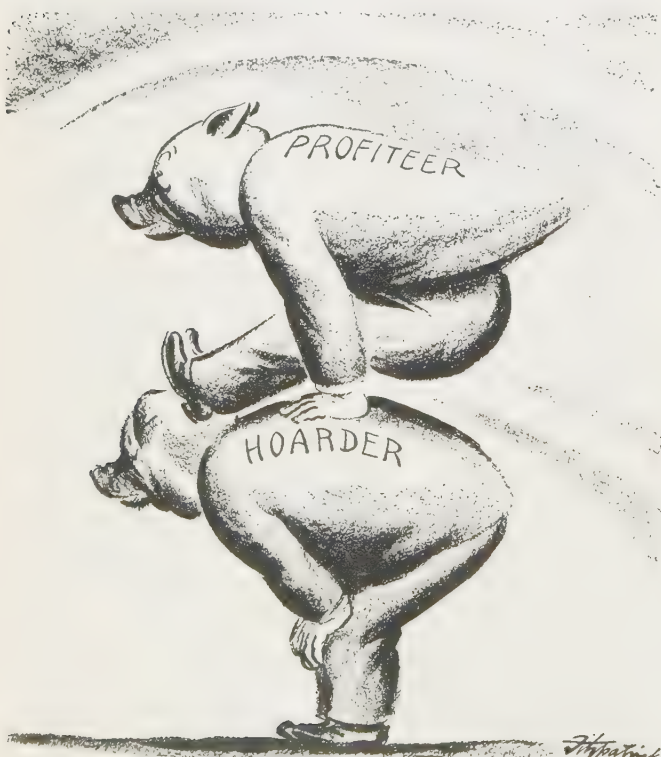
Table VI.—Index of Wholesale and Consumers' Prices, United States, Dec. 1949–Dec. 1950

(Dec. 1949 = 100)		
Year and month	Wholesale price	Consumers' price
1949		
December . . . . .	100.0	100.0
1950		
January . . . . .	100.2	99.6
February . . . . .	101.0	99.4
March . . . . .	101.0	99.7
April . . . . .	101.1	99.9
May . . . . .	103.1	100.7
June . . . . .	104.0	101.6
July . . . . .	107.7	103.0
August . . . . .	110.1	103.3
September . . . . .	112.1	103.8
October . . . . .	111.8	104.4
November . . . . .	113.6	104.8
December . . . . .	115.9	106.5

curb inflation. The president indicated that he would seek power to control prices if voluntary controls were unsuccessful. Statutory power to control prices was granted the president in the Defense Production act of Sept. 8, and although an office of price stabilization was created immediately, reliance continued to be placed on fiscal and credit controls and on voluntary action. Control over consumer instalment purchases was imposed in September; down payments for housing were increased; and margin rates for stock purchases and reserve rates against bank deposits were also increased. Some specific price orders, notably those calling for roll-backs of announced price increases in the automobile industry, were issued in December. However, the anti-inflationary controls imposed and voluntary resistance to raising prices were not successful in preventing a strong general upswing in prices. At the end of the year it was apparent that stronger measures would be necessary if a further rise in prices was to be prevented. The planning of tremendous expenditures for the defense program, the high level of consumer expenditures, the volume of planned new private investment and continued expenditures for aid abroad all tended to have a disproportionately inflationary effect upon goods and services in short supply.

(W. V. W.)

**Great Britain.**—It is convenient to analyze British price movements in 1950 in two stages: first there is the translation of higher world prices for basic commodities into a rising level of import and wholesale prices and into a worsening of the terms of trade; secondly there is the delayed and damped reaction of retail prices to the general upward trend. The analysis of prices



"SAME OLD GAME," a 1950 cartoon by Fitzpatrick published in the *St. Louis Post-Dispatch*



in Great Britain which follows is based on an article in the London and Cambridge Economic Service *Bulletin*, Nov. 1950.

Though not all basic commodity prices in sterling were marked up following devaluation of sterling and other currencies in Sept. 1949, increases were certainly not confined to materials mainly imported from dollar sources. Indeed, commodities originating in the sterling area and largely sold to the U.S. rose in price as much as dollar goods. The later price increases around the middle of 1950 were general, though the extent was much larger for some materials (e.g., rubber) than for others. Moreover, the rising trend was not of short duration since, for many commodities, increases were recorded after September (when the Korean war seemed nearly over) as well as in the previous three months.

British import prices, measured in sterling, increased by nearly 20% following devaluation and then levelled off in the second quarter of 1950. It had been estimated that the direct effect of devaluation would be to increase prices of British imports by a little more than 15% while there would be a further rise because of indirect effects. The latter were substantial; and, as already noted, there was a marking-up of sterling prices of goods originating in sterling countries. The rise in import prices was resumed in the middle of 1950, though confined (at least at first) to those of materials as opposed to those of foodstuffs. From May to Nov. 1950 this resumed increase amounted to 12%.

During the first 15 months after devaluation British export prices increased steadily but much more slowly, domestic costs being relatively stable. As a consequence, first of devaluation and then of boom conditions in the U.S. and elsewhere, there was a worsening in the terms of trade, amounting to about 13% between Aug. 1949 and May 1950 and to a further 6% in the second half of 1950. This was the case, to a greater or lesser extent, in all countries which devalued their currencies: indeed, it was one of the objects of devaluation to make imports dearer in relation to exports.

Among wholesale prices, those of industrial materials, including semimanufactures, increased by 11% in the nine months after devaluation (Aug. 1949 to May 1950 in the official index number). This can be compared with the increase of 25% in prices of imported materials. The difference arose because there were practically no changes in wholesale prices of domestic materials such as coal, iron and steel or in the domestic element of other wholesale prices. Wholesale prices in general reflect in part prices of imported commodities and domestic costs and prices. Like import prices, materials prices at wholesale increased further in the second half of 1950.

In 1950, as in earlier postwar years, prices of imported foods were largely determined by the ministry of food in their bulk-buying operations, while wholesale food prices were also affected by subsidies. From Aug. 1949 to May 1950 import prices of food and tobacco increased by 16% and wholesale prices rose by 11%. In the summer and autumn of 1950, any upward trend in food prices was hidden by seasonal declines (e.g., in fruit and vegetable prices). There were, however, indications of a renewed upward movement toward the end of the year.

**Europe.**—Most countries in western Europe devalued their currencies with sterling in Sept. 1949 and approximately to the same extent. Subsequent movements in domestic prices were broadly similar to those in Great Britain. In Scandinavian countries and even in the Netherlands and France import prices in local currencies rose less than in Great Britain: industries in these countries did not make such demands on basic materials with prices largely determined by the U.S. market. But the general course of wholesale prices was on the British pattern: a slowly rising trend until early in 1950, followed by a general in-



"HI YA, BABE!" a cartoon by Summers which appeared in the *Buffalo Evening News* in 1950

crease after the middle of the year in response to boom conditions. Retail prices generally followed those at wholesale, without such time lags as were evident in Great Britain. Sweden was the only country in the group to succeed in maintaining a relatively stable price level, at least until the middle of 1950.

On the other hand, Switzerland kept parity with the dollar in 1949 and Swiss price levels generally followed those in the U.S. Prices continued to fall, not only at the end of 1949 but also well into 1950; no marked increase occurred until after mid-1950. The same was broadly true of Italy, where prices had previously been highly variable. In Belgium devaluation of the franc in 1949 was limited, and there were no large price-movements until after the middle of 1950.

Mainly as a result of devaluation, the large exporting countries of western Europe, apart from Switzerland, found their export prices in 1950 much reduced in terms of the dollar. In the second quarter these prices were only about 75% to 80% of the predevaluation level.

**British Commonwealth.**—Australian prices continued to rise during 1949 and 1950, and devaluation of sterling only served to accentuate temporarily the upward trend. In Canada, where prices generally follow those in the U.S. closely, there was in fact no decline to parallel that in the U.S. in 1949; and prices increased from the beginning of 1950. Much less movement was evident in other commonwealth countries than in Great Britain, at least until mid-1950; in South Africa and New Zealand, for example, devaluation seemed to have little immediate effect, and prices did not move upward until the second quarter of 1950. It would appear that price increases in the basic imported materials were offset for some time by a stable or even decreasing level of domestic prices. (See also AGRICULTURE; BUILDING AND CONSTRUCTION INDUSTRY; BUSINESS REVIEW; CONSUMER CREDIT; STOCKS AND BONDS; WAGES AND HOURS; and articles on individual commodities.)

(R. G. D. A.)



**Primary Education:** *see* EDUCATION.

**Prince Edward Island.** Smallest province of Canada, 2,184 sq.mi. Prince Edward Island lies in the Gulf of St. Lawrence. Pop. (1950 est.) 96,000. Capital: Charlottetown; pop. (1941) 14,821.

**History.**—Only 46 bills were given royal assent at the 1950 legislative session. Most laws brought existing island laws into conformity with similar legislation in the other provinces, but there were two major exceptions: (1) the ban on the manufacture and sale of butter substitutes was tightened, and (2) restrictions were authorized to help eradicate Bang's disease. Late in the year the liberal government held a seat when the death of the minister of highways threw it open to by-election, and thus kept its 24 to 6 lead in the legislature.

**Education.**—The latest revised statistics for provincially controlled schools for 1947 were: total enrolment, 17,867; average daily attendance, 14,850; teachers, 672; total revenues, \$687,087.

**Finance.**—The 1950–51 budget estimated revenues at \$7,043,022 and expenditures at \$8,674,788, of which \$2,178,500 were capital expenditures, largely for highways and public health buildings. On March 31, 1950, the total provincial debt stood at \$15,290,386.

**Transportation.**—Minor 1950 paving operations kept the provincial record of more miles of paved roads per capita than any other province. On an experimental basis, the "Abegweit" ferry was supplemented by the "Prince Edward Island" ferry on the Cape Tormentine-Borden run during the June 15–Sept. 15, 1950, period.

**Agriculture.**—Canning turkey and marketing fresh strawberries by air to the mainland proved to be two new successful agricultural enterprises in 1950. The 1949 potato crop of 14,000,000 bu. was the largest in provincial history, and 1949–50 shipments of potatoes brought \$9,000,000 to farmers. The total farm income for 1949 was \$22,000,000, including: butter, \$2,938,742; cheese, \$237,747; fluid milk, \$421,620; ice cream, \$220,354; canned poultry, \$3,000,000.

**Fisheries.**—The MacDonald process of sealing live lobsters in tins revolutionized that industry during 1950. A federal-provincial arrangement subsidized fishermen wanting to buy deep-sea draggers (with as little as \$400 capital needed by a fisherman). In 1949, 28,000,000 lb. of fish were caught and sold for \$2,000,000. The largest single item was lobsters, with 6,800,000 lb. worth \$1,421,000.

**Industry.**—Prince Edward Island's second largest industry (after agriculture) continued to be the tourist trade (1949 receipts, \$5,000,000). During 1950 the government set up a department of industry and natural resources, which collected data for creation of branch industries on the island. The government promoted food shipments to Newfoundland (1949, \$3,000,000). The provincial employment index was: Sept. 1950, 185.9; Sept. 1949, 154.3; 1942 monthly average, 101.5. Aggregate pay roll index: Sept. 1950, 265.7; Sept. 1949, 238.7; 1942 monthly average, 101.5. Average weekly wages: Sept. 1950, \$31.31; Sept. 1949, \$33.59; 1942 weekly average, \$21.91. (C. Cy.)

**Principe:** *see* PORTUGUESE COLONIAL EMPIRE.

**Printing.** An important technological development in printing plate making during 1950 was Time, Inc.'s colour scanning machine (developed jointly by Eastman Kodak company and Time) for making colour-corrected, continuous-tone three-colour and black separation negatives automatically from colour transparent copy. Electronics, optics and photography are employed. The colour scanner is a lathe-like machine, with a shaft extending from end to end. At the right end is mounted a transparent drum upon which is fastened the colour transparency. On the same shaft at the left side four sheets of sensitized photographic film are mounted side by side, one each for yellow, red, blue and black separation negatives, in that order. A spot of light projected from a lamp scans the colour transparency wrapped on the transparent drum at the right of the rotating shaft. The light spot beams a varying colour pattern by mirror through three filters, which separate the colour values and by means of photo-electric cells pass them on to the electronic and amplifying panels. In turn, the colour values (varying currents) are sent to the four lamps which expose the four revolving sensitized negatives on the drums mounted at the left on the shaft. In operation, the drums are advanced along the axis of the shaft. The action is similar in principle to a screw-cutting lathe. It was claimed that the scanning operation required 1 hr.

5 min. for an 8-in. by 10-in. colour transparency at 250 lines to the inch.

Another notable development of 1950 was the Koloroid colour proofing process—a method of making full colour, ink pigment colour preproofs from separation screen or continuous-tone negatives. The plate-making colour photographer thus can see a proof of his separation negatives in full ink colours and can do colour masking and check results before the retoucher or etcher receives the negatives. These he can compare with the original copy to see how the colours match and what retouching or etching is necessary. Each basic colour is controlled by length of exposure of the negative on the pigment paper. For example, a strong chrome yellow can be cut to a light lemon yellow by reducing the exposure time. The proofer is guided by an exposure chart with which the exposure time before the printing lamp is determined. The inks of the exposed pigment papers are each deposited on a Koloroid base sheet one at a time—laying one colour over the other, developing each colour before the other is put on. The yellow pigment paper is placed on the base sheet; the red is then laid over the yellow, and the blue next. The black is finally registered on the yellow, red and blue proof and is developed. The register position of each is determined by three holes in the colour separation negatives.

A two-magazine Teletypesetter-operated high-speed line-composing machine was announced by the Mergenthaler Linotype company. The machine can be operated at 12 lines per minute automatically, on 8 pt., 12-pica slug, with or without automatic quadding. The machine was simplified and redesigned for accelerated movement of machine parts. Mergenthaler also exhibited and demonstrated a prototype model of a two-magazine, 42-pica photographic line-composing machine at the Chicago National Graphic Arts exposition in September. The machine photographs type lines on sensitized film, a complete line at a time, in any measure from 4 picas up to and including 42 picas; the end product is a film ready for use after development in plate-making operations. Operating speed is 8 lines per minute when composing shorter-length straight matter. Matrices are similar in shape to the hot-metal machine two-letter matrices, except that in place of the letter punchings, the characters are carried in black, 12-pt. size, on a white background. All enlargements or reductions (from 6 pt. to 36 pt.) are made from the 12-pt. letter characters. The manufacturer stated that by a simple arrangement of focusing stops, undistorted magnification or reduction of type is possible. Type point size is obtained by adjusting the position of the camera forward or back in relation to the justified matrix line. One 6-in. focal length lens is used. Two 6-w. General Electric blue fluorescent lamp tubes make up the light source. Lines may be leaded as required. The film holder can be supplied with 60 ft. of high contrast film.

Efforts to hybridize the elements of three processes into one printing press continued. Development of a high speed web printing press utilizing the principles from three printing processes—gravure, offset and letterpress—was announced by Crawford Engineering, Inc. The press prints offset-gravure for one-colour, colour and colour process work, and by letterpress with rubber plates with a single (gravure) ink distribution system. The press, which prints wrappers, labels, insurance policies, packaging products, etc., is arranged in units; as many colours as there are press units may be printed. The offset-gravure unit consists of three cylinder components. The design (gravure) cylinder prints the image on an offset or transfer cylinder which in turn prints on the paper. In this unit, the paper web passes between the offset or transfer cylinder and a pressure cylinder. The letterpress unit consists of three cylinder components—a gravure inking cylinder used as a plate cylinder inking mechanism which inks the rubber plate cylinder which in turn prints on the paper web. In operation,



the web passes between the rubber plate cylinder and an impression cylinder. A press unit may be converted from the offset-gravure process to the letterpress process by replacing the gravure cylinder with a cellmeter roller. This is a gravure cylinder etched with an over-all screen pattern. This cylinder revolves partly submerged in the ink reservoir and, because of the fineness of the cells in the screened cylinder, acts as a rubber plate-inking mechanism. An oscillating doctor blade removes surplus ink from the nonprinting surface of the cylinder. Next step is to replace the offset or transfer cylinder with a printing plate cylinder on which are mounted the sticky-back rubber plates. By combining two or more press units, it is possible to combine the printing by two processes in a single press run.

FILMS OF 1950.—*Story of Printing* (Encyclopædia Britannica Films Inc.). (M. St.)

**Prisoners of War.** Large-scale military operations in Korea during 1950 again centred interest on prisoners of war. At the outbreak of hostilities, the International Committee of the Red Cross offered its services as a neutral intermediary for prisoners of war to all of the belligerents. Both the Republic of Korea and the Democratic People's republic of Korea agreed to recognize the provisions of the Prisoner of War Convention of Geneva, which neither had signed, and the Unified Command of the United Nations announced that the provisions of the convention would be observed by all armies under its control. Representatives of the International Committee of the Red Cross were accepted in southern Korea but were not able to obtain visas for northern Korea. Exchanges of lists of prisoners, however, were effected.

On several occasions during 1950 the governments of France, Great Britain and the United States requested an accounting from the government of the U.S.S.R. for an estimated 1,000,000 World War II prisoners of war still believed to be held by the U.S.S.R. In each instance, the U.S.S.R. replied that all prisoners

of war except those accused of crimes had been repatriated.

All World War II prisoners of war held by other countries had been repatriated or released as civilian workers except those held for crimes.

At its meeting in Lake Success on Dec. 13, the general assembly of the United Nations passed a resolution over opposition of the soviet bloc calling for an investigation and the return of all prisoners of World War II. The International Red Cross or, failing that, the secretary-general of the United Nations was called upon to choose an *ad hoc* commission of three qualified impartial persons with a view to settling the question of prisoners of war in a purely humanitarian spirit and on terms acceptable to all governments concerned. (See also RED CROSS.)

(H. W. Dg.)

**Prisons.** Penal construction programs lagged during 1950 because of rising costs of labour and materials. However, in Massachusetts ground was broken for a new state prison near Norfolk to replace the century-old Charleston prison, which had long been condemned.

Illinois opened a special reformatory at Sheridan for youths up to the age of 17 who were convicted of felonies. This would eliminate congestion at the state training school at St. Charles, to which less serious offenders would be sent. Neglected and dependent children, previously housed at St. Charles and allowed to mingle with delinquents, would be placed in the custody of welfare agencies.

California announced that it would close its institution for women at Tehachapi. A new women's prison would be located at Corona, near Chino. At Chino, a new medical, reception and guidance centre was being completed, and at Tracy, a new institution for youthful offenders was to be built to replace one located at Lancaster.

In some states educational facilities were enlarged and greater attention was placed on libraries and on incentives to win academic recognition. A few prisons hired trained librarians, and a travelling library was set up at the state prison in southern Michigan to service other penal institutions and farms in far-away areas.

The increasing interest of laymen in the problems of prisoners was significant. In Elmira, N.Y., the American Association of University Women provided funds for reformatory inmates desiring to pursue advanced studies either through correspondence courses or by obtaining necessary technical books. In Michigan and other states, selected groups of businessmen were taken on all-day visits through penal institutions. They were even allowed, in some instances, to sit in on sessions of the parole boards. In that way they learned of an inmate's progress and response to rehabilitation procedures. As a result, many employers registered a desire to assist a worthy prisoner by giving him employment. This desire was not based on sympathy, but on an inmate's capacity to handle competently a specific job.

Through a grant of funds by the New York foundation, New Jersey initiated a new plan for short-term treatment of youthful offenders. Some youths committed to reformatories need not be held for the usual period of about 18 months. Others are not psychologically prepared for probation when they come before the court. Under the New Jersey plan certain selected youths are placed on probation provided they agree to go for treatment to a special home known as Highfields, where there are no guards or custodial officials. The youths, limited to about 20, remain at this home for about four or five months. At the home, treatment is centred around, although not limited to, the technique of guided group interaction which was developed in New Jersey reformatories after 1948, and which had achieved outstanding success. To make sure that the results of the short term treatment



U.S. MARINES covering a North Korean soldier flushed from a rice paddy in the Nakdong river sector in Aug. 1950. The prisoner was wounded, but still armed



of youthful offenders were carefully measured, a research study was being made in 1950 under separate auspices out of funds provided by the Vincent Astor foundation. (See also CRIME.)

(S. A. L.)

**Prizes of 1950:** see LITERARY PRIZES; NOBEL PRIZES; PULITZER PRIZES. See also AMERICAN LIBRARY ASSOCIATION; ART EXHIBITIONS; MINERALOGY; MOTION PICTURES; ROMAN CATHOLIC CHURCH; SOCIETIES AND ASSOCIATIONS; THEATRE; etc.

**Production, Industrial:** see BUSINESS REVIEW.

**Profits, Company:** see BUSINESS REVIEW; TAXATION.

**Protestant Episcopal Church.** Heartening growth and progress in practically every phase of its life and work characterized the year 1950 for this church. Almost all previous records were broken, indicating substantial recovery from the effects of World War II.

According to statistics published in the *Living Church Annual*, 1951, the church listed 6,654 clergy, an increase of 2.88% over 1949; more than 2,500,000 church members (2,540,548 baptized persons), an increase of 3.09%; and 1,688,611 communicants, an increase of 1.6%.

Other records never equalled before included ordinations: deacons, 255; priests, 240—an increase of more than 40% in each order; postulants (those listed by the bishops as desiring ordination), 1,106, an increase of 2.98%; lay readers, 6,016, an increase of 8.8%; confirmations, 85,989, an increase of 8.6%. An especially encouraging factor was the number of scholars enrolled in the church schools, 514,754, an increase of 6.4% over 1949, and more than 125,000 above the war year of 1944. Total receipts amounted to \$73,844,880.41, an increase of \$4,500,000 or 6.5% above 1949.

Baptisms, numbering 104,037, were substantially the same as during the previous year, but numbered 6,500 less than the high mark of 1948. Marriages and burials were the only items showing considerable decline: marriages numbered only 28,695 in 1950 compared with 33,502 in 1949, a decline of 14.3%; burials totalled 55,354 in 1950 compared with 56,577 in 1949, a decline of 2.1%.

Toward the end of the year an increasing number of college students who wished to study for the ministry were being drafted into the armed forces of the United States. Although the church's theological seminaries were full to overflowing, the threatening international situation appeared likely to curtail the recruiting of the ministry and to blight any hope of executing a program of expansion. (See also CHURCH MEMBERSHIP.)

(W. H. SE.)

**Protons:** see PHYSICS.

**Prunes:** see FRUIT.

**Psychiatry.** The treatment of severe forms of mental disease, particularly the more serious types of psychoses such as schizophrenia, by physical methods, as contrasted to psychotherapy, continued unabated in 1950. Electroshock therapy was widely used. Surgical intervention by intracranial operations and by extracranial methods found advocates in increasing numbers throughout the world, and intravenous drug medication became generally accepted. Ugo Cerletti, the pioneer in electroshock, who had invented the term 12 years earlier after its first use on man, made a prolonged investigation into the mechanism of the therapeutic action of electroshock. Not satisfied that the convulsion itself would account for the improvement in mental patients, he sought some changes in the blood or tissues from previously shocked patients.

He found in the brain a substance which he called acroagonine and noted salutary behavioral changes in patients following the injection of suspensions of cerebral material containing

acroagonines.

The most striking changes occurred in the field of neurovegetative functions of sleep, vasomotor stability, sweating, general nutritional condition and, of more importance, in affect and in the state of anxiety. Cerletti also found that the peculiar properties of shocked brain suspensions in water tended to grow fainter with the passage of time and disappeared altogether in about two months.

Cerletti's work on acroagonine had not yet been confirmed, but evidence had been presented highly suggestive of a humoral factor in the mechanism of improvement following electroshock.

These studies and others led to the repetition of electroshock treatment many times a day for certain patients, the method which came to be referred to as annihilation. Frequently treatment was given in clusters of daily shock for three or four days, followed by a three-day rest. This form of therapy, less intense than the annihilation method, was often effectual in patients with minor forms of psychosis. Leo Alexander and others developed an even less violent form in their nonconvulsive electric stimulation therapy, particularly adapted to the affective disorders, with anxiety and depression as the chief symptoms. Alexander obtained his best results by using both convulsive and nonconvulsive stimulation in the same patient. Convulsive treatments relieved depression but reduced awareness for memory content. In some cases he found, unfortunately, that anxiety was enhanced, rather than reduced. On the other hand, nonconvulsive treatment relieved anxiety and restored awareness for memory content, but sometimes brought on a depression. The use of the two methods was most efficient in reducing the number of untreatable conditions left after electroshock treatment. The variation in response again emphasized the need for meticulous evaluation of the patient's condition both before and after electroshock. This form of treatment was still in the experimental stage, although confidence was being established in its effectiveness when carefully used in controlled surroundings. Machines for giving electroshock were highly efficient, but trained personnel to administer this violent form of therapy were insufficient. In spite of the great number of electroshock treatments given each day, conservative physicians did not consider it an office procedure, nor one lightly entered into by either the physician or the patient. Furthermore, medical science still had much to learn about the mechanism of the biochemical changes set up in the brain as the result of shock, and the practitioner was not yet fully informed regarding the type of patient most favourable for treatment. The advances in 12 years since Cerletti's original work, while important, were only steps in the progress toward the ultimate goal of complete knowledge of the value of this important therapeutic weapon.

Prefrontal lobotomy, developed by Egas Moniz in 1936 for the treatment of psychoses by cutting the nervous connections between the frontal poles and the remainder of the brain, continued to be used throughout the world as the chief surgical method of combating mental disease. The technique of the operation underwent modification. Selective partial ablation of the frontal cortex, or topectomy, replaced in many clinics the blind surgery methods of a few years earlier. An evaluation of the results of focal surgery could be made only at some future date, but there were some indications that progress was being made.

Gross obsessive-phobic symptoms were often relieved, but paranoid trends sometimes resulted, thus nullifying the good results in overcoming anxiety and compulsive behaviour.

Transorbital lobotomy, first used in Italy by A. M. Fiamberti in 1937 and revised by Walter Freeman in the U.S. in 1948;



opened up a new field in psychosurgery. The operation, done by driving a suitable instrument into the brain, the entry being through the orbital plate, was reported to be both simple and safe. The patient was first given electroshock to the point of deep coma. Many hundreds of cases had been done, particularly in institutions, without fatalities or complications. Transorbital lobotomy, still undergoing evaluation, gained ground as a practical aid in dealing with intractable mental illness.

Further investigations in the drug treatment of mental illnesses were reported in 1950. The studies on the metabolism of nerve cells by H. Hydén in Sweden in 1947 led to the use of malononitrile in man in an attempt to affect the psychic functions in disorders of the mind. The 1950 report by Hans Hartelius of Stockholm, Sweden, would indicate that this simple therapeutic procedure had considerable value. It may be used in cases where electroshock is contraindicated. The series of patients which had been treated was too small, however, to have statistical significance. Hartelius believed that there were sufficient grounds to warrant a testing of the method on a larger scale.

Insulin shock treatment, with its resulting hypoglycemic state, continued to be widely used. Manfred Sakel, who had introduced the method 22 years earlier, reported that insulin should be considered a specifically vagotonic medication or hormone. Insulin appears to affect the basic pathogenic processes in a more profound way than electroshock. Improvement after its use was noted in a large variety of psychoses. Sakel felt that insulin coma gave the best and most lasting results in schizophrenia, although a favourable response also occurred in cyclothymia, involutional melancholias and depressive states. He made a strong plea for insulinotherapy, but the final evaluation of this method could not be considered as reached, even after more than two decades of experience. Acetylcholine shock, carbon dioxide treatment, the production of anoxia and even asphyxia as forms of treatment received recognition in 1950. (See also

NERVOUS SYSTEM; PSYCHOLOGY; PSYCHOSOMATIC MEDICINE; PUBLIC HEALTH SERVICES.)

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FILMS OF 1950.—*The Quiet One* (Athena Films, Inc.). (H. R. V.)

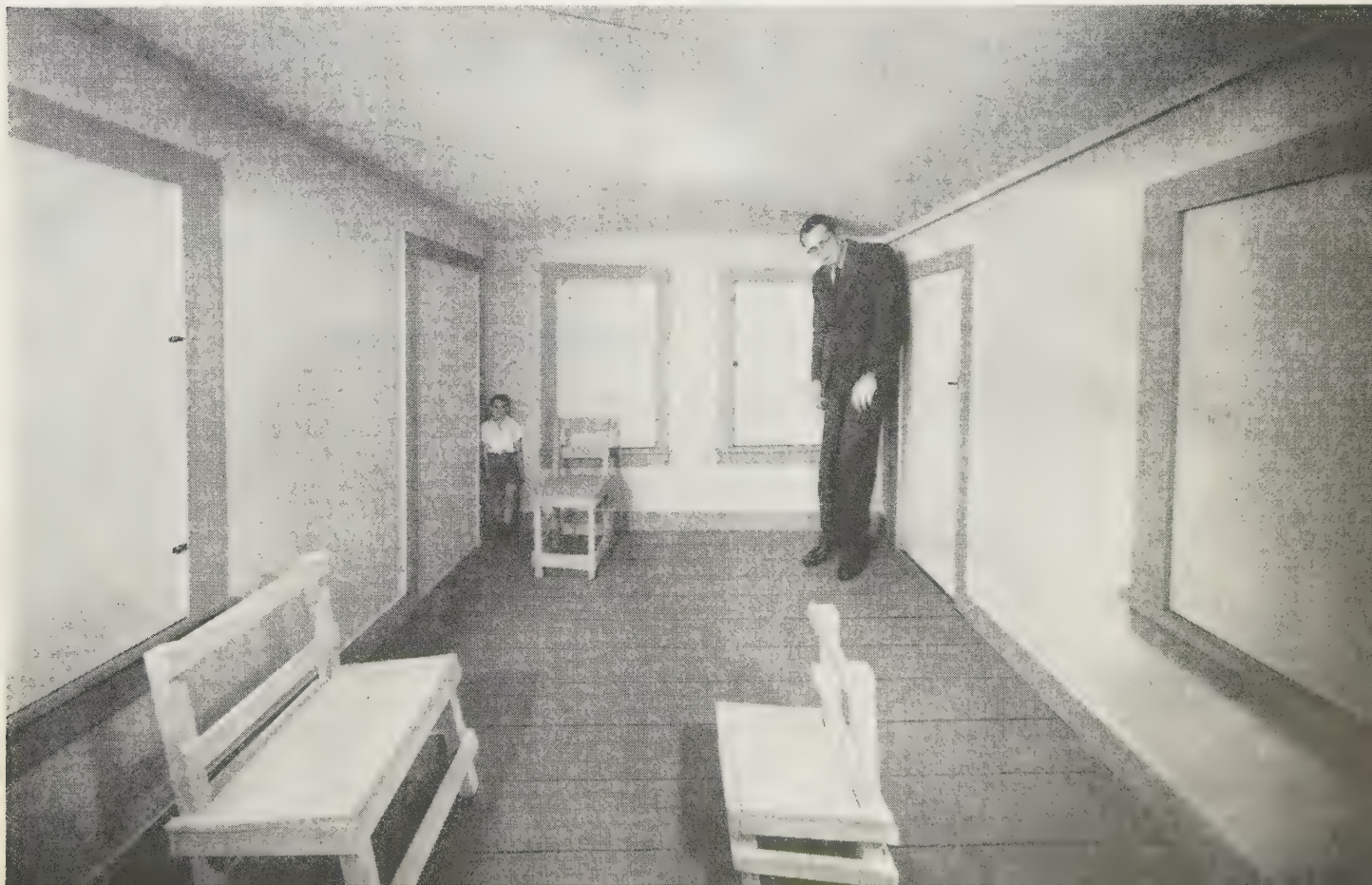
**Psychology.** John C. Flanagan and a number of others extended the use of the critical incident technique to a variety of psychological problems during 1950. The critical incident is a report by a competent observer of something a person did on a job which was outstandingly effective or ineffective in getting the job done. The systematic collection of such incidents provides the basis for establishing the critical requirements for that job. The critical incident technique is thus a specialized type of job analysis which emphasizes factual reports of observations of behaviour that are crucial to successful work performance.

One example of an effective incident collected in a study of research in the physical sciences was as follows:

In tests of a new aviation device, complaints were made that a recording accelerometer was "no good because it was affected by vibration." This engineer recognized that the complaining personnel might be overlooking very important data on structural strength. By analyzing the accelerometer data and comparing them with laboratory data he proved conclusively that the vibratory accelerations were of dangerous magnitude. His arguments were subsequently verified by a serious structural failure caused by vibration fatigue in this equipment.

Flanagan and his colleagues at the American Institute for Research studied 3,347 such incidents. As a result of their systematic classification, the following eight major areas of a scientist's work, critical for his success or failure, were named: (1) formulating problems and hypotheses; (2) planning

**TILTED ROOM** used by the psychology department of Princeton university in 1950 to teach the distinction between vision (mechanical) and perception (interpretive). Here, the distorted room is perceived as normal and the six-foot man seems three times as tall as his five-foot son





and designing the investigation; (3) conducting the investigation; (4) interpreting research results; (5) preparing reports; (6) administering research projects; (7) accepting organizational responsibility; and (8) accepting personal responsibility.

A check list for appraising effectiveness of research personnel and a selection procedure for predicting research ability in the physical sciences were then constructed. Both covered the eight areas originally identified by classification of actual critical incidents.

The preceding incident which was cited was an effective example of "formulating problems and hypotheses."

Other scientists used the critical incident technique in as widely varied fields as the determination of the requirements for successful work in dentistry and the development of a code of ethical practices for psychologists. The influence which this technique might have on future work was indicated by the fact that the critical incident technique was one of the most frequently discussed topics at the 1950 meeting of the American Psychological association.

Harold Gulliksen, in his *Theory of Mental Tests*, brought together the hitherto widely scattered material on the theory and statistical methods basic to the construction of good psychological tests. To a closely written integration of earlier material, Gulliksen added a number of his own contributions, including excellent discussions of the logic of item analysis, of the purposes to be served by item analysis and of prospective developments in item-analysis techniques.

John L. Kennedy and a group of collaborators at Tufts college, Medford, Mass., produced the first systematic handbook in the rapidly expanding field of human engineering ("Handbook of Human Engineering Data for Design Engineers," Technical Report No. SDC 199-I-1, NavExosP-643, Special Devices Center: copyright 1949 by the Trustees of Tufts College). Engineers and physical scientists had invented such complex machines and systems of machines that the limits of efficiency are set by the human operator rather than by the machine. "Handbook of Human Engineering Data for Design Engineers" was written to help the engineer increase accuracy and efficiency by tailoring his machines to human capacities. It brought together information on measurements of the human body, vision, audition, skin sensitivity and proprioception, motor skill, intelligence and the physiological conditions which affect efficiency. The section on motor responses illustrates the type and organization which the handbook presented. It gave the basic concepts and the principal characteristics of motor responses, the factors which influence the efficiency of motor performance and the principles of motion economy. Results of experiments and measurements were summarized in tables, graphs and brief abstracts.

The handbook offered the engineer a ready reference source to use when a control movement on a device he is developing can be made in this direction or that, when a signal can be presented to the ear or to the eye, in red light or in some other colour, as a steady or as a flickering light, and so on. By taking advantage of what is known concerning the speed, precision, adaptation and other characteristics of behaviour under different conditions, machines can be built which their operators can handle with greater efficiency, fewer errors and less fatigue.

Samuel A. Stouffer and his colleagues completed the "Studies in Social Psychology in World War II" series with publication of volume 4 (Samuel A. Stouffer, Louis Guttman, Edward A. Suchman, Paul F. Lazarsfeld, Shirley A. Star and John A. Clausen, *Measurement and Prediction*). Unlike the first three volumes of the series, which emphasized the highly significant studies of soldier attitudes and mass communication conducted by the

army's information and education branch during World War II, volume 4 was devoted to methodology. It gave the most detailed account available of scale theory and associated working procedures, for which Guttman was primarily responsible, and the theory of latent structure analysis, for which Lazarsfeld was primarily responsible. Both of these developments represented efforts to treat qualitative data in a rigorous fashion developed specifically for qualitative instead of for quantitative data.

The more radical departure from earlier work, according to Stouffer, was represented by Guttman's thinking concerning scalable attitude areas. An attitude area is considered scalable if it is possible to arrange the items of a test or questionnaire in an order in which all persons answering a question favourably have higher ranks than do persons answering the same question unfavourably. This result can be obtained only if the items have a cumulative property which is simply illustrated by three questions on height:

- |                                       |       |      |
|---------------------------------------|-------|------|
| 1. Are you over 6 feet tall?          | — Yes | — No |
| 2. Are you over 5 feet 6 inches tall? | — Yes | — No |
| 3. Are you over 5 feet tall?          | — Yes | — No |

Anyone answering yes to item 1 must also answer yes to items 2 and 3. Anyone answering yes to item 2 must also answer yes to item 3. Thus if a man's score is the number of items to which he has answered yes, we know exactly which items have been answered yes. A score of 1, for example, can have only one meaning: items 1 and 2 were answered no and item 3 was answered yes.

Frequently it is impossible to find an order in which the items possess the cumulative property necessary for a scale. But sometimes that is possible and sometimes a scale can be constructed consisting of part of an original set of items. When a scale can be constructed, a very small number of selected items suffices to define each respondent's position on an attitude continuum.

Together, these four quantitative developments advanced the science of psychology measurably in 1950. (See also PHYSIOLOGY; PSYCHIATRY; PSYCHOSOMATIC MEDICINE.)

FILMS OF 1950.—*Am I Trustworthy, Appreciating Our Parents, Are You Ready for Marriage?, Better Use of Leisure Time, Control Your Emotions, Developing Friendships, Developing Imagination, The Fun of Being Thoughtful, Good Sportsmanship, How Do You Know It's Love, How Honest Are You?, How to Get Cooperation, How to Observe, How to Remember, How to Think, How We Cooperate, Let's Share with Others, Overcoming Worry* (Coronet Instructional Films); *Can Animals Think* (Almanac Films, Inc.); *Careers for Girls* (March of Time Forum Films); *Child Care and Development, Children's Emotions, Choosing for Happiness, Frustrated Student, It Takes All Kinds, Marriage Today, Principles of Development, Stay-In, Who's Boss* (McGraw-Hill Book Co., Text-Film Dept.); *Counseling—Its Tools and Techniques* (Carl F. Mahnke Productions, Vocational Guidance Films, Inc.); *Glen Wakes Up* (Young America Films, Inc.); *Obligations* (Simmel-Meservey); *Unconscious Motivation* (Association Films, Inc.). (H. M. WE.)

**Psychosomatic Medicine.** During the decade 1940–50 Harold Wolff and his associates at the New York hospital carried on an active research program dealing with the emotions, life situations and disease. Many important contributions on psychological-physiological relationships were made and among these one of the most important dealt with the cardiovascular system. The accomplishments of Wolff and his group were reviewed in a lengthy article with regard to the cardiovascular apparatus as one subjected to a series of adaptive and protective reactions. If the adaptive and protective patterns are maintained unduly long or if the reacting organs are weak, or already operating under strain, or if the protective reactions exert an additive effect with other stresses, then the system may collapse. As part of the reaction to stressful life situations, notably those associated with tension, frustration, conflict, anxiety and depression, the cardiovascular apparatus exhibits both hyperdynamic and hypodynamic responses. These include alterations in the rate, rhythm, force and magnitude of cardiac contractions, changes in the electro-



cardiogram and modifications in the peripheral circulation. At the same time the respiratory apparatus is affected, and the changes in the visceral circulation, notably the kidney, may affect other vital functions, further jeopardizing the health and survival of the organism. Detailed physiological studies were made documenting these changes which indicate that psychic stress may burden the normal as well as the diseased heart and in the latter may bring about or hasten heart failure.

Studies on ACTH and cortisone (pituitary and adrenal hormones) called attention to the general adaptation syndrome of Hans Selye. Selye postulated that exposure of the organism to stress (any nonspecific noxious stimulus of sufficient intensity) may result in sufficient liberation of toxic substances to cause the first stage of the syndrome, that is, the alarm reaction. Certain bodily changes occur. In the first or shock stage there is rapid heart action, increase in muscle tone and body temperature, lessening of urine output, changes in the blood, as well as certain changes in other organs and tissues. If the damage is not too severe the pituitary gland is stimulated to discharge adrenocorticotrophic hormone which, in turn, stimulates the adrenal gland to produce a cortical hormone. This apparently raises the resistance of the body in what is known as the second phase of the alarm reaction, viz., the counter-shock phase, which is characterized by an enlarged and hyperactive adrenal cortex plus certain lymphatic organ changes. Now the signs characteristic of the shock phase undergo a reversal. A final stage of the syndrome appears after prolonged exposure to stress and this is called the stage of exhaustion and is attributed to a failure in the adaptive mechanisms. When this occurs the changes characteristic of the alarm reaction reappear and death ensues. With the concept of the general adaptation syndrome Selye attempted to integrate a number of seemingly unrelated observations into a single unified biological system. The keynote of unification is the tenet that all living organisms can respond to stress as such and that in this respect the basic reaction pattern is always the same, irrespective of the agent which produces the stress. This response is called the general adaptation syndrome and its derailments, the diseases of adaptation. Anything that causes stress endangers life, unless it is met by adequate adaptive responses; conversely, anything that endangers life causes stress and adaptive responses. Adaptability and resistance to stress are fundamental prerequisites for life, and all vital organs and functions participate in them.

In another paper Selye and Claude Fortier called attention to the fact that important alterations in the morphology and function of the nervous system can result from hypo- or hyperactivity of the pituitary-adrenal system, the main endocrine regulator of adaptive processes, and that the coexistence of disordered endocrine mechanisms with psychoneurotic or psychotic states suggests some relationship between pituitary-adrenal and mental processes. The precise nature of this relationship was not yet established. It had been observed that stimuli of a neurogenic or psychogenic nature are particularly potent activators of the pituitary adrenocorticotrophic function and produce rapid and intense alarm reactions.

The clinical use of cortisone and ACTH in rheumatoid arthritis had in several instances apparently produced beneficial alterations in the mental state of the patient which could only be attributed to the action of the drug itself and this opened up a vast field regarding the possibility of influencing mental illness by these new hormones. However, such studies were just beginning and awaited further investigations. (See also MEDICINE; NERVOUS SYSTEM; PSYCHIATRY; PUBLIC HEALTH SERVICES.)

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149-157 (May-June 1950); Harold G. Wolff, "Life Stress and Cardiovascular Disorders," *Circulation*, 1:187-203 (Feb. 1950). (E. Ws.)

**Public Assistance:** see CHILD WELFARE; RELIEF; SOCIAL SECURITY.

**Public Health Engineering.** The year 1950 was an appropriate time to note one of the two most dramatic victories of public health, namely the control of diseases transmitted by arthropods. Insect control to prevent human diseases had been carried on for approximately half a century. The accomplishments were matched only by the control of other diseases by protective immunization. In a few instances it had actually been possible to eradicate a particular type of insect vector from a particular region of the globe. This was achieved with *Anopheles gambiae* in north-eastern Brazil. Almost complete elimination of malaria had been accomplished with almost complete elimination of anophelines in Sardinia, Cyprus and Tobago. Chile claimed to be the first American country to have exterminated both malaria and anophelism.

This change was brought about, not so much by intentional antimalarial campaigns, but by elimination of breeding places through agricultural drainage and the protection of man through generally better physical environment, such as houses. In the entire United States, malaria had become a vanishing disease. As in typhoid control and other environmental successes, the price of freedom from malaria was constant vigilance. In less fortunate areas of the world, where such progress had not been made, the control of insect vectors remained the number-one health problem.

The last confirmed case of yellow fever originating in the Canal Zone or the republic of Panamá was reported by William Gorgas on May 22, 1907. Until 1949 it was believed that yellow fever was nonexistent in Panamá. In that year, however, seven known yellow fever deaths were recorded. It was curbed by immunizing 500,000 of the total population of 600,000.

A large number of newer economic poisons had become available for control of insect-borne diseases. They included the chlorinated hydrocarbons such as DDT and its analogues; benzene hexachloride; lindane; chlordane; toxaphene; and the familiar pyrethrum and some of its derivatives.

A new and curious source of infection was emphasized in the contamination of shellfish by wastes discharged or flowing from duck farm operations. In one area of the United States about 20 farms produce more than 2,000,000 ducks annually. The waste carried significant numbers of pathogenic organisms potentially dangerous to man and recovered in shellfish taken from waters polluted by duck farms.

The hazards in the use of radioactive materials and their control were receiving increasing attention. A specific example of successful control of such a hazard was in shielding radioactive static eliminators used on printing presses and in other industrial operations. In order to free static electric charges created by machinery in motion, radium-containing bars were used. Protection against their gamma and in some instances beta radiation was accomplished by care in locating the bars and by adequate monitoring and medical supervision of the workers.

Radiological health was receiving increasing attention, not to attempt the avoidance or the elimination of all radiation exposure, but to apply intelligent care in dealing with high-energy radiation. The recommended maximum permissible dose of 0.3 roentgen per week for repeated or sustained exposure was generally accepted as sufficient to prevent any injury to an individual within a normal lifetime. Medical, research and industrial applications of X-rays, radium emanations and other types of high-energy radiations had expanded rapidly, with the



potential exposure of increasing numbers of technicians, radiation workers, radiologists and even the general public. The U.S. Atomic Energy commission led the way in developing standards for radiological protection. Its accomplishments were notably successful. The report of the commission of July 1950, entitled *Control of Radiation Hazards in the Atomic Energy Program*, contained invaluable hints for the public health engineer.

The problem of air pollution assumed increasing significance to the public and to professional workers. The effects of sulphur dioxide, fluorides, fly ash and other air contaminants were intensively studied. These efforts were accompanied by the passage of legislation in several North American states and by increased emphasis upon micrometeorological or small-scale weather phenomena.

New interest was developed in the commoner forms of gastroenteritis resulting from contaminated water, milk and other foods. Control of the situation was inadequate because of poor diagnostic terminology, inadequate laboratory diagnoses and insufficient epidemiological information.

Health department interest in home accidents was rising, on the belated recognition that accidents in the United States killed 15 times as many children as died of poliomyelitis in nonepidemic years. Deaths and injuries from accidents in all ages were 60 times greater than for poliomyelitis. Home accident prevention was recognized as a joint enterprise of the health officer, the engineer and the educator.

The incidence of human murine typhus fever and the abundance of rat fleas were significantly reduced as a result of county-wide DDT dusting of rat runs and harbourage in southern Georgia and in Texas. An additional method of controlling the general problem of rodent-borne diseases became available.

Discovery of the first cases in America of human beings contracting rabbit fever from a domestic water supply was announced. Four human patients had contracted tularemia from drinking water on a Montana ranch. None of the four had come in close contact with rabbits or other rodents. Tests of the water supply showed the wide presence of the tularemia organisms. The same experience had been reported several years previously in the U.S.S.R.

(See also CHILD WELFARE; EPIDEMICS; INDUSTRIAL HEALTH; PUBLIC HEALTH SERVICES.)

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**FILMS OF 1950.**—*Eternal Fight* (United Nations, Films and Visual Information Division); *Every Drop to Drink* (British Information Services).

**Public Health Services.** About 25,000,000 persons, more than one-sixth of the population in the United States, were estimated to have chronic diseases in 1950. About 7,000,000 of these had appreciable disability from illness, while 1,500,000 were invalids. Each year chronic diseases were causing nearly 1,000,000 deaths, and were responsible for the loss of almost 1,000,000,000 days from productive activity.

Public health workers continued to direct their efforts toward the control of chronic diseases, the most important of which are heart disease, arteriosclerosis or hardening of the arteries, high blood pressure, kidney disease, tuberculosis, syphilis, cancer and diabetes. Based upon the fundamental public health concept that early detection, early diagnosis and adequate treatment can accomplish substantial reduction in disability and deaths resulting from chronic diseases, a new technique called multiphasic screening examinations was being employed in the

war against chronic illness. These examinations included chest X-ray for detection of tuberculosis, heart disease and other lung pathology; blood examinations for syphilis, diabetes and anaemia; height, weight and blood pressure measurements; a two-lead electrocardiogram; vision and hearing testing; and a special eye test in adults to detect the presence of glaucoma, a dangerous eye disease.

Large population groups could be screened economically, safely and rapidly under such a program. Many thousands of cases of diabetes, syphilis, tuberculosis, heart disease, anaemia and the other diseases for which the tests are made, and which otherwise would not be discovered, may be found under such a program and early treatment may be started.

**Poliomyelitis.**—In a carefully controlled study of contacts to a case of poliomyelitis in a nursery, F. M. Schabel, Jr., A. E. Casey, W. I. Fishbein and Helen T. Smith found indications that, under proper conditions, close contact and a susceptible population, a high percentage of those exposed to poliomyelitis virus become infected. This study offered additional evidence that poliomyelitis is a common contagious disease.

**Tuberculosis.**—In a further endeavour to control tuberculosis, BCG (*Bacillus-Calmette Guérin*) vaccine was used in some parts of the country. There was no general agreement, however, as to the indications for use for this vaccine.

R. J. Anderson and C. E. Palmer clarified the subject by stating that mass vaccination programs are warranted only for carefully documented evaluated studies. Otherwise, the most that could be suggested at this time was its use in selected groups in which known exposure existed. Such projects should be designed with the possibility of contributing to knowledge of the subject, or of at least avoiding interference with studies under way or proposed. Whatever the use of BCG vaccine, however, no one should place reliance in it to the extent of relaxing the prosecution of accepted tuberculosis control methods for the community and the individual.

**Arteriosclerosis.**—With the reduction in infant mortality, improved sanitation and the control of communicable diseases such as diphtheria, typhoid fever and scarlet fever, many people who years before would have died of such diseases are living into the middle and older age groups. At this period of life they are subjected to the so-called degenerative diseases, among which arteriosclerosis, or hardening of the arteries, is the most common. Evidence in 1950 indicated that the metabolism, or the burning of fat in the body, is in some way associated with the development of arteriosclerosis. In certain conditions such as diabetes and overweight in which there is a derangement of fat metabolism, the incidence of arteriosclerosis is greater than in people without these conditions.

During 1950 experimental evidence indicated that the use of certain derivatives from vitamin B, such as choline and inositol, together with a diet low in fat, might be of value in delaying the onset and progression of arteriosclerosis. (See also EPIDEMICS; FEDERAL SECURITY AGENCY; INDUSTRIAL HEALTH; MEDICINE; and articles on specific diseases.)

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**Great Britain.**—The gross cost of the national health service in 1948-49, the first year of its operation, was £368,000,000 with a net cost to the taxpayers of £278,000,000, the other £90,000,000 being contributed from the National Insurance fund (£41,000,000) and met from superannuation contributions and recoveries from regional hospital boards. The revised estimate for 1949-50 was £450,000,000 as against an original estimate



of £352,000,000. For 1950-51 the cost was estimated at £484,000,000. In 1946, when the National Health Service act was passed, the service was believed to be costing £160,000,000 a year. There was considerable pressure by the doctors for increased remunerations, but without results. The general practitioner service accounted for 12.3% of the total expenditure in 1948-49, but for only 10.5% in the estimates for 1949-50, the cost in the latter year being £47,100,000, or less than that of the dental service.

The number of general medical practitioners was increasing at the rate of about 300 a year but their distribution throughout the country was not entirely satisfactory. The Medical Practices committee, a statutory body appointed under the National Health Service act to regulate the distribution of doctors, pointed out that one of the chief difficulties encountered was that doctors who wished to start new practices and local executive councils which were anxious to attract doctors were repeatedly baulked by the difficulty of obtaining suitable premises from which a practice could be conducted. A second complete review of the situation in the whole country was undertaken and fresh schedules published of "underdoctored" and "overdoctored" areas. An experiment was planned with the co-operation of the British Medical association, the ministry of health and the Medical Practices committee for one large county area where there was a shortage of doctors. In assessing the general position, it may be noted that there was an average of one general medical practitioner for 1,789 patients in the London area (without counting assistants) but in March 1950, 206 doctors were found to have lists of patients exceeding the maximum of 4,000 prescribed by law for one doctor. In one wealthy London borough, the average was one doctor for 525 patients; in some boroughs in east London there were 3,000 patients to one doctor.

Further consideration was given to the expenditure on drugs and appliances which increased from £23,600,000 in 1948-49 to £35,300,300 in 1949-50. The government did not, however, bring into operation the power given by parliament to make a small charge for each prescription, though the minister of health sought the co-operation of medical practitioners in the prevention of wasteful prescribing. The number of prescriptions made up by pharmacists in 1949-50 was 200,000,000 compared with an estimate of 149,000,000. There was growing criticism of the large payments to dentists which increased from £29,100,000 in 1948-49 to £48,600,000 in 1949-50, and the minister of health made regulations providing for an interim reduction of 10% in their remuneration.

The lack of sound financial control and the absence of effective co-ordination between its different branches were the two great unsolved difficulties of the health service. An official committee was therefore set up to study means of securing co-operation between hospitals, general practitioners and the local health service.

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**FILMS OF 1950.**—*Behind the Menu* (National Film Board of Canada); *Guardians of Our Country's Health*, *United States Defense against Foreign Plague* (Frith Films); *One Man's Story* (British Information Services). (JN. M.)

**Public Housing Administration:** see HOUSING.

**Public Libraries:** see AMERICAN LIBRARY ASSOCIATION; LIBRARIES.

**Public Utilities.** The outbreak of the Korean war roughly divided the year 1950 into an earlier half,

**LINEMEN** doing emergency repair work after locating a break in the electric power lines in northern California, where a series of four blizzards threatened to disrupt power distribution in Jan. 1950





which was still dominated by the trends of postwar reconstruction, and a later half conditioned by the defense emergency. This transition also coloured events in the public utility field in the United States.

So far as they affected public utilities, the Hoover Commission on Organization of the Executive Branch of the Government recommendations were included among 21 plans submitted to congress by Pres. Harry S. Truman on March 13, 1950. Only nine of these were concerned with agencies having a public utility jurisdiction, three affecting the departments of interior, agriculture and commerce and six affecting federal regulatory commissions. Most of these failed of adoption in whole or in part. The plan reorganizing the department of the interior centralized all responsibility by vesting in the secretary the functions of all officers, employees and offices but authorized the delegation of their functions. Apart from the creation of minor cabinet officials, the plan as approved was more significant for what it failed to do. It did not establish, as recommended by the Hoover commission, a national public works board, nor transfer the civil functions of the United States corps of engineers, which would have made interior the dominant conservation agency. In like manner, the responsibility of the secretary of commerce was heightened. However, he lost the Inland Waterways corporation but gained the regulatory functions of the maritime board and the operating functions of a maritime administration from the maritime commission, which was abolished. The Hoover commission recommendations that all nonregulatory transportation activities, like the business operations of the maritime commission, the safety, car service and consolidation planning functions of the Interstate Commerce commission, be transferred to the commerce department failed of adoption, at least in large part.

Early in 1950, the United States supreme court decided *Federal Power Commission v. East Ohio Gas Co.* (338 U.S. 464). Although the Natural Gas act of 1938 exempted the local distribution of natural gas from federal jurisdiction, in this case such jurisdiction was extended over a gas distributing company operating entirely within Ohio. By using what is, in effect, the original package doctrine, the court held that, by taking delivery of the gas at the border and transmitting it for long distances before reducing the pressure and letting it flow into its local distribution network, the company was engaged in interstate commerce since the prior movement of the gas had not come to an end. Applying the reasoning of the court in this case, the Federal Power commission expanded its jurisdiction into situations involving local gas distribution, which state commissioners and the industry generally had always regarded as within their purview.

The most significant conflict, however, again arose over the question whether congress intended to exempt from the provisions of the Natural Gas act the independent operators who produce or gather and sell natural gas "at arm's length" to natural gas companies who later transmit it in interstate commerce. The commission had issued an order to reassure the independents that they could sell such gas without apprehension that they might become subject to its jurisdiction. To reaffirm such exemption by amending the act, congress passed the Kerr bill in 1950, which was vetoed by President Truman. Thereupon, on Aug. 17, 1950, the commission rescinded its general order and proceeded to throw the entire independent field open to special investigations to ascertain jurisdiction beginning with the major companies. In view of the low prices for transmitted natural gas resulting from the evaluation of such gas on a cost basis, when owned by the regulated pipe-line companies, natural gas had been displacing artificial gas as well as other substitute fuels at a tremendous rate. With the prospect of further expansion in the use of natural gas into formerly unserved areas, such as New England and some seaboard southern states, the disparity be-

tween gas prices and oil prices would be further emphasized. The issue, therefore, was whether these competing fuels should be permitted to seek price adjustments in an open market.

On Jan. 3, 1950, the president appointed a seven-member commission to investigate facts and policies with respect to the present utilization and further development of the water resources of the U.S. and to recommend desirable legislation or changes therein. The report covered generally problems in connection with water resources management and land reclamation. Insofar as the recommendations related to public utilities, properly so called, the report recommended that federal agencies use the river basin approach of co-ordinating public utility functions with other functions, procedures most commonly associated with the Tennessee Valley authority (*q.v.*). What was perhaps most significant from the point of view of the privately owned segment of the power industry was the recommendation: "No licensing of private power projects which interfere with the full accomplishment of comprehensive multiple purpose development of river basins, including marketing of the power incident to such programs . . . should be permitted." On the other hand, water supply for municipal purposes "should continue to be primarily a local responsibility, including intercommunity cooperation through the formation of metropolitan water districts to make possible area-wide coordination of water supply sources to meet the needs of an increasing population." Moreover, water supply, like power supply, should constitute a "fully reimbursable service" of multiple purpose projects. The most problematical and far-reaching suggestion of the committee was that waterways be fully developed and integrated with all other forms of transport into a fully reimbursable segment as to cost.

The shadows of war were traceable in the Atomic Energy commission's power requirements in its expanding atomic energy program, particularly for its new plant at Paducah, Ky. According to plans and contracts consummated before the end of the year, TVA and a consortium of five neighbouring power companies, organized as "Electric Energy, Inc.," would each supply approximately one-half of a 1,000,000-kw. requirement. Similarly, the denial of a licence to the New York State Power authority by the Federal Power commission to develop the U.S. portion of the St. Lawrence international power project was significant. The requirement of the seaway portion of this project for the transport of iron ore from eastern Canada and elsewhere to the inland steel industry, was back of this action by the commission and of its recommendation to congress that the United States itself develop the entire project.

A record of new installations of 6,700,000 kw. was set up by the utility industry for 1950. With this went a generation of 328,000,000,000 kw.hr. to meet all-time highs in the energy requirements of a rapidly advancing war economy. (See also DAMS; ELECTRICAL INDUSTRIES; FEDERAL POWER COMMISSION; RAILROADS; RURAL ELECTRIFICATION; TELEGRAPHY; TELEPHONE; TENNESSEE VALLEY AUTHORITY.)

(M. G. G.)

**Canada.**—Public utilities in terms of power, transit, telephone and gas were faced in 1950 with such sharply rising demands that capital investment ran to around \$703,000,000, or more than \$50 per capita. The problem faced by such utilities was three-fold: in the 1940-50 period Canadian population rose about 17%; in the same ten years Canada's economy became increasingly industrialized; finally, Canadian wage earners by and large moved into a higher standard of living. Public pressure upon utility services showed no signs of slackening. In the 1945-50 period, consumption of primary power rose 32.7% (and went up 10% in the first two months of 1950), telephones in service increased 34% and consumption of natural and manufactured gas went up 26.6%. Transit companies carried 14,000,000 more passengers in 1949 than in 1948.



Telephone companies continued their expansion programs, the greatest in their histories; although 243,800 new phones were installed in 1949, bringing the total number to 2,690,331, or 19.6 per 100 of population, there remained an imposing waiting list, which was little diminished by 1950 installations.

The federal government gave consideration to piping Alberta natural gas to fuel-hungry industrial areas of Ontario.

(C. Cy.)

**Publishing (Book):** see BOOK PUBLISHING.

**Puerto Rico.** A U.S. insular dependency in the West Indies, Puerto Rico has an area of 3,435 sq.mi. Pop. (April 1, 1950, final census figures) 2,210,703; (1940 census) 1,869,255. According to 1950 population estimates, rural population was 57.9% of total, urban population, 42.1%. Chief cities (with April 1, 1950, preliminary census figures): San Juan, the capital (223,949); Río Piedras (132,369); Ponce (99,190); Mayagüez (58,744); Caguas (33,733); Arecibo (28,500). Languages: Spanish and English. Religion: predominantly Roman Catholic. Governor: Luis Muñoz Marín.

**History.**—On July 3, 1950, the president of the United States approved public act 600 recognizing the right of the people of Puerto Rico to organize a government pursuant to a constitution of their own adoption. In the procedure established by this act, the people of Puerto Rico, through a referendum, would honour or reject this law. If accepted, a general election would be held to choose the persons who would frame the constitution. A further election would be held to approve or reject the constitution framed by these persons.

On Oct. 30, members of the Nationalist party of Puerto Rico started a series of disturbances throughout the island for political reasons. Armed clashes with the police occurred, but in no way did these disorders resemble an armed revolution. A group of Nationalists made an unfruitful attack on the official residence of the governor in an attempt to assassinate Gov. Muñoz Marín. The insular police and the Puerto Rico national guard quickly brought the situation under control. As part of this same movement, two Nationalists attempted the life of Pres. Harry S. Truman.

The Nationalist party comprises a small minority of the population and stands for political independence from the United States at any cost. Unable to get its ideas through by a democratic process it resorted, unsuccessfully, to force.

**Education.**—Total enrolment during 1950 in the public and private schools of Puerto Rico was 444,723. Public schools had an enrolment of 422,128 pupils; private schools 22,595. Enrolment in the public schools was distributed as follows: 317,158 in elementary schools, 90,970 in secondary schools, 1,555 in vocational schools and 12,445 in evening schools. In the public schools the number of teachers, principals and assistant superintendents was 9,220; private schools employed 1,067 teachers. Higher education was carried on by the University of Puerto Rico, the Polytechnic Institute of Puerto Rico, the College of the Sacred Heart and Santa Maria university.

**Banking and Finance.**—Bank deposits on June 30, 1950, amounted to \$261,048,849; bank debits were \$319,462,170; bank loans amounted to \$129,053,915.

Insular government revenues and receipts for the fiscal year 1949-50 totalled \$218,626,004 of which \$121,818,832 was received in the general fund and \$96,807,172 in all other funds. The total disbursements for the same period were \$203,654,358. Of this total, disbursement from the general fund amounted to \$122,436,384 and from all other funds \$81,217,974.

**Trade.**—The total value of imports into Puerto Rico during the calendar year 1949 was \$333,672,371. Of this total, \$309,011,549 (92.6%) were shipments from the United States to Puerto Rico and \$24,660,822 (7.4%) were imports from other countries. The total value of exports for the same period was \$222,375,733 of which \$213,824,654 (96.2%) were shipments from Puerto Rico to the United States, and \$8,551,079 (3.8%) were exports to foreign countries.

**Communications.**—During the fiscal year 1949-50, 60,727 motor vehicles were registered, of which 36,492 were automobiles and buses, excluding government-owned automobiles; 9,365 were heavy trucks; 9,130 were light trucks; 5,740 were other motor vehicles, including government-owned vehicles. The insular department of the interior kept under maintenance as of June 30, 1950, 3,560 km. of roads. During the fiscal year 1949-50, 3,540 vessels arrived at the island with a registered tonnage of



PUERTO RICAN national guardsmen questioning the wife of a Nationalist party leader of Jayuya on Nov. 1, 1950, after a brief but violent uprising in the town; all known Nationalist and Communist leaders were ordered arrested after the revolt

12,080,741 short tons. During the same period, a total of 136,572 passengers arrived at the island, 129,114 by air and 7,458 by water. The total departures of passengers were 170,727; 163,261 by air and 7,466 by water.

As of June 30, 1950, there were 34,509 telephones in service.

**Agriculture.**—During the 1950 crop year, 10,614,633 short tons of sugar cane were harvested. The coffee crop for the crop year 1950 was estimated at 199,000 cwt.

**Manufacture.**—Sugar production for the 1950 crop year amounted to 1,293,947 short tons of raw sugar, 96° basis. Sugar-refining operations in the island yielded 220,385 short tons of refined sugar, 96° basis.

The total production during fiscal year (ending June 30) 1949-50 of some other manufactured products was as follows:

Product	Production	Product	Production
Blackstrap molasses, gal. . .	49,522,486	Beer, gal. . . . .	2,894,836
Distilled spirits, proof gal. .	4,337,955	Heavy clay, tons . . . .	14,055
Cement, bbl. . . . .	2,347,064	Sanitary ware, pieces . .	27,879
Cigars . . . . .	64,648,000	Glass containers, short tons.	24,448

During the year the total amount of construction authorized through building permits amounted to \$35,479,111. Electric power generated for the same period amounted to 539,376,947 kw.hr.

**Employment.**—As of June 30, 1950, the total labour force of the island was estimated to be 771,000 persons. Of this total 664,000 were employed, 246,000 in agriculture and 418,000 in other activities. The estimated unemployment as of this date was 107,000 persons. (See also LAW.) (J. L-EE.)

**Pulitzer Prizes.** The annual Pulitzer prizes in journalism, letters and music, first awarded in 1917, were established at Columbia university by the will of Joseph Pulitzer. The 1950 prizes in letters, five in number and of \$500 each, were awarded as follows: fiction award to A. B. Guthrie, Jr. for *The Way West* (Sloane); biography award to Samuel Flagg Bemis for *John Quincy Adams and the Foundation of American Foreign Policy* (Knopf); history award to Oliver W. Larkin for *Art and Life in America* (Rinehart); poetry award to Gwendolyn Brooks for *Annie Allen* (Harper); drama award to *South Pacific* (Random House), by Richard Rodgers, Oscar Hammerstein II and Joshua Logan.

Eight prizes in journalism, of \$500 each, were awarded as follows: for meritorious public service to the *Chicago Daily News* and to the *St. Louis Post-Dispatch* for articles exposing the presence of Illinois newspapermen on state pay rolls; for local reporting to Meyer Berger of the *New York Times* for his account of Howard B. Unruh's killing of 13 persons in Camden, N.J.; for national reporting to Edwin O. Guthman of the *Seattle Times* for his reports clearing Melvin Rader, University of Washington, of charges of communism; for international reporting to Edmund Stevens of the *Christian Science Monitor* for his series of articles "This is Russia—Uncensored"; for



distinguished editorial writing to Carl M. Saunders, editor of the *Citizen Patriot*, Jackson, Mich.; to James T. Berryman of the *Washington Evening Star* for his cartoon "All Set for a Super-Secret Hearing in Washington"; to Bill Crouch of the *Oakland Tribune*, Calif., for his picture of the near-collision of a B-29 and a stunt flier at an air show.

The Pulitzer prize for music, first awarded in 1943, was given to Gian-Carlo Menotti, composer of the opera, *The Consul*.

(R. E. Bs.)

**Pulp Industry:** see PAPER AND PULP INDUSTRY.

**Pyrite:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Q Fever:** see PNEUMONIA.

**Quakers:** see FRIENDS, RELIGIOUS SOCIETY OF.

**Quebec.** The largest Canadian province is located along the lower St. Lawrence river and extends north to Hudson bay. Area: 594,860 sq.mi. Pop.: (1941) 3,331,882; (1950 est.) 3,976,000. Capital: Quebec city (pop. 1941) 150,757. Chief city: Montreal (q.v.) (pop. 1950) 1,181,955.

**History.**—Two sessions of the legislature under Premier Maurice Duplessis, head of the Union Nationale government, were held during 1950. Major laws of the spring session included: enabling legislation for the province to co-operate with the federal government for housing construction; a grant of \$500,000 to municipalities for fire prevention purposes; approval of a provincial lottery to aid health and education (with action deferred until revision of criminal code of Canada). Most of the bills considered by the autumn session concerned money: authorized fire-devastated Rimouski to float a \$1,000,000 bond issue for rehabilitation; voted an extra \$8,000,000 for agricultural development; raised gasoline taxes from 11 to 13 cents per gallon.

**Education.**—In a report to the legislature on Feb. 22, 1950, the government announced that in the 1944-49 period it built 1,089 schools at a cost of \$30,349,185; granted \$6,542,990 to classical colleges and seminaries; built 18 new schools for training teachers; and repaired 6,295 of 9,161 schools at a cost of \$7,000,000. In 1947 (latest year of revised statistics) total enrolment of Quebec schools was 566,120, with an average daily attendance of 533,765.

**Finance.**—Estimated provincial revenues for the 1950-51 financial year were \$201,349,960, with estimated ordinary expenditures at \$149,952,860, debt charges at \$19,647,000, and capital expenditures at \$31,015,000 (leaving an over-all surplus of \$735,100). On March 31, 1949, the net provincial debt stood at \$299,364,639.

**Transportation.**—In the 1944-50 period the government spent about \$30,000,000 to build or improve 700 bridges. The \$60,000,000 to be raised from the gasoline tax increase over the 1951-53 period was earmarked for a three-year highway expansion program. The government continued to remain aloof from the federal trans-Canada highway project.

**Agriculture.**—Crop conditions of 1950 were better than the year previous, which saw production setbacks caused by drought. Latest revised statistics for 1949 (with 1948 in parentheses) showed butter production at 93,000,000 lb. (96,000,000), concentrated milk 126,000,000 lb. (132,000,000), cheddar cheese 23,700,000 lb. (13,000,000). Population of horses, cattle and sheep was down in 1949 compared with 1948, but that of swine and poultry was up 17% and 10% respectively. The 1949 fruit crops were excellent, with 1,600,000 bu. of apples (up 33% from 1948), 7,500,000 quarts of strawberries (up 44%), and 20,000,000 lb. of blueberries (up 22%).

**Industry.**—Manufacturing continued to hold first place in Quebec's economy, with a gross annual value running over \$2,500,000,000. In the Jan. 1945-July 1948 period 4,883 new industries were established in the province, employing 74,000 additional workers.

**Minerals.**—The government announced that deposits of millions of tons of copper had been found in the Gaspé peninsula, and plans were discussed for government building of roads and development of waterpower to exploit the discovery. The Ungava iron ore deposits remained in the 1950 headlines, with construction starting on a railway from Sept Iles on the St. Lawrence river to the mines. First ore was smelted from the 1949-discovered 200,000,000-ton titanium deposit. Quebec mineral production for the first nine months of 1949 (with 1948 percentage comparisons in parentheses): gold, \$33,383,000 (up 23%); copper, \$27,863,000 (up 27%); asbestos, \$34,629 (down 18%). (C. Cy.)

**Quirino, Elpidio** (1890- ), president of the Republic of the Philippines, was born on Nov. 16 in Vigan, Luzon, and graduated from the University of the Philippines law school in 1915.

He became secretary to Manuel Quezon, who was later first

president of the Philippine commonwealth. Quirino served in the Philippine house of representatives and senate, and in 1936 was named secretary of the interior. He practised law and secretly helped the underground during the Japanese occupation. In 1946 he became vice-president of the new republic, and on the death of Manuel Roxas, on April 15, 1948, Quirino became president. In 1950 he sponsored a political, economic and cultural union of non-Communist states of the far east. His country supported the United Nations' defense of South Korea, and he continued the campaign to obliterate native Communist forces in the Philippines.

**Racing and Races:** see AIR RACES AND RECORDS; AUTOMOBILE RACING; HORSE RACING; MOTOR-BOAT RACING; TRACK AND FIELD SPORTS; YACHTING.

**Radar:** see ELECTRONICS.

**Radio.** There was no appreciable change in the number of radio broadcasting stations operating or under construction throughout the world in 1950, according to the best available estimates. These placed the total at about 6,500, including booster or relay stations but not television and frequency modulation (FM) stations.

The number of radio receiving sets in use throughout the world was estimated unofficially at about 166,000,000 to 171,000,000, a gain of about 10,000,000 over the 1949 figures. Most of these were concentrated on the North American continent, as in the past. Sets in use in the U.S. alone were estimated at 90,000,000 by O. H. Caldwell, editor of *Tele-Tech* magazine. This represented a gain of 9,000,000 over the 1949 U.S. total.

**U.S. Stations and Scientific Developments.**—The year 1950, like the one before it, brought no spectacular expansion in the broadcasting field. The amplitude modulation (AM) or standard broadcast band contained little room for new stations after the unprecedented building program of the first two years following World War II, when stations were added at a rate approximating 500 a year. The public's failure to respond enthusiastically to frequency modulation (FM) broadcasting offered little incentive for entry into the FM field.

*Broadcasting Telecasting Magazine's* box score of station authorizations showed that 3,104 broadcasting stations—AM, FM, TV—were operating or had been authorized by the end of Dec. 1950. This figure compared with 3,138 a year before. But while the number of authorizations declined by 34 during 1950, the number of stations actually in operation at the end of the year was the greatest in history—3,014 as compared with 2,926 at the end of 1949. The 34 authorizations "lost" during the year compared with a decline of 81 during 1949.

AM stations, as always, predominated in the 3,104 broadcast authorizations outstanding. *Broadcasting Telecasting Magazine's* compilation showed 2,319 AM authorizations—a gain of 82 since Dec. 30, 1949. The number of operating AM stations was 2,231.

In FM, the number of station authorizations dropped from 790 to 676, but at the end of December the records showed that all 676 authorized stations were on the air. A year before, however, 743 FM stations had been in operation.

Because of FCC's licensing freeze, there was no change in the number of television station authorizations—109—but during the year the number of these in operation increased from 97 to 107.

In tempo with the slowed pace of new station construction, the rate of applications also dropped during 1950. In Dec. 1949 there were 329 applications for new AM stations awaiting FCC action; in Dec. 1950 there were 263. Of this number, 136 had been set for hearing, usually for the reason that two or more applicants were seeking a frequency which could be assigned to only one.





REHEARSAL for *Goodbye Again*, a 1950 production of the "Theatre Guild on the Air." Shown, left to right, are Linda Darnell, Ezio Pinza, Homer Fickett, director of the series, and Madeleine Carroll

In FM there were 150 applications, of which only six were awaiting hearings. There were 374 applications for television stations, but this figure was not conclusive, for the FCC had urged would-be applicants to withhold their requests until it had completed the broad technical proceedings in which it was engaged.

*Facsimile.*—The facsimile field proceeded quietly in 1950, with about a dozen FM stations engaged in facsimile transmissions. Most of these were newspaper-owned stations, and their facsimile transmissions followed the newspaper style. Technical standards prescribed paper size of 8.2 in., with speeds permitting transmission of 16 letter-size pages per hour.

*Transit and Subscription Radio.*—One of the most significant developments in the FM field was the growth of transit radio—the transmission of special programs (usually music and news) to receivers installed on streetcars and city buses—and related services such as "storecasting" and "factorycasting," which involved similar broadcasting especially to stores and factories. Expansion of this type of FM operation continued in 1950 despite a series of protests which seemed likely to require a ruling by the FCC on the question of its legality. By the end of 1950, transit companies in approximately 19 cities had subscribed to this type of service.

Muzak Corp., which once before had failed to win FCC permission to launch a "pay-as-you-hear" radio service, reactivated its plan with a proposal for subscription FM, telling the FCC in September that it could provide a nation-wide FM service. The FCC had not acted at the end of 1950.

**U.S. Commercial Broadcasting.**—*AM Revenues and Expenses.*—The upward trend of total revenues from AM operations continued in 1949, the latest year for which official reports were available. The 1.67% gain in gross revenues was more than offset by a 4.26% increase in expenses, however, with the result that net income before federal taxes dropped 12.21% below the 1948 figure.

The year's 1.67% increase in total revenues put the 1949 total at \$413,784,633, according to a report issued by the Federal Communications commission late in Nov. 1950.

The report also showed that broadcast expenses reached \$357,521,718, which, deducted from the gross revenue figure, left

broadcast income totalling \$56,262,915 before federal income taxes. The FCC report was based on information supplied by seven AM networks, their 27 owned and operated stations and 1,994 other AM stations, compared with seven networks and 1,824 stations in 1948.

The four nation-wide and three regional networks and their owned stations accounted for \$108,079,704 (26.12%) of the 1949 total revenues, and \$17,473,756 (31.06%) of the net broadcast income before taxes. The 1,994 other stations which filed reports accounted for \$305,704,929 (73.88%) of the total revenues and \$38,789,159 (68.94%) of the net income. By comparison in 1948 the networks and their owned stations received \$109,031,802 (26.79%) of broadcast revenues and \$18,085,191 (28.22%) of net income, while 1,797 other reporting stations accounted for \$297,963,612 (73.21%) of total revenues and \$46,006,493 (71.78%) of net income.

*Receipts from the Sale of Time.*—Time sales, the financial mainstay of broadcasting, reached an all-time high mark in 1949 with a 2.07% increase which put the total at \$425,357,133, compared with \$416,720,279 in 1948. The rate of gain was less than that of the previous year, when time sales climbed 11.9% above those of 1947. Revenues from time sales to network advertisers totalled \$134,898,325, a loss of 4.36% from the 1948 figure, while time sales to national and regional ("spot") advertisers amounted to \$108,314,507 (a gain of 3.39%) and sales to local advertisers totalled \$182,144,301 (a gain of 6.57%).

These figures included commissions paid to agencies, representatives, etc., which broadcasters consider an expense of sale. Commissions, etc., aggregated \$50,307,683, representing little change from the previous year's total of \$50,292,281. (See also ADVERTISING.)

Table I.—Financial Status of AM Broadcasting Industry in U.S.

AM networks and stations	1949*	1948†	Per cent increase (decrease in parentheses)
Revenues, sale of network time . . . . .	\$134,898,325	\$141,052,353	(4.36)
Revenues, nonnetwork time . . . . .	290,458,808	275,667,926	5.37
Commissions to agencies, etc. . . . .	50,307,683	50,292,281	0.03
Revenues from talent sales, etc. . . . .	38,735,183	40,567,416	(4.52)
Total broadcast revenues . . . . .	413,784,633	406,995,414	1.67
Total broadcast expenses . . . . .	357,521,718	342,903,730	4.26
Broadcast income (before federal income taxes) . . . . .	56,262,915	64,091,684	(12.21)

\*Seven networks, 2,021 stations covered in report.

†Seven networks, 1,824 stations covered in report.



**AM Industry Balance Sheet.**—Table 1, prepared from FCC records, provides a comparison of pertinent financial information for the AM broadcasting industry in the calendar years 1949 and 1948.

**Average Station's Finances.**—The average AM station's net income (before taxes) declined 14.29% in 1949, according to the FCC study, which placed average income at \$29,038 per station in 1949 as compared with \$33,879 the preceding year. The study was based on reports from 1,423 "identical" stations. Average pretaxes income ranged from \$276,189 (the average of 53 clear-channel 50-kw. stations) to \$2,591 (the average of 74 local part-time stations). Percentagewise, the part-time locals suffered the greatest decrease in net income, taking a 51.97% drop.

The average income of stations affiliated with nation-wide networks was reported as \$39,824, while that of stations not affiliated with national networks was \$7,982, according to the FCC report. The average network affiliate's income was 16.04% less than in 1948, however, while that of the average nonaffiliate was 7.63% higher than it was in the previous year.

**Broadcast Expenses.**—As in preceding years, programming was the largest item of expense to broadcasters in 1949, accounting for \$134,497,120 of the expense total of \$354,882,577 reported by seven networks and 1,889 AM stations. The FCC study also showed \$116,860,657 in general and administrative expenses, \$54,735,268 in technical expenses and \$48,789,532 in sales expenses. Figures for 132 other stations, which did not have as much as \$25,000 in time sales during the year and therefore were not required to supply the FCC with detailed information, brought the AM expense total to \$357,521,718 for the networks and 2,021 stations, compared with \$342,903,730 for the networks and 1,824 stations in 1948.

The number of AM stations which reported losses from broadcast operations went from 581 in 1948 to 684 in 1949, according to the FCC. The 1949 total represented about 30% of all AM station authorizations outstanding as of Dec. 30, 1949. A majority

of the 1949 losers—516—were stations which were built after World War II, although 129 of the total had been in operation since before 1940. Total losses of the 684 stations were reported as \$9,803,462.

**Tangible Broadcast Property.**—Total investment in tangible AM broadcast properties in 1949 aggregated \$230,587,035, according to the FCC. Of this, the investment of four nation-wide networks and their 11 key stations was reported as \$22,120,239; one regional network and one key station \$670,778 (two regional networks not shown); and 2,005 stations \$207,796,018. The depreciated cost of these properties, after deducting depreciation to date, was placed at \$150,074,292, broken down as follows: nation-wide networks and 11 key stations \$9,594,667; one regional network and one key station \$76,910; and 2,005 stations \$140,402,715.

Table II.—AM Tangible Broadcast Property in the U.S.\*

	1949	1948	Per cent increase
Cost to licensee . . . . .	\$230,587,035	\$201,408,564	14.5
Depreciation to date under ownership of licensee . . . . .	80,512,743	66,745,050	20.5
Depreciated cost . . . . .	150,074,292	134,663,514	11.4

\*1949 figures include four nation-wide networks and 11 key stations, one regional network and one key station and 2,005 other stations. 1948 figures include four nation-wide and three regional networks and 1,824 stations.

**FM Finances.**—There were no auditable figures on FM finances in 1950, primarily because many FM stations were operated in conjunction with AM stations and no clear distinction was made between the finances of the two. Additionally, in many AM-FM cases the FM audience was offered as a bonus with the AM. It was conceded, however, that FM's revenues were still relatively meagre. The FCC made a preliminary report on 1949 FM revenues early in 1950, but did not include these statistics in a final report covering AM and TV revenues.

**Estimated 1950 Time Sales.**—Broadcasting Telecasting Magazine estimated 1950 AM time sales at approximately \$453,600,000, or 6.6% more than the 1949 figure of \$425,357,133. Revenues from the sale of talent, etc., were expected to surpass the 1949 total of \$38,735,183, which would push total broadcast revenues close to the \$500,000,000 mark.

**U.S. Manufacturing.**—Preliminary estimates by the Radio-Television Manufacturers association, representing more than 80% of the industry, placed production for 1950 as follows: home

Table III.—Total FM Broadcast Revenues in the U.S.

	1949		1948	
	Number of Stations	Total FM Revenues (millions)	Number of Stations	Total FM Revenues (millions)
FM stations operated by:				
AM licensee:				
Joint AM-FM operation . . . . .	452	...	516	...
Separate FM operation . . . . .	167	\$1.2	77	\$0.6
Non-AM licensee . . . . .	114	1.6	89	1.1
Total FM stations . . . . .	733	\$2.8	682	\$1.7
Total FM broadcast income (before federal income tax)				
FM Stations operated by:				
non-AM licensees . . . . .	114	—(\$3.5)	89	—(\$3.1)
Industry Total . . . . .		*		*

Parentheses denote loss.  
\*AM licensees operating FM stations reported FM station revenues, if any, separately from AM station revenues. In view of the difficulty of making allocations as between AM expense and FM expense, such licensees were not requested to report separately their FM station expenses. Thus, data with respect to FM expense and income (or loss) were available only for FM stations operated by non-AM licensees.

Table IV.—Time Sales of U.S. Stations

Class of business	1950 (estimated)	1949	Per cent increase (decrease in parentheses)
National network . . . . .	\$121,687,446	\$128,903,467	(5.6)
Regional and miscellaneous networks . . . . .	6,120,750	5,994,858	2.1
National and regional non-network time . . . . .	120,185,348	108,314,507	10.9
Local . . . . .	205,612,178	182,144,301	12.9
Total . . . . .	\$453,605,722	\$425,357,133	6.6

Source: 1951 Yearbook of Broadcasting Telecasting Magazine.



THE WQXR STRING QUARTET broadcasting for the first time after Station WQXR, New York city, moved to new studios in the Times building in April 1950



Table V.—Top Rated Evening AM Network Programs in the U.S.

Program	Rank		Rating*	
	Oct. 1950	Oct. 1949	Oct. 1950	Oct. 1949
Radio Theatre . . . . .	1	1	15.0	21.6
Jack Benny . . . . .	2	2	14.5	19.2
My Friend Irma . . . . .	3	3	13.5	17.7
Charlie McCarthy . . . . .	4	5	12.0	16.8
Godfrey's Talent Scouts . . . . .	5	4	11.6	17.2
Amos 'n' Andy . . . . .	6	7	11.3	15.1
Crime Photographer . . . . .	7	...	11.3	...
You Bet Your Life . . . . .	8	...	11.1	...
Life With Luigi . . . . .	9	...	11.1	...
Mystery Theatre . . . . .	10	8	11.0	...
Fibber McGee & Molly . . . . .	...	6	...	14.5
Walter Winchell . . . . .	...	9	...	15.2
Inner Sanctum . . . . .	...	10	...	14.1
			...	13.9

\*Audience during average minute.  
Source: A. C. Nielsen Company, Chicago, 1951.

radios 8,002,500; automobile radios (11 months) 3,785,297; portable radios (11 months) 1,560,501.

The prospects for 1951 production were not too bright as a result of increasing military demands for electronic equipment in the government's preparedness program. Early estimates placed the civilian production cutback at 10% to 20%, but at the year's end the actual effect of the preparedness program upon the production of radio sets for home use could not be foretold.

Table VI.—Top Rated Daytime AM Network Programs in the U.S.

Program	Rank		Rating*	
	Oct. 1950	Oct. 1949	Oct. 1950	Oct. 1949
Grand Central Station . . . . .	1	10	8.6	7.8
Armstrong Theatre . . . . .	2	...	8.6	...
Cedric Adams (Sat.) . . . . .	3	...	8.3	...
Stars Over Hollywood . . . . .	4	8	7.9	7.9
Romance of Helen Trent . . . . .	5	6	7.6	8.2
Our Gal Sunday . . . . .	6	...	7.5	...
When a Girl Marries . . . . .	7	...	7.3	...
Portia Faces Life . . . . .	8	...	7.2	...
Ma Perkins . . . . .	9	...	7.1	...
Wendy Warren . . . . .	10	7	7.1	7.9
True Detective Mysteries . . . . .	...	1	...	10.1
The Shadow . . . . .	...	2	...	9.8
Arthur Godfrey (Liggett & Myers) . . . . .	...	3	...	9.0
Martin Kane . . . . .	...	4	...	8.8
Arthur Godfrey (Nabisco) . . . . .	...	5	...	8.4
Aunt Jenny . . . . .	...	9	...	7.8

\*Audience during average minute.  
Source: A. C. Nielsen Company, Chicago, 1951.

**U.S. Programs.**—The most popular AM network programs during the third week of Oct. 1950, were as shown in Tables V and VI, according to the A. C. Nielsen Co., which in February acquired the national rating services of C. E. Hooper, Inc. Tables V and VI, segregating the programs between daytime and nighttime, compare the positions held in the third week of Oct. 1950 with those of a comparable week in Oct. 1949.

**Network Programs by Types.**—Table VII shows the general composition of commercial evening programs broadcast by the radio networks in 1950. The table compares the third week of Oct. 1950, with the corresponding week of 1949.

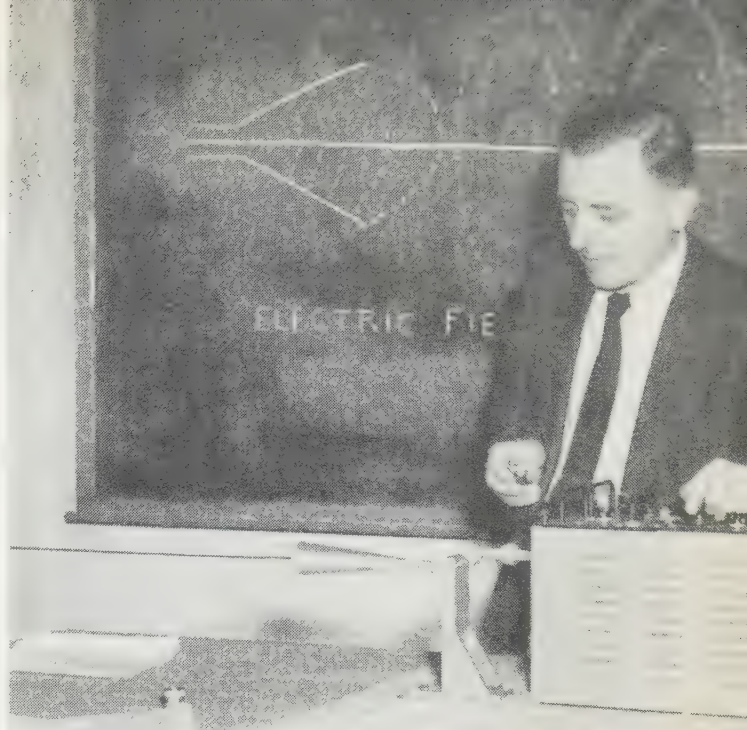
**Program Trends, Special Events.**—The international situation, and particularly the outbreak of hostilities in Korea on June 25, brought an intensification of news interest, and radio expanded its efforts to satisfy the public appetite with first-hand accounts and expert analyses.

On the domestic scene, radio coverage of the November congressional and state elections reached a new high in comprehensive off-year election reporting. Sports continued to provide substantial radio fare. Gillette Safety Razor Co. paid \$800,000 for television rights to the 1950 world series baseball games—

Table VII.—Percentage of U.S. Nighttime Radio Commercial Hours Devoted To Each Program Type

Type of Program	Oct. 1950	Oct. 1949
Mystery drama . . . . .	23.4	21.4
Comedy situation . . . . .	19.5	18.4
General drama . . . . .	12.8	16.0
Quiz and audience participation . . . . .	10.6	14.3
Popular music . . . . .	10.6	10.1
Concert music . . . . .	10.4	4.7
Variety music . . . . .	7.2	9.4
Variety comedy . . . . .	5.5	5.7

Source: A. C. Nielsen Company, Chicago, 1951.



SIMPLIFIED TRANSMISSION LINE developed by Georg Goubau (above), and presented before the Institute of Radio Engineers in March 1950. The simple wire with special insulation and funnel-shaped terminals was designed to replace costly and intricate coaxial cable for many applications

four times the 1949 cost—plus \$175,000 for radio rights.

**U.S. Nation-Wide Networks.**—The number of national U.S. radio networks increased from four to six in 1950. The "old-timers"—American Broadcasting company, Columbia Broadcasting system, Mutual Broadcasting system and National Broadcasting company—were joined by Liberty Broadcasting system, which commenced full-time service as the fifth network on Oct. 2, and by Progressive Broadcasting system, which commenced operations Nov. 26.

**U.S. Organizations; Regulation.**—The National Association of Broadcasters' board of directors voted in Aug. 1950 to expand its sales agency, Broadcasting Advertising bureau, by creation of a "super-B.A.B." supported by a \$1,000,000 budget. At its annual convention, held in Chicago, Ill., in April, N.A.B. also elected William B. Ryan, of KFI, Los Angeles, Calif., as N.A.B. general manager. N.A.B. President Justin Miller in the meantime was given far-reaching powers within the organization.

In March, the formation of Broadcast Audience Measurement, Inc. was begun, a new firm to succeed Broadcast Measurement bureau as the audience measurement organization sponsored by N.A.B., the American Association of Advertising Agencies and the Association of National Advertisers.

The Radio Manufacturers association reorganized at its annual convention in Chicago in June, changing its name to Radio-Television Manufacturers association. R. C. Sprague, of Sprague Electric Co., was elected board chairman and interim president.

To intensify and co-ordinate radio-TV participation in the national defense mobilization program N.A.B., at White House suggestion, led in the formation of an industry-wide Broadcast Advisory council, with Justin Miller as chairman. The Radio-Television Manufacturers association and the National Security Industrial association meanwhile jointly formed the National Electronics Mobilization committee, to co-operate with government officials on mobilization problems.

**Regulation.**—During a great part of 1950 the FCC was preoccupied with the question of colour television. (See TELEVISION.) It disposed—partially—of one of its older and more controversial policy questions in July, however, by ruling that the networks were not violating the FCC network rules by representing affiliates in the sale of advertising. The National Association of



Radio Station Representatives (N.A.R.S.R.) had protested this network activity in 1948. Although it held that the networks were not thus violating existing rules, the commission left for later decision the question of whether the rules ought to be changed.

The FCC also heard arguments on its proposal to adopt a uniform policy which would be applied in all cases where applicants or licensees had violated laws other than those dealing with broadcasting—primarily the antitrust laws. Radio attorneys participating in the arguments, conducted in April, almost unanimously opposed adoption of such a plan, and the question was still pending at the end of the year.

Of potentially great future significance to the over-all regulation of all radio and wire communications—including, of course, broadcasting and telecasting—was Pres. Harry S. Truman's appointment in Feb. 1950 of a temporary Communications Advisory board. This five-man group, headed by Irvin Stewart, president of the University of West Virginia, Morgantown, and a former member of the FCC, was assigned to study the use of radio and wire communications by both government and private agencies, and to recommend methods of achieving economy in the use of frequencies. Late in 1950 the board was considering a proposal to create a permanent, top-level government body which would be known as the National Telecommunications Policy board.

**Inter-American Agreements.**—A protracted series of conferences which had started in Montreal, Que., in the fall of 1949, culminated Nov. 15, 1950, in the signing of a new North American Regional Broadcasting agreement (N.A.R.B.A.) to govern AM broadcast allocations among the U.S., Canada, Cuba, the Bahamas and Jamaica and the Dominican Republic. Mexico, a signatory of the original N.A.R.B.A. (1941-49), withdrew her delegates midway in the second session of the conference, and Haiti was unable to participate at all in the second session, held in Washington, D.C., from Sept. 6 to Nov. 15.

The chief issue in the negotiations involved the demands of Cuba, which the U.S. considered too restrictive on U.S. operations. Bilateral discussions between U.S. and Cuban delegates were held in Havana in February and March, but no agreement was reached until the waning days of the Washington sessions approximately eight months later. The Clear Channel Broadcasting service, representing independently owned clear-channel stations in the U.S., protested that U.S. broadcasting stations and listeners would suffer interference as a result of the agreement, and promised to oppose its ratification when the senate considered it. (See also STANDARDS, NATIONAL BUREAU OF.) (R. W. CR.; S. TF.)

**International Developments.**—The formation of a European Broadcasting union (E.B.U.) was an important event in the field of zonal co-operation. This took place in Feb. 1950 at Torquay, Eng., when accredited representatives of the broadcasting organizations of 21 European countries pledged themselves to active membership of the new union. They were from Belgium, Denmark, Egypt, France, Greece, Ireland, Italy, Lebanon, Luxembourg, Morocco and Tunisia, Monaco, Norway, Netherlands, Portugal, Sweden, Switzerland, Syria, Turkey, the United Kingdom, Vatican City and Yugoslavia. Israel and Finland also took part but postponed any decision concerning adherence.

The eastern European broadcasters, though invited to Torquay, retired to Prague where they formed a body of their own, with which the E.B.U. declared its intention of maintaining friendly relations. The E.B.U.'s headquarters were at Geneva, Switz., with a technical centre in Brussels, Belg. Sir Ian Jacob, director of the British Broadcasting corporation overseas services, was the first president of the E.B.U. and L. Wallenborn, of Switzerland, the first director.

The Copenhagen wave-length plan which aimed at bringing

order out of chaos in the air networks of Europe came into fairly complete operation in March despite earlier misgivings. The technical centre of the new union was quickly at work monitoring and reporting on conditions, especially later in the year when, in the normal course of events, interference became more apparent. As expected, Germany and Austria provided the chief difficulties with Spain a close third. The U.S. had declined to accept the recommendations in the plan so far as they affected the U.S. zone of Germany. The result was that there was broadcasting on 27 frequencies in that zone and on 9 in the other three zones. The long-term effect of this might conceivably have been advantageous since all the broadcasting organizations in western Germany and notably Nord-west Deutsche Rundfunk in the British zone were compelled to experiment with ultrashort waves, which were free from interference. By December, 20 such transmitters were operating and as many again were planned for 1951, although suitable receiving sets were few in number. The immediate effect of U.S. nonparticipation in the plan, however, was disastrous: it was estimated in Bonn at the end of the year that at least a third of the people in western Germany could not receive a single native program clearly and regularly.

Although it was allocated four frequencies at Copenhagen, Austria continued to work on at least 13. Austria's central position and the grouping of its stations round the centre of gravity of European broadcasting made this divergence from the plan a serious one.

The other principal factor compromising success of the plan was the position of Spain. For reasons thought valid at the time and supported by the majority of the delegates at Copenhagen, Spain was not invited to attend. Not unnaturally, Spain did not consider itself bound by the allocations made to that country. With the coming of winter it became obvious that interference from Spanish stations was going to prove a source of nightly irritation to listeners throughout the eastern coastal districts of England and Scotland.

A conference on high-frequency broadcasting—international except for the U.S.S.R. and the eastern European countries who walked out in the first meeting because the Chinese Communist government was not represented—was held at Florence and Rapallo, Italy, during the greater part of the year. After months of hard work and the exchange of much information it was decided that since the demands so greatly exceeded the spaces available in the bands allocated to high-frequency broadcasting by the International Radio conference at Atlantic City, N.J., in 1947, and in view of the international developments during the summer months, all work on plan-making should be discontinued.

The Italian organization introduced a "third" program in October, its program structure, of "light" "national" and "third," thereafter corresponding almost exactly to the British. The Italian "third" ran for two hours each evening offering perfect reception to a third of the listening population. The subject matter, it was declared, would be planned to bring to the microphone not only the world's inheritance of literary and musical masterpieces but also contemporary works showing the vitality of the modern art of writing for broadcasting. Poland's free university of the air was a somewhat similar project but with a more utilitarian purpose, with "The Theory of Dialectical Materialism" and "The History of Workers' Movements" as two of the ten courses which would cover a two-year study period. By the autumn 100,000 persons were listening regularly, many of them in groups organized by the trade unions. Many of the European countries increased their foreign-language broadcasts during the year, the barrage directed to Yugoslavia for instance, from west and east alike, reaching formidable proportions.

**United Kingdom.**—While waiting for the publication of the report of the Beveridge committee on the future of broadcasting



and television, which was expected at end of Jan. 1951, the B.B.C. continued to experiment and to plan for the future both in programs and in technical matters. In the Light program vast audiences listened to poetry programs introduced by the popular entertainer, Wilfrid Pickles, and in the same service children under five were offered, and many eagerly accepted, a program of their own, called "Listen With Mother." The outstanding successes of the Third program were a series of talks by a young Yorkshire and Cambridge mathematician, Fred Hoyle, on "The Nature of the Universe," and a full quarter's theme, expressed in music, readings, drama and discussion, devoted to "The Concept of Liberty."

The B.B.C. made rapid progress in its scheme of providing five main and five satellite television stations designed to serve most of the population of Great Britain. The Birmingham station, which was in 1950 the most powerful television transmitter in the world, successfully completed its first year's operation, with only a few minor technical difficulties. The effective range of the station was considerably greater than had been anticipated. The radio link that was ordinarily used for conveying programs between London and Birmingham in either direction was supplemented by a co-axial cable link installed by the general post office; valuable experience was expected to be gained on the relative merits of these two systems of interconnecting television stations.

The performance of television receivers was appreciably improved, and there was much controversy about the relative merits of those using direct-viewing tubes of large diameter and projection types. For home viewing purposes, the tendency was to use large tubes up to 18 in. in diameter, but several excellent demonstrations were given of the possibilities of projection from a 2½-in. tube to give pictures ranging from 4 ft. by 3 ft. to 20 ft. by 16 ft., the latter being suitable for use in theatres. (See also ADVERTISING; FEDERAL COMMUNICATIONS COMMISSIONS; TELEVISION.)

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**Radiology:** see X-RAY AND RADIOLOGY.

**Railroad Accidents:** see DISASTERS.

**Railroads. United States.**—The demands of the larger volume of tonnage incidental to the accelerated program of national defense and the military needs of the war in Korea were adequately met in 1950 notwithstanding one unfavourable factor: here and there throughout the country there were shortages in the supply of freight cars and consequent delays in getting the goods in transit. To correct this serious deficiency in service the orders for new cars were expanded early in the year and extraordinary efforts were made to bring down the number of cars awaiting repairs as close as possible to the desirable minimum of 4% of the total number. By October the situation was fairly well in hand. During the first nine months of the year 26,237 new cars had been put in service and nearly 100,000 new cars were on order. The number of cars out of service for repairs had been reduced from 7.3% of the total on Oct. 1, 1949, to 5.9% on Oct. 1, 1950.

In one other respect the railroad record of 1950 was unfavourable. The number of passengers killed in train accidents was distressingly high. An Interstate Commerce commission report showed that in the first nine months of 1950 74 passengers lost their lives in train collisions or derailments and 888 passengers were injured. These figures, moreover, did not include the 78 who were killed and the 203 who were injured in the Long Island col-



**GAS TURBINE-ELECTRIC LOCOMOTIVE**, the first built in the United States, shown during a 1950 test run. The 4,500-h.p. unit had more than twice the horsepower of a diesel-electric unit of comparable size

lision of Nov. 22. During the first nine months of 1949 there was only one passenger fatality in train accidents (see also DISASTERS).

The unfavourable earnings trend of U.S. railroads in 1949 was arrested in 1950. The volume of traffic and the earnings, both gross and net, were substantially greater than in 1949, and the net income after payment of charges was more than in any year since 1943. The most important items in the income account of Class I railroads (comprising about 95% of the total mileage) for the 12 months ending Oct. 31, 1950, compared with the calendar years 1949, 1948 and 1944, are shown in the accompanying table. The year 1944 is shown because it is representative of the abnormal conditions of World War II and had the greatest volume of rail traffic, both passenger and freight.

**Condensed Income Account: U.S. Class I Railroads**

	(In millions) 12 months ended Oct. 31, 1950	1949	Calendar years 1948	1944
Total operating revenues . . . . .	\$9,106	\$8,580	\$9,672	\$9,437
Total operating expenses . . . . .	6,912	6,892	7,472	6,282
Taxes . . . . .	1,056	833	1,028	1,846
Net railway operating income . . . . .	959	686	1,002	1,106
Net income after charges . . . . .	711*	438	698	667
Return on investment less depreciation . . . . .	3.99%	2.86%	4.24%	4.73%

\*Estimated.

An analysis of the higher net income of 1950 should, however, take account of the fact that the railroads made gross capital expenditures for additions and betterments in the amount of about \$1,039,000,000. Such gross capital expenditures in 1949 were \$1,312,000,000 and the net addition to the investment account, after allowances for property retired and other charges to operating expenses, was \$747,000,000. There was, therefore, an additional investment of nearly \$750,000,000 on which a return must be earned. The rate of return on property investment, less depreciation, plus working cash and value of inventory of material and supplies, was estimated as fairly close to 4% in 1950; 2.86% in 1949; 4.24% in 1948; and 4.73% in 1944. While the net income in 1950 was favourable in comparison with 1949, the return on the investment was substantially less than the 6% rate which railroad financiers assert is the minimum to support railroad credit and, through the sale of capital stock enable the railroads to finance urgently needed improvements in roadway, track



and other structures, signals and other fixed property. New capital for modern locomotives and rolling stock was readily available under equipment trusts or by lease from two insurance companies which in 1950 embarked on such a program. Of the gross capital expenditures during the first six months of 1950 76% was for equipment and 24% for fixed property.

There were no general increases or decreases in freight and passenger rates during the year. The only changes to be noted were a 21% increase in charges by the Railway Express agency, a subsidiary of railroads collectively; an increase of suburban (commutation) rates on railroads serving the cities of New York and Chicago; and an upward adjustment in the rates paid to the railroads by the post office department for the transportation of mail. Under a compromise agreement between the post office department and the railroads, approved by the Interstate Commerce commission in December, the railroads were to receive back pay in the amount of about \$150,000,000 for underpayments from 1947 to the end of 1950. The ICC, in December, had under consideration the rates to apply from Jan. 1, 1951.

In Dec., 1950, the eastern railroads petitioned the ICC for permission to raise freight rates 4% to offset higher costs of operation. The petition was presented prior to the wage increases for train and yard service employees granted on Dec. 21, which were estimated to add \$131,000,000 per year to operating expenses.

The anti-trust suit instituted by the department of justice in 1944 against western railroads and certain individuals had not been concluded at the end of 1950, but the suit brought against the southern and eastern railroads in 1944 by the state of Georgia, alleging undue discrimination against the state in freight rates, was dismissed on appeal to the supreme court. The petition of the department of justice to the ICC to order reparations (refunds), in the amount of about \$2,000,000,000 for alleged overcharges on government freight moved by railroads in World War II was still before the ICC at the close of the year.

As a counterpart of the Office of Defense Transportation, which during World War II was the government agency to co-ordinate transportation in the interest of national defense, a Defense Transportation administration was created in Oct. 1950 under authority of the Defense Production act. James K. Knudson of the ICC was made director and was given charge of priorities and allocations with respect to rail, highway and inland waterway transportation. The secretary of the interior was given authority in those fields over oil and gas pipelines, and the secretary of commerce was given like powers over commercial air transportation and coastwise, intercoastal and ocean shipping. The activities of these authorities had gone little beyond the organizational stages by the end of the year.

In labour relations, especially the train and yard service unions, the year was one of almost continuous turmoil, with final achievement of substantial gains in a shorter working week and higher rates of pay. The year began with a heavy backlog of unsettled disputes. Direct negotiations between the railroads and the unions, mediation by officials of the federal government, and hearings and reports by fact-finding boards appointed by President Truman, failed to bring the two sides together until late in the year. Strikes, both local and on a national scale, were called, and President Truman under his statutory powers was forced to take over the railroads and assign them to the secretary of the army for operation by existing personnel under army supervision. The railroads as a whole were under that type of government operation at the close of the year.

Apart from a few disputes which were local to individual roads and minor in character there were two principal issues: (1) the demand by yard switching employees for a five-day week (40

hours) with an increase in the hourly rate so that the weekly pay for five days would be as great as that for six days at existing wage rates; and (2) the employment of an additional fireman on multiple-unit diesel road locomotives and a fireman as well as an engineer on small diesels in yard service.

Inasmuch as the five-day week, without loss in weekly pay, had been granted in 1949 to nearly 900,000 nonoperating employees, it was natural that the 120,000 yard employees, who were paid on a time basis, would seek the same advantage, and that the 150,000 men employed on trains and paid on a mileage basis, would ask for more pay without change in the hours of service. The issue, however, was complicated by jurisdictional strife between the Switchmen's union, which controlled about 5% of the yardmen, and the Brotherhood of Railroad Trainmen and the Order of Railroad Conductors, which controlled about 95% of those employees. The two groups would not work together for the yardmen and each sought to get better terms than the other. The S.U. was ahead of the B.R.T.-O.R.C. in carrying through the stages of direct negotiation, mediation and the appointment of a fact-finding board, and was first in a threat to strike, but the B.R.T.-O.R.C. was close behind. When the S.U. called a strike, President Truman in March appointed a fact-finding board and, while hearings were in progress, designated that board to find also the facts in the B.R.T.-O.R.C. dispute, those two unions having also called a strike. The issues in the two cases were almost identical. The board's request for an extension beyond the 60-day limit for its report was refused by the S.U. and the board met the situation by finding in its report on the S.U. dispute that its members should be given the same treatment as the board would recommend in its forthcoming report of the B.R.T.-O.R.C. dispute. Those recommendations were that the five-day week should be granted and that the hourly wage rate should be increased 18 cents. Inasmuch, however, as an increase of 31 cents would be needed if the men were to get as much pay in five days as they had been receiving for six days at the current rate, the board's recommendations were rejected by both union groups.

In subsequent negotiations with the railroads the B.R.T.-O.R.C. group was offered an additional 5 cents per hour (23 cents in all) and an arrangement under which, from Jan. 1, 1951, they would be given an additional 1 cent per hour for every point of advance in the bureau of labour's cost-of-living index. This offer was refused by the B.R.T.-O.R.C.

The S.U. did not spend much further time in negotiations with the railroads. Failing to get what it insisted upon, a strike was called on five western railroads, including the Rock Island. This action, effective June 25, seriously crippled rail traffic and led President Truman to seize the Rock Island for government operation. The strike was terminated on four of the five railroads on July 6 and on the Rock Island two days later. The S.U. then resumed negotiations with the railroads and a settlement was reached, effective Sept. 1, on the terms that had been offered to but rejected by the B.R.T.-O.R.C.—an increase of 23 cents per hour with future adjustments quarterly of 1 cent per hour for each one-point advance in the cost-of-living index.

When the B.R.T.-O.R.C., after further negotiations, failed to reach agreement, a nation-wide strike was called to become effective Aug. 28. This threat of transportation paralysis while the Korean war was in progress forced President Truman to take over the railroads for operation under supervision of army officers and the strike order was revoked Aug. 27. Conferences were again resumed, but as it was apparent that little progress was being made toward settlement the yardmen in Chicago, on Dec. 13, staged a wildcat strike which spread quickly to other cities in the middle west and the east. The strikes lasted only three days. President Truman, in his nation-wide broadcast Dec.



15 had urged the men to return to work, reminded them that the railroads were under government operation, that their action required an embargo on Christmas mail, and that the strike was seriously interfering with the movement of military supplies to Korea.

Further negotiations with the railroads and mediation at the White House level brought about an agreement, with a three-year contract, on Dec. 21. The B.R.T.-O.R.C. yardmen were given an increase of 23 cents per hour, retroactive to Oct. 1, with an additional 2 cents to be given Jan. 1, 1951, and future adjustments were to be geared to the cost of living. This settlement from the union viewpoint was somewhat better than that won by the S.U. and in addition to the concessions to the yardmen the railroads agreed to an increase of 5 cents per hour to engineers, firemen, conductors and trainmen in road service, plus another 5 cents beginning Jan. 1, 1951, with provision for future adjustments on the cost-of-living basis. This settlement, however, although agreed to by the national officers of the four train service unions, was subject to ratification by the general chairmen's committees of the four unions. On Dec. 29 the terms were rejected by the engineers. The other three unions were to make their decisions early in January.

The second major cause of labour disputes in 1950 was the demand of locomotive firemen for the employment of an extra fireman, three men in all, on multiple-unit diesel locomotives in road service. A fact-finding board had found in 1949 that the third man was unnecessary and recommended that the request be withdrawn. This the firemen refused to do and, when they were unable to prevail upon the railroads to meet the demand, a strike was called, May 10, on parts of four selected major railroads. The resultant partial paralysis of rail transportation, on an issue which a presidential fact-finding board had found to be without merit, caused such strong public criticism that the strike was called off after six days. The union agreed to withdraw the demand for the third man on road diesels and the railroads agreed to arbitrate two subsidiary issues. (See also INTERSTATE COMMERCE COMMISSION; UNITED STATES.) (W. J. C.)

**Great Britain.**—Several large-scale schemes of new works, designed and begun by the former four main-line railways, were completed in 1950. Of special note was the great marine station at Southampton docks, costing about £750,000, which replaced a pier destroyed during World War II and was unique in passenger-landing facilities. Primarily designed to handle expeditiously transatlantic passengers of the two Cunarders, the "Queen Mary" and the "Queen Elizabeth," it was opened by Clement Attlee, the prime minister, in August.

Passenger train speeds had not reached the pre-1939 level and the summer passenger services totalled about 80% of the 1939 daily mileage. New standard steam locomotive types were not to appear until 1951, but tests were conducted with various new diesel-electric units and with a gas-turbine locomotive imported from Switzerland.

Falling revenues and rising costs induced the Transport commission to apply for a higher level of freight rates; an increase was granted in May, bringing the average level to 81% over that of 1938. No increase was requested in railway passenger fares. Some adjustments were made in October in the level of passenger fares in the London area chiefly affecting the services of London transport; these were designed to bring in more revenue.

**Northern Ireland and Ireland.**—The financial position of the G.N.R. serving Northern Ireland and Ireland became acute in 1950 and the railway announced its intention to cease service unless a solution, which would involve government action by Ulster, could be found. The G.N.R.'s progressive policy in developing light diesel trains and inaugurating its "Enterprise" expresses between Belfast and Dublin, a service extended to Cork

for the first time, merited better reward. From June the Irish railway (C.I.E.) became a nationalized concern having suffered serious financial deficits during the previous few years. The same chief executive was in charge of the management of both the G.N.R. and the C.I.E. concerns. The latter started to use main-line diesels.

**Europe.**—Financial considerations in France limited construction projects to little more than the rebuilding of war-damaged facilities and the completion of electrification schemes in hand. Conversion to electric traction of the most important French railway artery, Paris-Dijon 196 mi., was completed in September, the southerly section between Laroche-Migennes and Dijon having been finished early in the year. A feature of the rearranged facilities was the ability to use either track, on certain sections, for northbound or southbound traffic, thereby avoiding expensive widening. New electric units of Co-Co type were placed in service, and others of 4,000 h.p. and 2-D-2 type were employed on this heavily graded main line. France could claim the speediest passenger services in Europe in the summer of 1950 when 120 daily runs were scheduled at 60 m.p.h. or over, almost all with diesel or electric traction.

An experimental electrification scheme was completed using the 50-cycle single-phase system on the 48½ mi. Aix-les-Bains to La Roche-sur-Foron section; the results would be studied closely by railways in many countries because, if successful, the costs of electric traction for light traffic lines might be much reduced. The 12-yr. electrification plan of the French railways called for the postwar conversion of 1,125 mi. including the 320-mi. Paris-Dijon-Lyons section of the Paris-Marseille main line: the tonnage of coal saved thereby in a year would be almost 1,600,000, but problems of finance might retard the program. An autonomous railway administration was set up in the Saar.

In western Germany electrification of the Nuernberg-Regensburg 62½ mi. main line was completed in May, thus linking two sections already electrified, and projected conversions concerned the Stuttgart-Karlsruhe and the Karlsruhe-Basel lines.

The Italian state railways completed their vast Termini sta-

"MOVIE COACH" aboard a German express passenger train where U.S. cultural films were shown free of charge in 1950 by arrangement between the U.S. High commission for western Germany and German railway officials





tion at Rome in time for Holy Year traffic and electrification of the Avezzano-Sulmona line was finished in May.

The Swiss federal railways continued widening the Zurich-Sargans line, and were operating 19 trains a day at 60 m.p.h. or more. The Swiss railways had also extended the use of 36-m. rails (118 ft. 1½ in.), and some new Bo-Bo type electric units of improved design came into service. The Berne-Loetschberg-Simplon railway placed in international traffic a remarkable design of lightweight all-metal corridor coach providing a new standard of comfort for 54 passengers on a tare (empty) weight of only 33 metric tons.

Electrification figured largely in the Belgian national railways works program in 1950, a start being made with the Brussels-Ostend line and the extension of the existing Antwerp electrification to Roosendaal (Dutch frontier). The Netherlands railway developments centred primarily on accelerated services giving door-to-door delivery of freight by a highway subsidiary using containers, thus ensuring overnight service throughout the Netherlands.

The Spanish National railways continued construction of the Zamora-Orense-Corunna line, and in Portugal new electric multiple-unit trains improved the service on the Estoril railway. Railway construction and the regauging of narrow-gauge lines continued in Yugoslavia, and some new construction could be recorded in Bulgaria, where the long Yeli Dol tunnel near Klisura, on the Makocevo-Sopot line, was pierced in August.

**Asia.**—India proposed to regroup its various railway systems, but detailed plans had not been published at the end of 1950; in the north the metre-gauge railway link between India and Assam via Siliguri, avoiding Pakistan territory, was opened in January in advance of schedule. The scheme involved considerable new construction as well as the regauging of existing lines. Because of coal supply difficulties Pakistan converted many steam locomotives to oil burners.

Reconstruction progressed in Burma and also in Malaya where civil unrest continued to restrict railway development and services. The Iraq state railways placed in service fine new passenger cars.

**Africa.**—New steam railcar sets using oil-fired boilers appeared on the Egyptian state railways, which had had long experience with this type of traction. The chief railway developments, however, took place in east Africa where the welding together of the Kenya and Uganda and Tanganyika systems, until latterly separate, made good progress. The 131-mi. Mpanda branch in western Tanganyika, begun in 1948 to develop mineral resources, was opened in August. The combined East African Railways and Harbours administration, with lines of metre-gauge, received some heavy 4-8-4 + 4-8-4 Beyer Garratt steam locomotives, together with some lighter Garratts originally intended for Burma.

The line serving Mozambique in Portuguese East Africa had been extended westward and stretched about 300 mi. from that port with further extensions planned to near Lake Nyasa. In the same area the Tete line was opened from Dona Ana, on the Central Africa railway, to Moatize in 1949.

**South America.**—Some of the last company-owned railways in Brazil were nationalized, the sale of the Great Western of Brazil, a British company, being approved in July. The São Paulo railway had been renamed the Santos Jundiá on being taken over by the federal government, and electric traction was inaugurated on the Jundiá-Moocha section of 40 mi. in July. For the newly electrified section Co-Co type traction units were supplied from Britain. The system employed was 3,000-v. D.C.

In Argentina, after nationalization of all the main-line railways, the aim had been to eliminate interrailway competition as on the Buenos Aires-Rosario route: redundant stations were

closed and boundaries between the several railways were redrawn. New 4-8-0 steam locomotives were received from Britain for the General Roca railway, but it was proposed in future to develop diesel traction because of Argentina's oil resources.

**Canada.**—The most striking feature of Canadian railway development was the growing turnover from steam to diesel-electric traction, exemplified by the use of these diesel units by the Canadian Pacific railway on the Vancouver Island and the Montreal-Wells river (Vermont) lines and also for freight traffic on the sections north of Lake Superior. The Canadian National was using 4,500-h.p. diesels on its transcontinental services, and the Pacific Great Eastern, north of Vancouver, proposed to replace steam traction entirely by diesel operation. The Ontario Northland, owned by the province of Ontario, also embarked on a six-year program of conversion to diesel traction.

In July the Temiscouata railway, in New Brunswick and Quebec, was taken over by the C.N.R.; it had long been worked by the latter. A start was made with the construction of a new line from the north shore of the St. Lawrence gulf to develop valuable mineral resources.

**Australia.**—Locomotive fuel problems, labour troubles and shortage of key materials still hindered the efforts of the railways in the several Australian states to improve their services and overtake arrears of track and rolling stock renewals. Financial deficits after payment of fixed charges tended to increase, and there were heavy delays in the delivery of rolling stock ordered from Australian shops. New Garratt locomotives, however, arrived in Queensland, and 35 Pacific (4-6-2) class locomotives reached Western Australia from Britain. In Victoria certain sections in Gippsland were widened and roomette sleeping-cars were inaugurated on the Melbourne-Adelaide service. South Australia was regauging from 3 ft. 6 in. to 5 ft. 3 in. the Wolseley-Mount Gambier line, and Tasmania placed extensive orders for diesel and steam locomotives. The complete gauge standardization plan still hung fire. (See also ELECTRIC TRANSPORTATION.)

FILMS OF 1950.—*Classroom Quiz, No. 1, Classroom Quiz, No. II* (Association of American Railroads); *Diesel Locomotive* (Arthur Barr Productions). (C. E. R. S.)

**Rainfall:** see METEOROLOGY.

**Raisins:** see FRUIT.

**Rama IX:** see PHUMIPHON ADUNDET.

**Ramjets:** see JET PROPULSION.

**Rapid Transit:** see ELECTRIC TRANSPORTATION.

**Rates of Exchange:** see EXCHANGE CONTROL AND EXCHANGE RATES.

**Rayon and Other Synthetic Fibres.** New production records of rayon and other synthetic fibres were achieved in 1950. World production of rayon was expected to reach a total of 3,500,000,000 lb., an increase of 25% over the previous high record of 2,800,000,000 lb. produced in 1941. Production of rayon staple, used in the manufacture of spun rayon yarns, was estimated at 1,600,000,000 lb. or an increase of 50% over that of 1949. This was even greater than the previous high of 1,550,000,000 lb. produced in 1941 when Japan and the European countries were the leading producers.

So great was the demand in 1950 that, in the United States, new records were made in the importation of rayon staple. In the first 11 months of the year, imports of rayon staple reached 80,500,000 lb., compared with 11,200,000 lb. for the same period in 1949. The leading suppliers were France, the United Kingdom and Belgium, and substantial amounts were also received from Austria, western Germany, Japan and Sweden. Imports of rayon filament yarn also reflected the accelerated pace of world production, but the amounts were relatively small compared with



U.S. domestic production.

United States rayon production for the year was approximately 1,200,000,000 lb., an increase of 27% over that of 1949, and representing about one-third of the world production.

**Table I.—United States Rayon Production**  
(In millions of pounds)

	1945	1946	1947	1948	1949	1950
Rayon filament yarn . . . . .	624	677	747	856	800	879
Rayon staple fibre . . . . .	168	177	228	268	178	300

Acetate yarns, both filament and staple, were being used in increasing amounts. In 1939 the average monthly consumption of acetate filament yarn was 8,700,000 lb. In 1950, it was 26,400,000 lb. The change was even greater in respect to acetate staple. In 1939, the average monthly shipment was 500,000 lb. In 1950, it was 9,400,000 lb. There was an increase of 84% between 1949 and 1950 alone.

In 1950 definite steps were taken by the U.S. Federal Trade commission to review its 1937 rules for the identification of rayon fibres, so as to remove acetate type yarns from the rayon classification, reserving the name "rayon" for the viscose and cuprammonium type yarns and classifying the acetate type as a synthetic yarn. The commission announced that a conference would be held early in 1951 for the purpose of removing acetate from the rayon classification and giving it the same independent status as nylon and other newer man-made fibres. Some of the newer fibres which were used in substantial quantities during 1950 were Orlon acrylic fibre, Fiber V (known in England, where it originated, as Terylene), dynel, Chemstrand and Perlon (a German fibre of the nylon type).

Dynel, the Chemstrand fibre and Orlon were used chiefly in suiting fabrics.

Figures were not available in 1950 for nylon yarn production. During the year E. I. du Pont de Nemours & Company, sole U.S. makers of nylon, enlarged their Martinsville, W.Va., plant for the eighth time since World War II. The new construction doubled the capacity of that plant.

The standard all-filament rayon yarn fabrics also set new levels of production in the United States during 1950. Table II shows the U.S. production of rayon broad woven fabrics in 1939 and during the years 1945–50.

**Table II.—U.S. Production of Rayon Broad Woven Fabrics**  
(By Types Except Tire Fabrics)  
(In millions of linear yards)

Year	All-filament	All-spun rayon	Comb. filament and spun rayon	All other rayon mixtures
1939 . . . . .	998.0	176.8	22.8	97.2
1945 . . . . .	1,028.7	161.9	159.1	170.4
1946 . . . . .	1,047.1	190.9	172.3	253.0
1947 . . . . .	1,210.3	294.4	182.2	170.0
1948 . . . . .	1,343.0	377.0	256.0	182.0
1949 . . . . .	1,271.1	322.9	176.8	156.2
1950 . . . . .	1,533.0	419.0	200.0	141.0

In 1950, 110,000,000 yd. of nylon woven fabric came from U.S. mills. Although figures were not available for the production of knitted cloth, trade estimates pointed to a substantial gain over the 1949 production of 3,700,000 lb. of such cloth for the underwear and nightwear manufacturers.

The women's hosiery market continued to be almost exclusively a nylon hosiery market. The 1950 production was 55,200,000 dozen pairs.

In the United Kingdom, which is the second largest user of synthetic fibres, the average monthly production in 1950 of all types, including rayon and nylon, was 30,800,000 lb. This compares with a 24,100,000-lb. monthly average in 1949. The increase was chiefly in production of staple.

British production of rayon and nylon fabrics was at the monthly rate of 190,900,000 sq.yd. in 1950. Of this amount, 68%

was used for home civilian consumption.

In Japan, rapidly attaining its prewar place as a large rayon fibre and fabric producer, the 1950 production was 103,200,000 lb. of filament yarn, an increase of 36,400,000 lb. over the previous year. Staple fibre production achieved greater gains. The total was 149,600,000 lb., a gain of 96,900,000 lb. in the year.

French manufacturers who, as in the United States and other countries, represent a combination of synthetic yarn and silk users, reported an increased production of fabrics of about 10% by volume and 2% by value. While the production of synthetics and silk was given in one figure, the comparative interest in the several fibres was expressed as 85% rayon, 5% silk, and 10% cotton and others.

FILMS OF 1950.—*Synthetic Fibers* (Encyclopædia Britannica Films Inc.)  
(I. L. Bl.)

**Reclamation:** see FORESTS; IRRIGATION; SOIL EROSION AND SOIL CONSERVATION.

**Reconstruction Finance Corporation.** The Reconstruction Finance corporation, originally created by the congress Jan. 22, 1932, has succession through June 30, 1956. Its lending powers terminate two years prior to that date.

The management of the corporation is vested in a board of directors consisting of five persons appointed by the president of the United States, by and with the advice and consent of the senate. The president designates the chairman of the board, who is the chief executive officer. Beginning on July 1, 1950, the terms for appointees were: two directors for a term of one year, two directors for a term of two years, and one director for a term of three years. Appointments thereafter would be for a term of three years; continuity of management thereby being provided through the use of staggered terms. Not more than three members of the board may be from the same political party, nor may more than one member be from any one federal reserve district.

On Nov. 1, 1950, the board consisted of W. Elmer Harber, chairman; C. Edward Rowe, vice-chairman; Walter E. Cosgriff; Walter L. Dunham and William E. Willett.

The outstanding capital stock of the corporation was reduced from an original amount of \$500,000,000 to \$100,000,000. In addition to retirement at par of \$400,000,000 of its capital stock, dividends amounting to \$308,736,740 were paid over to the U.S. treasury.

An additional dividend payment of \$18,674,005 was to be paid on or before Dec. 31, 1950.

The purposes of the corporation are to aid in financing agriculture, commerce and industry; to encourage small business; and to help in maintaining the economic stability of the country; and to assist in promoting maximum employment and production. To serve the objectives of the congress, the RFC is authorized to purchase the obligations of, and to make loans to, business enterprises, including railroads and air carriers, either directly or in participation with banks or other lending institutions; to make loans to financial institutions; to subscribe for or make loans upon nonassessable preferred stock of insurance companies; to purchase the securities of, or make loans to, municipalities and other public agencies to assist in financing projects authorized under federal, state or municipal law; and to make loans because of floods or other catastrophes.

The total amount of loans, purchases and commitments made after June 30, 1947, may not exceed \$3,800,000,000 outstanding at any one time (\$3,750,000,000 pursuant to the RFC act, as amended, and \$50,000,000 pursuant to section 102 of the Na-



tional Housing act, as amended). Included in the total is the authority of Federal National Mortgage association to purchase home mortgages which was transferred to Housing and Home Finance agency, effective Sept. 7, 1950; the authority under section 102 of the National Housing act, referred to, was similarly transferred on that date.

Under the provisions of the RFC act, as amended, the corporation may not make loans to business enterprises unless the financial assistance applied for is not otherwise available on reasonable terms and such loans must be so secured as reasonably to assure repayment.

During the 1950 fiscal year 13,086 applications were received from business enterprises for financial assistance in the aggregate amount of \$1,592,000,000. Over the same period the corporation authorized 5,506 business loans amounting to \$593,600,000, and banks participated in 1,626 of these loans to the extent of \$70,900,000.

Participation loans are of two general types, immediate participations and deferred participations. In the case of an immediate participation, the entire loan is disbursed by the RFC and the bank immediately purchases an agreed percentage, or the bank makes the disbursement and RFC purchases a portion of the loan. A deferred participation contemplates an agreement between the RFC and a bank under the provisions of which the bank disburses the loan and RFC agrees to purchase a stipulated percentage of the unpaid balance when and if called upon to do so by the bank. In deferred participation loans RFC's participation is limited to 70% of the balance of the loan outstanding at the time of disbursement in instances where the total amount borrowed is \$100,000 or less and the corporation's participation may not exceed 60% of the balance outstanding at the time of disbursement in cases where the total amount borrowed is more than \$100,000.

Of all business loans authorized during the fiscal year 1950, approximately 90% of the number were for \$100,000 or less and 51.3% did not exceed \$25,000. At the close of the fiscal year, 6,667 business loans were outstanding in the aggregate amount of \$518,300,000. In addition, the corporation had outstanding at the end of the fiscal year commitments to participate in 5,638 business loans under deferred participation agreements for a total of \$129,900,000.

Other loans or purchase of obligations authorized during the period included those to municipalities and other public agencies amounting to \$10,000,000; catastrophe loans aggregating \$1,170,000, railroads \$3,774,000; and loans on preferred stock of insurance companies \$100,000. As of June 30, 1950, total loans and investments outstanding aggregated approximately \$2,089,000,000.

Reorganization plans of 1950, no. 22 and 23, which became effective Sept. 7, 1950, transferred from the RFC to the Housing and Home Finance agency (1) the Federal National Mortgage association, together with all its functions; (2) all functions of the RFC under section 102 of the Housing act of 1948, as amended, relating to loans to, or the purchase of obligations of, business enterprises producing prefabricated houses or prefabricated housing components, or for large-scale modernized site construction; all other functions of RFC, under the Reconstruction Finance Corporation act, as amended, or any other law, with respect to financing predominantly for the production, manufacture, distribution, sale, purchase or erection of prefabricated houses, sections or panels, or site improvements therefor.

The Reconstruction Finance corporation is authorized until June 30, 1956, or until such earlier time as the congress shall provide, (1) to buy, sell and transport tin and tin ore and concentrates; (2) to improve, develop, maintain and operate by

lease or otherwise the government-owned tin smelter at Texas City, Tex.; (3) to finance research in tin smelting and processing; and (4) to do all other things necessary to the accomplishment of the foregoing. During the fiscal year 1950, the corporation's sales of refined tin amounted to \$141,187,207.

The corporation continued to carry out its synthetic rubber activities. The corporation retained on June 30, 1950, 28 of the original 51 facilities in the program, of which 17 were engaged in active production and 11 complete plants and the unused portion of one other plant were held in standby. During the fiscal year 1950, government-owned plants produced 322,356 long tons of synthetic rubber, including 274,343 tons of GR-S (general purpose rubber) and 48,013 tons of GR-I (special purpose rubber, principally for pneumatic inner tubes). This represented 28.4% of the domestic natural and synthetic rubber supply of 1,134,000 long tons. Also during the year, conversion of facilities in the copolymer plants to enable the production of approximately 183,000 long tons per year of "cold" rubber was completed at a cost of \$4,700,000. Seven of the eight copolymer plants in operation were producing cold rubber during the year and a total of 105,441 long tons of this material was manufactured. Sales of synthetic rubber during the fiscal year 1950 amounted to \$156,006,135.

The expansion and operation of Central American abacá plantations were being continued by the corporation. During the fiscal year 1950, 31,693,512 lb. of fibre were produced and 31,590,639 lb. were sold for \$7,101,160.

Liquidation of other wartime activities was being brought to conclusion as promptly as circumstances permitted. As of June 30, 1950, there remained for liquidation defense plants and equipment, acquired by the corporation during World War II, costing \$56,401,251, including plants presently under long-term lease having a book value of \$36,142,963.

At June 30, 1950, the corporation had 4,640 employees, compared with a peak employment of 12,299 in July 1946; 1,369 employees comprised the Washington staff and 3,271 were employed in the corporation's 31 regional offices. (W. E. Hr.)

**Red Cross. United States.**—To meet existing and anticipated commitments in connection with the country's defense mobilization, the American Red Cross in 1950 once again embarked upon a period of expansion. With the outbreak of hostilities in Korea, the largest overseas operation since World War II was undertaken. In September the Red Cross was asked by the National Security Resources board to train 20,000,000 persons in emergency first aid as a part of civil defense preparation.

In July the organization was made the official co-ordinating agency for blood procurement for the armed forces and, a month later, the official agency to co-ordinate the blood program for civil defense.

In the 1950 fiscal year more than 1,600 Red Cross workers served the armed forces at 1,306 military installations and 111 military hospitals. Home service workers in chapters handled a monthly average of 234,360 servicemen's, veterans' and emergency civilian cases and requests for service. Financial assistance to military personnel from field workers and chapters totalled \$5,017,000; financial aid to veterans amounted to \$2,814,300. A monthly average of 21,000 workers, 99% of them volunteer, aided staffs in 133 Veterans' administration hospitals serving 134,000 patients.

Operating through 34 regional programs, 750 Red Cross chapters collected from July 1, 1949, to June 30, 1950, approximately 567,500 pints of blood, which, whole or fractionated, were delivered to 1,895 hospitals and 104 clinics.

During the fiscal year the Red Cross engaged in 390 domestic



disaster operations, assisting 55,900 families at a cost of \$5,054,480. In addition to 900 nurses who provided emergency aid to disaster victims, nurses were recruited to supplement local nursing resources in polio-stricken areas. During the year, 179,966 home nursing certificates were awarded. Approximately 82,000 volunteers a month in the nine Red Cross volunteer services gave more than 11,005,000 hr. of service during the year in federal and civilian hospitals and in other community agencies.

Red Cross emphasis on safety continued. In the armed forces, classes in first aid and water safety enrolled 42,200. A total of 399,935 certificates in first aid and 728,607 in water safety were awarded during the year. New authorizations boosted to 70,000 the number of instructors qualified to teach first aid, accident prevention and water safety.

On the international scene, the American Red Cross provided material aid valued at \$1,000,000 to 38 countries. In addition, Red Cross consultants co-operated closely with sister societies and worked with international agencies, and 26 Red Cross workers from 13 countries benefited from study visits, scholarships and fellowships in the United States.

The American Junior Red Cross sent more than \$1,000,000 worth of school, health and recreational supplies to children in other lands, and continued other programs for cultivating international understanding and friendship. Included in supplies prepared by Junior Red Cross members were 527,000 gift boxes and 300 educational chests.

E. Roland Harriman assumed office as president of the American Red Cross on Dec. 1, 1950. (J. G. MA.)

**World.**—The 21st meeting of the board of governors of the League of Red Cross Societies in Monte Carlo, Oct. 16-20, 1950, with representatives present from 58 countries, highlighted the year in the Red Cross world. The conference appealed to all governments to adopt and maintain effective undertakings that would prohibit and prevent the use of nondirected weapons, atomic energy and similar forces for the purpose of warfare; requested the United Nations to make every effort to find means of returning Greek children to their homes; requested the United Nations to take proper action for the repatriation of Palestinian refugees; authorized a Red Cross meeting in Germany to study the German refugee situation; approved a long-term program for the co-ordination and standardization of Red Cross emergency relief; and approved a long-term public health program for Red Cross societies. Justice Emil Sandstroem (Sweden) was elected chairman for the ensuing two years with the following vice-chairmen: Boris Pachkov (U.S.S.R.); James T. Nicholson (U.S.); Rajkumari Amrit Kaur (India); Ali Rana Tarhan (Turkey); G. A. Bohny (Switzerland); Don J. Pedro Valencia Parparcen (Venezuela).

On May 1, the League of Red Cross Societies, the International Committee of the Red Cross and the American Friends Service committee transferred to the United Nations Relief and Works agency approximately 900,000 Palestinian refugees in the near east who had been cared for by the above-mentioned agencies since Jan. 1, 1949, with voluntary contributions raised by the United Nations.

A second mandate given the International Red Cross by the United Nations in Dec. 1948, the repatriation of approximately 25,000 Greek children who were in Czechoslovakia, Hungary, Bulgaria, Rumania and Yugoslavia, drew nearer realization on Nov. 25 when the Yugoslav government through the Yugoslav Red Cross transferred to the delegate of the International Red Cross at Termalna Banja on the Greco-Yugoslav frontier 21 Greek children claimed by their parents in Greece. Governments of the other countries concerned, while agreeing to the principle of repatriation, had for various reasons refused actual transfer.



RED CROSS TRUCK leading a caravan of vehicles bringing aid to flood victims of Winnipeg, Man., in May 1950. The trucks were chained together for greater safety

Following the outbreak of military action in Korea in June, an agreement was reached between the unified command of the United Nations and the League of Red Cross Societies whereby the latter was recognized as the co-ordinating agency for all Red Cross civilian relief in southern Korea; offers of assistance to the civilian population of northern Korea by the league remained without response from the Popular Democratic government. (See PRISONERS OF WAR for action by International Committee of the Red Cross.)

Additional international Red Cross relief action undertaken in 1950 through the League of Red Cross Societies followed earthquake and floods in Iran, floods in Canada, a mining disaster in Mariemont, Belg., an earthquake in Peru, an earthquake in Colombia, floods in Nicaragua, an earthquake in India and floods in Pakistan. Assistance also was given to refugees in Syria, Lebanon, Jordan, Pakistan, India, Burma, Germany, Turkey, Italy and France.

On Nov. 15, 61 nations had signed the 1949 Conventions of Geneva and the governments of 6 of these countries had ratified them. (H. W. Dc.)

**Reforestation:** see FORESTS.

**Reformed Church:** see PRESBYTERIAN CHURCH.

**Refugees.** Approximately 200,000 of the Polish, Ukrainian, Baltic and Yugoslav refugees and displaced persons remaining in Germany, Austria and Italy as a result of the displacements of World War II were assisted by the International Refugee organization (I.R.O.) during 1950 to find new homes in other countries. Eighteen governments—Australia, Belgium, Canada, China, Denmark, the Dominican Republic, France, Guatemala, Iceland, Italy, Luxembourg, the Netherlands, Norway, New Zealand, Switzerland, the United Kingdom, the United States and Venezuela—had become members of the organization, which by June 30, 1950, had expended \$332,245,213 on behalf of refugees. Of this sum \$146,599,346



covered overseas transport and resettlement costs and \$183,260. \$12 was devoted to the care and maintenance of refugees prior to movement in repatriation or resettlement.

The I.R.O. had repatriated or resettled a total of 950,000 refugees and displaced persons by Dec. 31, 1950. There remained approximately 225,000 refugees in Germany, Austria and Italy at the close of the year to be resettled chiefly in Australia, Canada, the United States and the Latin-American countries.

During 1950 it was originally planned by the general council of the I.R.O. to terminate the services of the organization by March 31, 1951. However, because of delays experienced during 1950 in the processing and movement of refugees to Australia and to the United States under the U.S. Displaced Persons act of 1948, the council of the I.R.O. decided at its sixth session in Geneva, Switz., in Oct. 1950 to continue operations until Sept. 30, 1951. This extended program was to be financed by funds available to the organization from the prior contributions of member governments without the necessity for further contributions. The council also voted to offer resettlement services to those refugees who had arrived in areas of operations between Oct. 15, 1949, and Oct. 1, 1950. These refugees, numbering more than 20,000, had previously been excluded from such services by earlier decisions of the council.

On July 1, 1950, the I.R.O. transferred responsibilities previously carried for the general supervision, care and maintenance of approximately 100,000 refugees who could not be resettled to public authorities and private relief agencies in the countries of residence of the refugees in Europe. Many of this group had already achieved self-dependence, but all faced uncertainties in legal status pending the acquisition of a new nationality.

The I.R.O. continued its efforts during the year to make permanent arrangements for about 20,000 refugees and their dependent relatives who required continuing hospital or institutional care because of age or infirmities; \$22,000,000 was allocated to provide capital installations for the housing and hospitalization of these refugees. Tentative arrangements for permanent care had been made for 11,000 of these so-called hard core refugees and 9,000 remained awaiting the conclusion of arrangements for permanent care. Belgium, France, New Zealand, Norway and Sweden offered rehabilitation and permanent custodial care for a substantial number of aged, blind and tubercular refugees during the year.

Completing action initiated at its previous session the general assembly of the United Nations on Dec. 14, 1950, established the Office of High Commissioner for Refugees at Geneva, Switz., and elected G. J. van Heuven Goedhart of the Netherlands as high commissioner for a three-year period beginning Jan. 1, 1951. This office was set up to provide legal protection for refugees until they acquire nationality in their new countries of residence. Such protection was originally afforded under the auspices of the League of Nations and later by the Intergovernmental Committee on Refugees and the International Refugee organization.

Representatives of the office would be located in countries providing hospitality to refugees and would intervene with the various governments to ensure that refugees received minimum rights and privileges essential to the achievement of self-dependence. Such rights and privileges include among others freedom from arbitrary expulsion, access to the courts, the right to work, opportunities for education, participation in the benefits of social insurance systems and the possession of identity and travel documents.

The U.N. general assembly in Dec. 1950 also decided to convene in 1951 at Geneva a diplomatic conference to complete and sign the convention relating to the status of refugees recommended to it by the Economic and Social council. This convention

when in force after adherences by governments would provide refugees with a legal status and serve as the chief tool of the high commissioner for refugees in securing nondiscriminatory treatment for refugees in their countries of residence.

The refugees falling under the competence of the high commissioner would be, in general, those previously the concern of the International Refugee organization—namely, those unable or unwilling to avail themselves of the protection of their former countries of nationality for reasons of fear of persecution because of race, religion or political opinion. However, persons recognized by the authorities of the countries in which they had taken residence as having the rights and obligations attached to the possession of the nationality of their country of residence were excluded from the concern of the high commissioner.

Thus, members of former German minorities in countries of eastern Europe currently resident in Germany and refugees in India and Pakistan did not fall under the competence of the high commissioner because they enjoyed the rights of a nationality and did not require legal protection under international auspices.

United Nations efforts to resolve the problem of 800,000 Arab refugees in the near east resulting from the conflict in Palestine in 1948 made slow progress during 1950. Refugees from that part of Palestine incorporated into the state of Israel were located in the neighbouring states of Lebanon, Jordan, Syria and the Egyptian-held area of Gaza in southern Palestine. The general assembly of the United Nations in its resolution of Nov. 19, 1948, established the United Nations Relief for Palestine Refugees (U.N.R.P.R.) and appealed to governments to provide \$32,000,000 for direct relief of the refugees. This sum contributed by governments had maintained the refugees on a relief basis during 1949. On Dec. 11, 1948, the general assembly also established the Palestine Conciliation commission to facilitate a peace settlement and to secure the repatriation or resettlement of the refugees and compensation for their lost properties.

The efforts of the Conciliation commission proved unavailing, and on Dec. 8, 1949, the general assembly established the United Nations Relief and Works Agency for Palestine Refugees (U.N.R.W.A.) as a successor agency to U.N.R.P.R. Emphasis was to be placed upon gradually reducing the relief program and initiating works projects as a measure of assisting the refugees to re-establish themselves on a more normal basis of self-dependency. An 18-month budget totalling \$54,900,000 for the period Jan. 1, 1950, to July 1, 1951, was adopted; \$33,700,000 for relief and works projects during 1950 and \$21,200,000 for works projects for the period Jan. 1 to June 30, 1951.

During 1950 a number of road-building and afforestation projects were undertaken, and previously initiated crafts programs of weaving and garment making were expanded. By Dec. 1, 1950, approximately 20,000 refugees were employed on these projects, which thus supplied a livelihood for 100,000 persons. However, the high cost of work relief projects taxed the available resources of U.N.R.W.A. which recommended to the general assembly in Dec. 1950 that these projects, desirable in themselves, would not contribute to the permanent employment or reintegration of the refugees in the economic life of the area. The expectation that direct relief operations could be concluded in 1950 was not realized.

The general assembly consequently adopted a modified program on Dec. 2, 1950, and authorized U.N.R.W.A. to set up a reintegration fund of \$30,000,000 for the period July 1, 1951, to June 30, 1952, and to continue to furnish direct relief during that period at a cost not to exceed \$20,000,000. The reintegration fund was to be used to secure the permanent re-establishment of the refugees with the co-operation of any near eastern government prepared to assist the agency in this undertaking.





BARRACKS AT DACHAU, former German concentration camp, which were renovated and cleaned to provide temporary homes for displaced persons in Germany in 1950

The problem of integrating the 8,000,000 to 9,000,000 prewar members of the German minorities in Poland, Czechoslovakia, Hungary and Yugoslavia in the economy of western Germany continued to challenge the resources of the German Federal Republic and the occupying authorities of France, the United Kingdom and the United States. These refugees, expelled from their former countries into Germany after World War II, though possessing all the rights of German citizens under the Bonn constitution, experienced great difficulties in securing adequate housing, employment and equalization of burdens resulting from the war. They presented a growing source of political unrest through the organization of pressure groups and the creation of new political parties. The urgency of the adoption of more effective measures for resolving the problem was emphasized during the year by the continuing flow of refugees from the areas of prewar Germany administered by the soviet and Polish authorities.

On June 16, 1950, the U.S. congress adopted amendments to the Displaced Persons act of 1948 extending the period for the issuance of visas from June 30, 1950, to June 30, 1951, substituting Jan. 1, 1949, for Dec. 22, 1945, as the date on which refugees must have entered Germany, Austria or Italy to qualify under the act, and increasing the number of visas to be issued from 205,000 to 341,000. (See also IMMIGRATION AND EMIGRATION; LAW.)

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**FILMS OF 1950.**—*A Chance to Live* (March of Time Forum Films); *Home of the Homeless* (United Nations, Films and Visual Information Division). (G. L. W.)

**Reichstein, Tadeusz** (1897– ), Swiss chemist, was born at Włocławek, Poland. July 20. He spent his earliest years at Kiev, where his father was an engineer. He later emigrated to Berlin and then to Zürich, becoming a Swiss citizen in 1914. After graduating (1920) as a chemical engineer from the Eidgenössische Technische Hochschule, he spent one year in a factory and then returned to Zürich to take his doctorate in engineering chemistry in 1922. He stayed on at the Technische Hochschule to undertake extensive researches on the aromatic substances of roasted coffee. This work was not completed until 1931, but meanwhile he had become

a part-time instructor and had given courses on the methods of organic chemistry and on heterocyclic compounds. He was appointed assistant professor in 1934 and associate professor in 1937. He was at the University of Basel as head of the department of pharmacy and director of the pharmacological institute from 1938 to 1946 and thereafter as professor of organic chemistry. His first great achievement was the synthesis (1933) of *L*-ascorbic acid and the discovery of the standard method of producing this vitamin on a commercial scale. His work on the isolation and the determination of the constitution of the suprarenal gland and the partial syntheses of its constituents began in 1935: he and his associates isolated about 28 hormone substances from the gland, including Compound E (cortisone), which he succeeded in synthesizing almost simultaneously with E. C. Kendall (*q.v.*) and others. His investigations on the steroids of plants enabled him to indicate possible means of converting them into cortisone and so of overcoming the enormous difficulties in the way of large-scale production. Other important researches were concerned with sugars and especially with the cardiac glucosides. In 1950 the Nobel prize for medicine was awarded jointly to Reichstein, P. S. Hench (*q.v.*) and E. C. Kendall for their discoveries concerning the suprarenal cortex hormones.

(W. J. Bp.)

**Relay Racing:** see TRACK AND FIELD SPORTS.

**Relief.** The only major legislative change in the English-speaking nations was a liberalizing amendment to the United States Social Security act, passed overwhelmingly by the congress in Aug. 1950. The purpose of the amendment was to correct a miscalculation in the original act (amended in 1939) whereby the method of insurance might become the chief means of providing for old age and the survivors of the insured, by providing about a 60% increase in benefits to its recipients. The amendment also widened the scope of the act by including certain uncovered portions of the population such as farm labourers, self-employed persons, domestic workers, and, under certain conditions, employees of philanthropic, charitable and religious organizations and public servants. The August report of the Social Security board showed the same heavy weighting of public assistance with responsibility for care of the aged, as had occurred in previous years: about 3,000,000 recipients of old-age and survivors insurance, with an average benefit of \$26.36 per month per beneficiary, an obviously inadequate income, compared with slightly fewer beneficiaries of old-age



assistance, but with a decidedly higher average per capita grant per month of \$43.74.

The amendment created a new category in public assistance, that of the totally and permanently disabled, who would be eligible for federal grants on the same basis as old-age assistance.

The amendment corrected an illogical situation in the provision of aid to dependent children, by including the homemaker among the beneficiaries of a grant similar to that allowed the eldest child. This category came nearest to provision of general assistance, especially in times such as those prevailing during the year under review, when able-bodied men could easily secure work. The average amount per family grant of \$70.10 indicates how it was used to protect families, rather than individuals, from want. However, since it was available only to widows, or to families in which the husband was incapacitated or had deserted, it was more successfully abused than the other categories.

The amendment made no provision for the care of the unemployed or for the family in distress because of the illness of the wage earner. Nor did it correct the glaring gap in the nation's provision for the sick, except for the incurables and permanently incapacitated.

The other English-speaking countries except Canada had recently enacted radical assistance and insurance measures covering the entire range of economic insufficiencies, and made no alteration in their basic laws during the year 1950. New Zealand, which pioneered in a comprehensive coverage, and Australia which had greatly liberalized its assistance provisions, had a reversal of political leadership during the closing months of 1949, but the new governments in each country retained the welfare provisions instituted by their predecessors. The comprehensive insurance assistance provision of Great Britain remained unchanged during 1950, the second full year of its administration. South Africa had an old-age provision of \$25 per month, but with a means test, and a family allowance provision given under a means test to families with three children or more. However, in keeping with the shift of government to the group headed by Daniel F. Malan, benefits were restricted to the noncoloured.

Canada continued to enjoy the most liberal provision for children in the world; and in 1950 considered an old-age pension law. There were constitutional handicaps to be overcome as all provinces must agree to any such law adopted by the dominion. Like the existing law, the suggested law would require contributions from the worker, his employer, and the state, and residence of 20 years in Canada, with a flat grant of \$40 a month without a means test at the age of 70.

Private benefactions in the United States and Canada as reflected in amounts raised by community chests continued to rise, showing about 12% over the amount raised in 1949 in 114 cities in the two countries.

(See also CHILD WELFARE; COMMUNITY CHEST; RED CROSS; SOCIAL SECURITY.) (F. J. B.)

**Religion.** Unmistakable signs of an increased interest in religion in the United States during 1950 reflected a growing anxiety and feeling of insecurity as the results of worldwide attacks on Christianity. Evangelistic campaigns characteristic of Protestantism were wide-spread: some under dramatic preachers like Billy Graham, some under the organized United Evangelistic Advance with the active participation of more than 1,500,000 laymen and laywomen.

The Roman Catholic Church in the U.S. reported a 2% gain in membership as compared with a Protestant gain of 2.9%. Great Britain and other lands felt the same stirring. Churches in Japan reported a 14% increase in membership and a 100% increase in



MESS HALLS set up outside Yankee stadium, New York city, site of an international convention attended by more than 60,000 Jehovah's Witnesses during July 31-Aug. 7, 1950

giving. In other parts of the world, minority or younger churches grew faster than the old ones; e.g., in Spain where drastic restrictions imposed upon Protestants seemed to spur rather than to deter them.

Rome celebrated 1950 as a Holy Year with four intentions: sanctification of souls through prayer and penance; action for peace and defense of holy places; defense of the Church against its enemies; and actual realization of social justice and assistance to distressed peoples. Vast numbers of the faithful from many lands made pilgrimages to Rome. The high point of the year was the promulgation of the dogma of the bodily assumption of the Virgin as a requirement of faith, before the largest assemblage of cardinals and bishops in modern times.

During 1950 the centenary of the restoration of the Roman hierarchy in England was celebrated; Indonesia became the 30th nation to establish diplomatic relations with the Vatican; the first local African hierarchies for 14 centuries were set up in Nigeria, the Cameroons, Togoland, the Gold Coast and Sierra Leone.

Tensions between the Roman Catholic Church and the rest of the Christian world increased; one was theological and concerned the new dogma of the assumption of the Virgin. This was seen by the Anglican archbishops and other Christian leaders throughout the world as a regrettable new barrier between the principal bodies of Christendom. Efforts to have a successor to Myron Taylor appointed as President Harry S. Truman's representative at the Vatican met with strong and practically unanimous Protestant resistance. Federal (U.S.) aid to schools and public funds for parochial schools desired by the Roman Catholic Church were likewise vigorously opposed.

Catastrophe struck all Chinese churches through increasing Communist pressures for domestication or elimination, culminating in the confiscation of all U.S.-owned properties in China and the freezing of all mission as well as other bank accounts. A strong reason for alarm was seen in the deliberate murder by Communist forces in Korea, under Russian and Chinese leader-



ship, of the top leaders of all Christian churches in the country, including the secretary of the National Council of Churches, the head of the Young Womens Christian association, the leaders of several denominations and other prominent churchmen.

The first session of the World Council of Churches (central committee) ever to be held in North America convened at Toronto, Can., in July 1950; it received applications for membership from four additional churches, bringing the council's membership to 160 denominations in 46 countries; it also approved the United Nations' police action in Korea after surveying incontrovertible evidence of Communist aggression. The World Council of Churches program grew in scope and effectiveness particularly through its department of interchurch aid and service to refugees, and through the joint World Council of Churches-International Missionary council Commission on International Affairs.

Along with Roman Catholic and Jewish agencies, those of the Protestant and Orthodox churches led by the World Council of Churches made notable progress in the resettlement of displaced persons in the U.S. and other parts of the world. Financial support was solicited throughout the U.S.

Toronto was the scene of the 1950 meetings of the World Council of Christian Education and the governing committee of the International Missionary council with world-wide representation including some from "iron curtain" lands.

The World Council of Churches at its Toronto meeting also associated itself with other religious bodies such as the Synagogue Council of America and the Vatican in warning against the spurious nature of the Communist-inspired "Stockholm Peace Appeal."

A significant development of the year was the formation at Cleveland, O., in November of the National Council of the Churches of Christ in the U.S.A.

Jewish circles reported the following developments of 1950: the Rabbinical assembly celebrated its Golden Jubilee and stressed Sabbath observance; many new Reform congregations were established (100 in a four-year period ending in 1950); the Jewish Institute of Religion and the Hebrew Union college, formerly of Cincinnati, O., were merged in New York city; the Central Conference of American Rabbis warned against reversion to the idea of theocracy in Israel; and Jewish theologians restated Jewish faith in the light of modern science.

A world organization for brotherhood was formed in Paris under the leadership of the National Conference of Christians and Jews, a United States body.

Other events were: the celebration of the tenth anniversary of World Communion Sunday (observed by Anglican, Orthodox and Protestant bodies in practically all save "iron curtain" countries); the conference of Evangelical Churches of Latin Countries of Europe at Torre Pellice, Italy, which denounced the "denial of religious liberty in certain countries with a Roman Catholic majority" and urged upon Rome the "clarification of its attitude on religious liberty provisions of the United Nations Universal Declaration of Human Rights"; and the severing by the Russian Orthodox Church in North America of all ties with Moscow and its election of Archbishop Leonty as its new patriarch. (See also CHRISTIAN UNITY; CHURCH MEMBERSHIP; also under separate denominations.) (H. S. LR.)

**Religious Denominations:** see CHURCH MEMBERSHIP.

**Religious Education.** Protestant and Orthodox.—The most noteworthy world events in Christian education in 1950, for both Protestants and Orthodox, were four meetings held in or near Toronto, Ont.

First was the third annual meeting of the World Christian

Youth commission, composed of representatives of five world bodies: World Alliance of Young Men's Christian associations; World's Young Womens Christian association; World's Student Christian federation; World Council of Churches; and World Council of Christian Education. Its primary attention was given to a world youth conference projected for 1952 in Asia. One of the principal subjects for attention in the conference was that of reaching young people in industry.

The second event was the World Institute on Christian Education, which brought together 216 selected persons from 52 countries and territories. Part of the time was given to study of the implications for Christian education found in the Christian Gospel and the life of the people and the world in which they live. The other major portion of time was used by commissions working on 12 aspects of Christian education: Christian education of children, of youth and of adults; Christian education in home, in church and in school; preparation of curriculum material; leadership education; audio-visual aids; the Bible in Christian education; purposes and principles of Christian education; and denominational and interdenominational service.

Next came the World Convention on Christian Education, 13th in a series which began in London in 1889. Although a high percentage of the 4,700 delegates came from Canada and continental United States, 60 other countries and territories were represented.

Toronto's fourth major meeting on Christian education was that of the governing body of the World Council of Christian Education. It issued a message in which it declared that: "The present world situation deepens our conviction that the winning and training of lay and professional leaders in all aspects of Christian education must be regarded as a major task of the Church."

In addition to these four world events, a regional and a national event deserve special note. A commission composed of representatives of the Protestant forces in Spanish-speaking Latin America met for a month in Cuba to prepare basic outlines for curriculum material. This was the first time that such an extensive effort in this field had been undertaken under the primary leadership of Latin Americans rather than of North American missionary forces.

A national event of special significance was the merger of the International Council of Religious Education (United States and Canada) with other major interdenominational bodies to form the National Council of the Churches of Christ in the U.S.A. The work of the International council thereafter was carried on by the division of Christian education of the new council. (F. L. KP.)

**Roman Catholic.**—In 1950 there were an estimated 4,750,950 children receiving Catholic instruction in the United States, including those attending part-time. There was an increase of 126,137 pupils in 7,914 elementary schools, in which a total of 2,477,741 pupils were enrolled. There were 82,885 students attending 588 private elementary schools. Parish and diocesan high schools enrolled 324,398 pupils in 1,576 schools, and 806 private high schools taught 195,480 students. Seminaries and novitiates were attended by 25,622 students. There were 72 diocesan seminaries and 316 religious order seminaries. The 225 colleges and universities for men and women had 252,727 students.

The theme of the 47th annual convention of the National Catholic Educational association convention was "Education for International Understanding." In its resolution the meeting: (1) praised the United Nations Educational, Scientific and Cultural organization and promised support of the principles of international understanding promoted by U.N.E.S.C.O.; (2) asked that the schools emphasize in their religious courses the



vital relationship between the principles of the Catholic faith and international understanding; (3) offered its aid in the "spiritual, moral and cultural reconstruction of Germany"; (4) voted support to the Commission on Occupied Areas of the American Council on Education in its program of "stimulation and co-ordination of cultural relations" in occupied areas; and (5) pledged its co-operation to the Institute of International Education "with its comprehensive program of international exchange of students."

The Society for the Propagation of the Faith reported that there were 275 Catholic schools for Negroes in the United States in 1946 and that 40 schools had been added in 1948. More than 710 Negroes attended Catholic colleges and universities. (J. LAF.)

**Jewish.**—The American Joint Distribution committee was forced to curtail expenditures in Europe during 1950; immigration into Israel of refugees from Arab countries made the revision of allocation of funds imperative. The schools of the decimated Jewish communities of Europe found themselves hard pressed. Meagre pay led to inadequately trained teachers. The importation of textbooks from Israel and especially from the United States became difficult.

Despite all these deterrents, some strides were evident in the field of education and culture. In the United States, increased registration was reported in the Sunday and afternoon-weekday schools of Reform, Conservative and Orthodox Jews. Summer camps with Jewish educational programs continued to increase, and there was a growing popularity of all-day schools.

A lag, however, was to be noted in the progress of Jewish adult education. Appeals to adults emphasized support of institutions of higher learning, theological seminaries, research academies, and publication of volumes for scholars, but failed to accent the great need of a wide and systematic program of adult education which would result in a better understanding of Jewish religion and culture.

By contrast, education in Israel was termed *sans peur et sans reproche*. It was being intensively and joyously pursued by old and young. Evidence of its effectiveness was seen in the many books on various subjects published in Israel, the large number of book stores in its cities and the keen appreciation displayed for good music and other forms of artistic expressions. Teachers' conferences and student workshops held in Israel during the summer also attracted increasing numbers in 1950.

FILMS OF 1950.—*Ambassador for Christ*, *Stoning at Lystra*, *The Fourth "R"* (Cathedral Films); *Creation* (Cornell Associates); *Holy Year of 1950* (Castle Films); *Indian Bible* (Hollywood Film Enterprises, Inc.); *Lord of All* (Cavalcade Productions); *The Life of Christ* (Athena Films, Inc.); *True Peace* (Damascene); *Your Neighbor Celebrates* (Religious Film Association, Inc.). (B. H.)

**Rent Control:** see LAW.

**Reparations.** The reparations program in western Germany was virtually completed during 1950. Shortly after the signing of the Petersberg agreement in Nov. 1949, the Inter-Allied Reparation agency (I.A.R.A.) received from the western occupation authorities the final list of plants available to it, and on May 25, 1950, I.A.R.A. made the final allocation of industrial matériel to its member nations. Dismantling and shipment continued during the year.

In February N. E. P. Sutton, the secretary general of I.A.R.A., released his report for the year 1949, in which he esti-

mated the total value of German reparations which would have been received by member nations by the time the agency ceased operations. The figures are given (in 1938 dollars) in the table above.

According to the secretary general's report, member nations had received the following amounts of reparations as of Dec. 31, 1949 (in 1938 dollars):

Albania . . . . .	\$ 975,974	India . . . . .	\$ 8,269,015
Australia . . . . .	3,084,078	Luxembourg . . . . .	1,578,497
Belgium . . . . .	15,161,965	Norway . . . . .	11,294,660
Canada . . . . .	2,919,363	New Zealand . . . . .	1,053,874
Denmark . . . . .	17,277,486	Pakistan . . . . .	1,108,328
Egypt . . . . .	2,565,613	Netherlands . . . . .	34,500,986
United States . . . . .	102,569,186	Czechoslovakia . . . . .	11,177,432
France . . . . .	68,054,728	Union of South Africa . . . . .	6,940,352
United Kingdom . . . . .	84,249,297	Yugoslavia . . . . .	29,875,350
Greece . . . . .	10,150,646	Total . . . . .	\$412,806,830

The secretary general pointed out in his report that between March 1946 and Nov. 1949 the number of plants to be made available to I.A.R.A. was progressively and drastically reduced from 1,800 to about 680. Moreover, substantial parts of many plants which still remained on the list were to be left in Germany. He also pointed out that the 1938 replacement cost of industrial equipment which had been made available to I.A.R.A. was only about 1.3% of the replacement cost of the total investment in German industry in 1938 and that 31% of the industrial equipment allocated to I.A.R.A. came from munitions plants, a large proportion of which had been built during World War II. He concluded that the payment of reparations had had little effect upon the German economy and that the successive cuts in the reparations program had very little economic justification.

On May 16 Soviet Prime Minister Joseph Stalin announced a reduction in soviet reparations demands in a letter to Otto Grotewohl, minister-president of the German Democratic Republic. Stalin stated in his letter that by the end of 1950 east Germany would have paid an estimated \$3,658,000,000 on account of total soviet reparations demands of \$10,000,000,000. In view of this showing, the soviet government, in agreement with the Polish government, had decided to reduce the sum of reparations payments still to be made by 50%, or to \$3,171,000,000, to be paid from current production over a period of 15 years. The figure of \$3,658,000,000 cited by Stalin was at wide variance with reliable western calculations. The office of the U.S. high commissioner estimated that the U.S.S.R. had taken \$18,000,000,000 in equipment and goods out of Germany since 1945. (J. W. MW.)

**Representatives, House of:** see CONGRESS, UNITED STATES; ELECTIONS, U.S.

**Republican Party.** Although the Republican party made gains in the 1950 off-year elections, their new national strength suffered somewhat from a division over domestic and foreign policies. The high hopes for 1952 raised by their success at the polls accounted, in part at least, for general personal and factional rivalry.

The G.O.P. scored a net gain of 5 seats in the senate and 30 in the house. The senate alignment for the 82nd session was 49 Democrats and 47 Republicans, compared with a 54-42 line-up in the 81st. In the lower body it was 234 Democrats, 199 Republicans, 1 Democrat-Liberal (Franklin D. Roosevelt, Jr.) and 1 Independent, a former Democrat with Republican leanings. In the 81st session it had been 259 Democrats, 169 Republicans, 1 American Labor party member and 6 vacancies. The G.O.P. captured 6 governorships from the Democrats, losing none. The resulting line-up at state capitals was 25 Republican governors, 23 Democratic, whereas it had been 29 Democrats and 19 Republicans.

	Value
German external assets . . . . .	\$293,300,000
Incorporation of the Saar into the French economy . . . . .	17,500,000
Industrial capital equipment . . . . .	146,800,000
German merchant shipping . . . . .	43,200,000
U.S.S.R. reciprocal deliveries . . . . .	1,500,000
Captured enemy supplies . . . . .	14,700,000
Total . . . . .	\$517,000,000



The new Republican senate seats were in Pennsylvania, Maryland, Illinois, Utah, Idaho and California. Republicans ousted Democratic governors in Connecticut, Maryland, Nevada, New Mexico, Arizona and Colorado.

The factors behind this Republican revival were encouraging to party strategists. There was a tremendous decline in the Democratic vote in large cities and industrial centres, and an apparent return of rural areas to the G.O.P. The Republicans immediately began to forecast a presidential triumph in 1952, and, indeed, they held a December meeting at Washington, D.C., to make plans for "breaking the solid south." At this conference Sen. Robert A. Taft of Ohio, who had been re-elected by a record vote in the face of labour's attempt to unseat him, expressed confidence for 1952 and said that several border and southern states could be captured by the G.O.P. He declared that many voting elements responsible for 1932-48 Democratic victories, especially labour, had lost faith in that party.

Party divisions appeared as early as Jan. 1950, when National Chairman Guy George Gabrielson proposed a draft of party principles by a committee representing senate and house Republicans and the national committee. The final production branded the Truman Fair Deal as "socialistic."

The statement declared for economy and a balanced budget, the Taft-Hartley act, social security expansion, federal aid to states for medical advancement (as against Pres. Harry S. Truman's national health insurance), elimination of fellow travellers from the state department and protection of minorities (as against Truman's broad civil rights program), and for repeal of the wartime excise taxes. Ominous cracks in party solidarity marked this effort, however. Six Republican governors, headed by Gov. James H. Duff of Pennsylvania, who was elected to the senate in November on a moderately liberal platform, urged the Gabrielson group to abandon "backward-looking" policies and to rebuild along "progressive" lines.

Chairman Gabrielson described this mid-term enunciation as more liberal than the Dewey-Warren platform of 1948. But the Dewey faction disagreed. A group of four senators, headed by Irving M. Ives of New York, a Dewey spokesman, denounced it as a "collection of vague generalities." Indeed, on the very day that the Washington pronouncement asked merely for protection of minorities, a Republican-controlled assembly at Albany memorialized congress to enact Truman's Fair Employment Practices Commission bill.

The party statement on foreign policy was generally satisfactory, winning the endorsement of Sen. Arthur H. Vandenberg of Michigan, advocate of a bipartisan program, and Senate Minority Leader Kenneth S. Wherry of Nebraska, who leaned toward "isolationism." It urged continued co-operation with the administration on foreign affairs, but it criticized "secret agreements" at Yalta and Potsdam as responsible for postwar difficulties with the U.S.S.R.

These conflicts reflected a growing feud between Gov. Thomas Dewey and Senator Taft on the party's future path. Although Governor Dewey had declared that he would not seek the presidency in 1952, his 1950 re-election led him to assert himself as titular party leader. He also intimated that he might favour Gen. Dwight D. Eisenhower as a candidate in 1952.

Senator Taft's great victory naturally made him a 1952 prospect. Although he said after re-election that he would not seek the nomination actively, he admitted that he would not turn it down if it were offered to him. Inevitably, critics of the Dewey-Warren "me too" campaign of 1948 rallied around Taft. In response, a group of about 12 senators and 20 representatives espoused the Dewey philosophy on and off Capitol Hill.

Generally, the Republicans in congress followed the Taft line. Although they voted for social security and agricultural ex-



"THE WAY TO A FAR EAST POLICY," a cartoon by Alexander of the *Philadelphia Bulletin*, published in 1950

pansion, they joined with conservative southern Democrats to block enactment of the principal tenets of the Fair Deal. The increased strength of both blocs in the 82nd congress, together with rearmament demands and pressures, indicated that their views might prevail through the 1951-52 period of President Truman's term.

As the year closed, Governor Dewey clashed unsuccessfully with Capitol Hill Republicans on a major foreign policy issue—namely, the question of whether congressional Republicans should make a formal demand for presidential removal of Dean Acheson, secretary of state. There had been individual calls for his retirement on the ground that he had lost popular confidence. The senate Republican policy committee, headed by Senator Taft, decided that the question was too important to be resolved by this committee, and handed the problem to the full senate membership. House leaders did likewise.

Before either group acted, Dewey delivered a nation-wide radio address on Dec. 8. He rebuked the G.O.P. congressional bloc for seeking Acheson's removal, and called for a "united front at home and with enough other free nations." Although he described himself as "the severest critic in the country of the national administration's policies in the far east, this moment is not the time for further criticism."

On Dec. 15 senate Republicans voted 23-5 for Acheson's elimination and a "thorough housecleaning in the state department." Meeting in caucus on the same day, house Republicans adopted an almost identical resolution by an overwhelming vote. (See also ELECTIONS, U.S.; UNITED STATES.) (R. TU.)

**Research Libraries, Association of:** see SOCIETIES AND ASSOCIATIONS.

**Resins:** see PLASTICS INDUSTRY.

**Retail Sales:** see BUSINESS REVIEW.

**Réunion.** The status of this former French island colony in the Indian ocean (about 420 mi. east of Madagascar) was changed in 1946 to that of an overseas *département*. Area: 970 sq.mi. Pop.: (1946 census) 242,067 of whom 97% were French subjects but only 6,698 were of French origin; (1949 est.) 252,000. The inhabitants are mainly coloured (Ne-



groes, creoles, mulattoes, Indians and Chinese), speak a creole patois and are mainly Roman Catholic. Chief towns (pop., 1946 census): Saint-Denis (cap., 36,096); Saint-Louis (23,936); Saint-Paul (25,959); Saint-Pierre (22,379). Prefect: Roland Béchoff.

**History.**—The island was stricken in Jan. 1950 by a cyclone which destroyed 2,000 huts and severely damaged the maize and sugar-cane crops. A company was formed in January to undertake the electrification of the *département*. Three electricity power stations were under construction at the end of the year. The introduction of free medical assistance produced an immediate reduction in the mortality rate (6,898 deaths in 1948 and 4,690 in 1949) and especially in infant mortality (from 2,290 to 1,574). The political scene showed signs of trouble, particularly on account of the activities of the Communist party which was strongly represented in the elected assemblies.

**Finance.**—Budget: (1949 actual) balanced at 1,029,700,000 fr. C. F. A.; (1950 est.) balanced at 1,224,500,000 fr. C. F. A. Monetary unit: franc C. F. A. (Colonies Françaises d'Afrique)=2 metropolitan francs. U.S. \$1=350 metropolitan francs.

**Foreign Trade.**—(1949) Imports 3,499,500,000 fr. C. F. A.; exports 3,020,500,000 fr. C. F. A.

**Transport and Communications.**—Railways (1948): 127 km. (100-cm. gauge). Roads (1949): 1,909 km. Motor vehicles licensed (Dec. 1948): cars 2,515; commercial 1,090. Shipping, cargo (1949, metric tons): unloaded 97,800; loaded 109,100. Telephone subscribers (1948): 1,950.

**Agriculture.**—Main products (1949, metric tons): sugar cane 1,058,500; sugar 107,625; rum 84,709 hl.; vanilla beans 40; maize 15,000. (C. A. J.)

**Rhee, Syngman** (1875– ), Korean political leader, was born in Whanghai province, Korea, April 26. He received a classical Chinese education, and then enrolled in a Methodist mission school in Seoul. Imbued with democratic ideals, he joined an independence club in 1894 and founded the *Independent*, Korea's first daily newspaper. In 1897 he led a mass demonstration of students against the Japanese, was arrested and sentenced to life imprisonment, though he was freed in a general amnesty in 1904. Meantime he had become a Christian convert and while in prison had written the book *Spirit of Independence*. He travelled to the U.S., studied at Harvard and Princeton and returned to Korea in 1910 to organize resistance to the Japanese occupation. Discovered, he fled to Hawaii where he directed the Korean Christian institute until 1939. On March 1, 1919, a group of Korean patriots signed a declaration of independence, set up an exile government in Shanghai, China, and elected Rhee president. He was regularly re-elected until 1941. To win U.S. recognition of Korean independence claims, he went to Washington, D.C., during World War II. In 1945 he returned to Korea and was elected first president of the Republic of Korea July 20, 1948. When the North Korean forces invaded the republic in 1950 Rhee moved his government to the south, then returned to Seoul when the United Nations forces recaptured it, only to flee with the government again when the Chinese Communists entered the war.

**Rheumatism:** see ARTHRITIS.

**Rhode Island.** A north Atlantic state of the United States, in New England; one of the 13 original states; popularly known as "Little Rhody." Area: 1,214 sq.mi. (smallest of the United States), including 156 sq.mi. of water; pop. (1950 census): 791,896, a gain of 11% since 1940. The principal cities, with preliminary 1950 populations, were: Providence (cap., 247,700); Pawtucket (81,180); Woonsocket (50,186); Cranston (55,130); Warwick (43,027); Newport (32,090); Central Falls (23,610).

**History.**—At the 1950 session of the legislature, leading measures passed included the following: a general appropriations act for support of the government for the fiscal year ending June 30, 1951, to the amount of \$40,131,456.68; an act establishing a state council of defense and authorizing local councils of de-



DENNIS J. ROBERTS, Democrat, elected governor of Rhode Island, Nov. 7, 1950

fense and otherwise providing for the safety of the state during an emergency resulting from war, hostile action or disaster; an act known as the Slum Clearance and Redevelopment act; an act to assist and encourage the developing and financing of housing facilities in the state; an act extending the Housing Authorities law making it applicable to the towns of the state; an act for the regulation and restriction of evictions; an act establishing a division of charitable trusts within the department of the attorney general; an act creating an emergency state fuel administrator

in the department of labour; an act providing for the administration of first aid and other medical services in places of employment; acts amending previous laws so as to preserve the solvency of unemployment compensation and cash sickness funds; an act vesting policy-making powers in a three-member board of review in the department of employment security; an act providing that no person shall be convicted of the less serious criminal offenses unless indictment is found against him within three years from the time of committing the offense; an act creating a special commission to study financing of highway extension and improvement; an act providing for the modernization and improvement of the state highway system; an act prohibiting the installation and use of television in motor vehicles; an act to protect amateur and professional athletic games and contests and horse racing against bribery and corruption and fixing penalties for violations of the act; an act authorizing the registration of voters who are old, disabled, ill or infirm by method not requiring appearance at the registrar's office in person; an act restricting exemptions from jury service; an act approving the execution of a compact known as the Northeastern Interstate Forest Fire Protection compact.

The chief executive officers of the state elected in Nov. 1950 for 1951–52 were Dennis J. Roberts, governor; John S. McKiernan, lieutenant governor; Armand H. Coté, secretary of state; William E. Powers, attorney general; Raymond H. Hawksley, general treasurer. Edmund W. Flynn was chief justice of the supreme court.

**Education.**—During 1949–50 there were in the public elementary schools 62,774 pupils and 2,135 teachers; in junior high schools 16,028 pupils and 820 teachers; in senior high schools (three years) 12,663 pupils and 688 teachers; in senior high schools (four years and vocational) 4,838 pupils and 248 teachers. Pupils attending private schools were: elementary 26,490; junior high 4,512; senior high (three years) 1,048; senior high (four years) 5,942. The total number of teachers in private day schools was 1,405. Current expenditures for day schools were \$19,240,378.01 and for evening schools \$51,632.46. The director of education in 1950 was Michael F. Walsh.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The total number of persons receiving public assistance in all categories (including incapacitated fathers) in Nov. 1950 was 35,105 or about 4.5% of the state's 1950 population. The total amounts paid out during the year Dec. 1, 1949, to Nov. 30, 1950, were as follows: general public assistance \$5,500,635; soldiers' welfare \$163,085; old-age assistance \$5,714,011; aid to dependent children \$3,931,787; aid to the blind \$111,864. In unemployment compensation, the net amount of benefit payments during 1950 was \$16,216,910.82 to 76,430 different individuals. The amount paid into the fund during 1950 including interest was \$14,657,878.19. There were 653 inmates in corrective institutions on Nov. 30, 1950, and 5,231 patients in charitable institutions and institutions for defectives, the number in the latter being 4,095.

**Communications.**—The total mileage for highways on Dec. 31, 1950 (excluding city roads and streets under the control of the seven cities), was 2,622 mi. of which total 839 mi. were state roads built and maintained by the state into and through the cities. At the close of the year 1949, railroads were operating 184.79 mi. of track in the state. On Dec. 31, 1950, the largest motorbus company operating in the state



operated more than 201.64mi. of road, and trackless trolleys 82.2 mi. of road in the state.

Water-borne commerce of the state for 1949 was 8,623,810 tons of which 726,381 tons were foreign commerce (imports 717,367 tons, exports 9,014 tons), 7,632,110 tons were coastwise (receipts 7,044,327 tons, shipments 587,783 tons), 213,206 tons were internal (receipts 106,402 tons, shipments 106,804 tons) and 52,113 tons were local.

On Dec. 31, 1950, there were three publicly owned (state) airports, one each in class II, III and IV, and seven privately owned airports or landing fields, all class I. Also there were two naval air stations owned by the United States. In Dec. 1950 the telephones in service were 233,908 as reported by the New England Telephone and Telegraph company.

**Banking and Finance.**—There were 30 banking institutions in 1950. Resources of 22 banks under state supervision totalled \$880,186,105.50, and of 8 banks under federal supervision, \$247,577,699.03. Savings deposits (exclusive of club accounts) in savings banks and trust companies (the 22 state banks) amounted to \$542,323,975 on June 30, 1950. In addition, 6 loan and investment companies had resources of \$4,744,881.94; 8 building and loan associations \$89,513,948.27; 38 credit unions \$17,183,515.66.

At the close of the fiscal year, June 30, 1950, total state receipts were \$46,463,315.74; expenditures and encumbrances \$47,437,916.60; deficit from operation \$974,600.86. The state gross debt was \$51,957,000, net debt \$46,952,473.59.

**Agriculture.**—The total acreage of principal crops harvested was 56,000 in 1950. Cash income from crops in 1949 was \$6,131,000; from livestock and livestock products \$16,983,000; from government payments \$65,000; total gross farm income \$23,179,000. The value of livestock Jan. 1, 1950, was \$7,211,000.

Leading Agricultural Products of Rhode Island

Crop	1950	1949	Average 1939-48
Corn, all, bu. . . . .	280,000	266,000	315,000
Hay, all, tons . . . . .	56,000	50,000	50,000
Alfalfa, tons . . . . .	2,000	2,000	2,000
Potatoes, bu. . . . .	1,275,000	1,160,000	1,231,000
Oats, bu. . . . .	33,000	30,000	32,000
Apples (commercial), bu. . . . .	261,000	279,000	207,000
Peaches, bu. . . . .	3,000	15,000	13,000

On Jan. 1, 1950, the livestock population of the state included: 1,000 horses and colts; 21,000 milk cows two years old and older; 6,000 other cattle; 9,000 hogs; 2,000 sheep and lambs; 604,000 chickens; 5,000 turkeys; and 1,000 colonies of bees. Livestock products in 1949 included 140,000,000 lb. of milk valued at \$8,970,000; 996,000 chickens, \$1,897,000; 34,000 turkeys, \$310,000; 7,416,667 doz. eggs, \$4,157,000; 19,000 lb. of honey, \$5,300.

**Industry and Manufacturing.**—The estimated number employed in the state in Oct. 1950 was 301,469 distributed as follows: manufacturing 152,778; trade (wholesale and retail) 51,956; government (federal, state, local) 30,700; service (personal, medical, legal, etc.) 24,304; transportation and public utilities 16,300; construction 13,916; finance, insurance and real estate 10,779; miscellaneous 736. (Farmers, self-employed, domestics and armed services personnel are excluded.)

Employment in manufacturing in Dec. 1950 totalled 131,781 production wage earners and 20,203 nonproduction workers (salaried personnel) and the weekly pay roll was \$7,426,086 for all manufacturing industries in Rhode Island according to the state department of labour. Wage earners were distributed among manufacturing industries as follows: textiles 63,685 (cotton 16,612; rayon-silk 5,202; woollen-worsted 25,696; finishing 11,752; miscellaneous textiles 4,423); jewellery-silverware 20,965; metals and machinery 32,786 (primary 6,679; fabricated 6,243; machinery 13,071; electrical machinery 6,793); rubber products 8,168; miscellaneous 19,290. The number of establishments employing five or more workers was 3,689 in Oct. 1950, and the number of persons employed was 222,496.

**Mineral Production.**—The value of mineral production in Rhode Island is small, exceeding only that of Delaware and the District of Columbia. The principal products in order of value are sand and gravel, stone and graphite. Value in 1948 was \$1,450,000; in 1947 \$785,000; in 1946 \$561,000; and in 1945 \$508,000. The values of products were stone \$536,651 in 1948, \$400,602 in 1947, \$274,130 in 1946, \$219,263 in 1945; and sand and gravel \$728,990 in 1948, \$25,261 in 1947, \$8,486 in 1946 and \$221,530 in 1945. Quantity production of stone was 107,080 tons in 1948, 32,090 tons in 1947, 4,860 tons in 1946, 11,280 tons in 1945; sand and gravel 633,436 tons in 1948, 44,363 tons in 1947, 41,659 tons in 1946 and 17,300 tons in 1945. (M. C. M.)

**Rhodesia, Northern.** A British protectorate on the plateau of central Africa. Area: 290,320 sq.mi. Pop.: (1949 est.) 1,645,000. Religion: Africans 75% pagan, remainder Christian. Chief towns: Lusaka (cap.), Kitwe and Luanshya. Governor: Sir Gilbert Rennie.

**History.**—Livingstone airport, the largest and most up-to-date in Africa, built at a cost of about £1,000,000, was opened in Aug. 1950. Northern Rhodesia was to have official representation at the discussions to be held in London early in 1951 on the closer association of the Rhodesias and Nyasaland and had also accepted the recommendations for the establishment of the

Rhodesia-Nyasaland secretariat and interterritorial conference to replace the Central African council.

Preliminary surveys were completed for the railway link between the systems of Rhodesia and those of east Africa and for the control of the flood waters of the Kafue river. The latter was the first step in the Kafue gorge hydroelectric scheme. Financial aid to the extent of £5,000,000 was promised by the government to local authorities in the protectorate for their building programs.

In March heavy floods caused some loss of life, destruction of stock and damage to property; the railway suffered serious breaches in three places and one bridge was put out of action. A national park of 8,650 sq.mi. was proclaimed in the central Kafue basin.

The protectorate benefited by the rapidly increasing prices for metals. Mineral production was valued at £36,388,920 in 1949, a record and nearly three times the pre-World War II average. Five of the largest mining companies operating in the protectorate announced their intention of changing their domicile from London to Northern Rhodesia. (See also RHODESIA, SOUTHERN.)

**Finance and Trade.**—Currency: Southern Rhodesian pound at par with sterling. Budget (1949 revised): revenue £9,825,068, expenditure £9,561,154; (1950 est.) revenue £11,758,000, expenditure £11,676,000. Foreign trade: (1949) imports £21,266,000, exports £33,122,000; (January-June 1950) imports £12,479,000, exports £21,385,000. Principal exports (1949 totals): copper (blister and electrolytic) £26,900,637; zinc £1,931,279; lead £1,931,279; and tobacco £754,014. (G. R. MN.)

**Rhodesia, Southern.** This self-governing African colony in the Commonwealth of Nations is subject to the power, retained by the crown, to disallow bills affecting the African population, the unalienated lands, the railways and the mineral rights of the British South Africa company. Area: 150,333 sq.mi. Pop. (June 1950 est.): 2,084,800, incl. 129,000 Europeans, 1,959,000 Africans, 3,600 Asians, 5,200 mixed. Chief towns (pop. 1950 est., Europeans only): Salisbury (cap., 38,000); Bulawayo (33,000); Umtali (5,000); Gwelo (5,000). Languages: English, Afrikaans (derived from Dutch) and native tribal dialects. Religion: Africans mainly pagan with substantial Christian minority. Governor: Major Gen. Sir John Noble Kennedy; prime minister: Sir Godfrey Huggins.

**History.**—On the recommendation of a select committee, membership of the Rhodesian parliament was to be increased from 30 to 40 and before the next general election, which had to be held not later than 1953, a senate of 15 members was to be created. An Anglo-Portuguese convention was signed during 1950 in which Portugal agreed to provide adequate port facilities at Beira, and the British territories for which the port is the natural outlet gave assurances about future traffic and the use of the port.

The United Kingdom government decided on a fresh examination of the problem of the closer association of Southern Rhodesia, Northern Rhodesia and Nyasaland, and for this purpose a conference composed of officials of the three central African governments, the colonial office and the commonwealth relations office was to be held in London early in 1951. The Southern Rhodesian government gave notice in Jan. 1950 that it would not continue membership in the Central African council after the end of the year and a committee was set up to study interterritorial co-operation in central Africa. It recommended formation of a Rhodesia-Nyasaland secretariat and a Rhodesia-Nyasaland interterritorial conference. These recommendations were accepted by all three governments.

The colony was represented at the Central and Southern African Transport conference held in Johannesburg in November, where proposals for a permanent co-ordinating organization and for the completion of a direct railway link between the railway systems of the colony and those of South Africa failed to find



agreement.

Measures were passed to render dog racing and sports pools illegal, and a Subversive Activities bill was approved. The budget contained no rise in direct taxation but there were increases on tobacco, cigarettes, surface mail rates for foreign countries outside Africa, telephone calls and installations and boarding school fees. The gold industry contribution was withdrawn. A survey of the catchment area of the Sabi and Lundi rivers was completed and recommendations made for a development scheme costing £20,000,000 over 25 years. An agronomic survey was appointed for the territory. The task was expected to take four or five years. A reconnaissance party examined a project for a pipe line for gasoline and oil from Beira to Umtali. Proposals included tank storage in the colony. Gasoline consumption had risen from 650,000 gal. a year in 1946 to 3,300,000 gal. in 1949.

The housing problem continued to cause grave concern. Though, on this account, efforts were made to restrict immigration to 8,000 a year, 14,096 European immigrants entered the colony in 1949 and a further 7,872 in the first half of 1950. The value of building work done in 1949 was £6,112,000. An agreement was reached in London between tobacco representatives of Southern Rhodesia and of British manufacturers for the sale of 405,000,000 lb., two-thirds of the crops for 1951–55. Central African Airways flew 19,981,538 passenger-miles and carried 690,385 kg. of freight in 1949. The mineral output for 1949 was a record and amounted to £11,293,201. (See also RHODESIA, NORTHERN.)

**Education.**—European (1949): government primary schools 72, pupils 12,400, teachers 447; high schools 14, pupils 4,600, teachers 265; aided private schools 22, pupils 3,650; aided farm schools 13, pupils 195. Asian and mixed (1950): government primary schools 12, pupils 1,774, teachers 60; aided schools 4, pupils 886. Native (1949): primary schools 2,069, pupils 210,021, teachers 5,685 African and 226 European; postprimary schools 10, pupils 974. Teacher training schools 18.

**Finance and Banking.**—Currency: Southern Rhodesian pound (at par with pound sterling); circulation incl. Northern Rhodesia and Nyasaland (Aug. 1949) £8,326,000. Budget: (1949–50) revenue £16,769,832, expenditure £14,843,783; (1950–51 est.) revenue £16,621,000, expenditure £16,620,570. National debt (1950) £83,696,898. National income (1949 est.) £72,700,000.

**Foreign Trade.**—Imports (1949) £54,586,000, exports £29,621,000, re-exports £4,901,000.

**Transport and Communications.**—Main roads (1950): c. 15,600 mi. incl. 2,500 mi. hard-surfaced. Railways: 1,352 mi.; (1949) passenger traffic 2,395,253, freight 5,163,159 long tons; (January–May 1950) passenger traffic 920,882; freight 2,311,428 long tons.

**Agriculture.**—Tobacco (Virginia, 1949–50): 102,500,000 lb. Live-stock (1949): cattle 3,004,000; sheep 315,000; goats 542,000; pigs 107,000; poultry (European production only) 552,000.

**Industry.**—Fuel and power: coal (1949) 2,114,000 long tons; electricity (1949–50) 219,000,000 units sold. Raw materials (1949): gold 528,000 oz.; asbestos 80,000 long tons; chrome 268,000 long tons.

(G. R. MN.)

**Rice.** The U.S. rice crop of 1950 of 37,971,000 bags (of 100 lb. each) was 7% smaller than the record 40,747,000 bags harvested in 1949, but 27% larger than the ten-year average of 29,790,000 bags. The 1,608,000 ac. that were harvested again exceeded the government-announced goal of 1,593,000 ac. The yield of 2,361 lb. per acre exceeded that of 2,215 lb. for 1949 and 2,094 lb. as the average for the previous decade. Texas with 11,544,000 bags replaced Louisiana (10,491,000 bags) as the leading producer; Arkansas was third with 7,975,000 bags and California fourth with 7,772,000 bags.

The price received by farmers for rice during 1950 reached \$5.32 per hundredweight in December as compared with \$4.31 per hundredweight a year earlier. Loans under the mandatory government price support program averaged \$4.56 per hundredweight, or 90% of parity. The official national acreage allotment for the 1951 crop was set at 1,868,000 ac., 15% larger than the planted acreage in 1950, but at the end of the year it appeared likely that controls would be continued on the crop of the new year.

World rice production in 1950–51 was forecast at 343,000,-

000,000 lb. of rough rice, 3% larger than the 333,000,000,000 lb. of 1949–50 and possibly the largest crop since World War II. The world acreage was 224,600,000, slightly larger than in 1949–50. Asia, which produced 93% of the world's crop, accounted for much of the increase with a prospective 318,000,000,000 lb., equal to the 1948–49 crop and considerably in excess of the 1949–50 crop. Much of the prospective increase was credited to China, but conditions in Korea, China and Indochina raised some doubts about harvest and distribution. Europe's harvest of 2,781,000,000 lb. was a record and per acre yields were near the prewar level. (See also FOOD SUPPLY OF THE WORLD.)

(J. K. R.)

**Rio De Oro:** see SPANISH COLONIAL EMPIRE.

**Rio Muni:** see SPANISH COLONIAL EMPIRE.

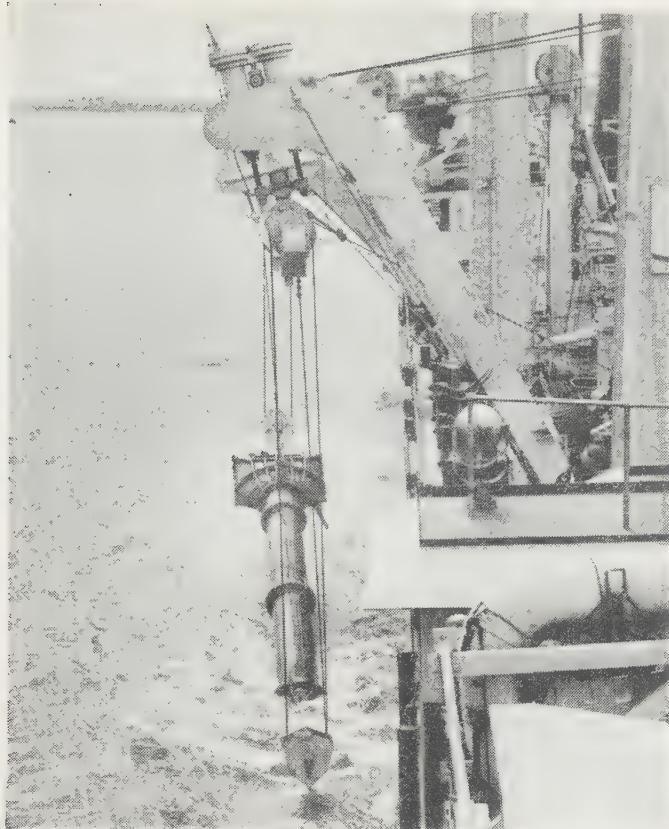
**Rivers and Harbours.** In 1950 construction was executed on 92 regular river and harbour projects by the U.S. army corps of engineers; of this number, 9 were completed. Maintenance was performed on a total of 321 projects, including the extensive intercoastal waterways and Mississippi river system, the connecting channels on the Great Lakes, the 490 navigation locks and dams, and 270 harbours, and also the channels and canals of the Ohio river system, the upper Mississippi river, the Illinois waterway, the hydroelectric generating plants on the Missouri river at Fort Peck, Mont., and the Columbia river at Bonneville, Ore. During the fiscal year which ended June 30, 1950, \$197,985,690 of federal funds was expended for new work and maintenance of river and navigation projects and inland and coastal harbours.

The Rivers and Harbors act of 1949, including supplemental appropriations, provided \$186,142,500 for maintenance and improvement of U.S. rivers and harbours. Of this total \$113,760,500 was for new construction work on 51 projects in 30 states, the District of Columbia and Alaska. Maintenance, operation and care were allotted \$62,583,906; advance planning, \$1,500,000; preliminary examinations and surveys, \$1,500,000; and miscellaneous items, \$6,798,094. The important river and harbour projects allocated \$1,500,000 or more for construction were: McNary lock and dam, Columbia river, Oregon and Washington, \$39,389,100; Missouri river, Kansas City, Mo., to Sioux City, Ia., \$3,750,000; Mississippi river, between Ohio and Missouri rivers, \$8,500,000; New York and New Jersey channels, New Jersey, \$2,665,000; Gulf Intracoastal waterway, New Orleans district, \$3,400,000; Demopolis lock and dam, Alabama, \$2,100,000; Cleveland harbour, Ohio, \$1,500,000; Morgantown lock and dam, West Virginia, \$2,000,000; Monongahela river, Pennsylvania, \$3,780,000; Jim Woodruff dam, Florida, \$2,750,000; Chief Joseph dam on the Columbia river, Washington, \$18,529,000.

Advance planning was executed during 1950 on 16 river and harbour projects in 13 states. The more important of these planning projects were: the Ice harbour lock and dam, Snake river, Washington; Arkansas river and tributaries, Arkansas and Oklahoma; Alabama-Coosa river, Alabama and Georgia; Tennessee-Tombigbee waterway, Alabama and Mississippi; McGee Bend dam, Angelina river, Texas; and Dover lock and dam, Kentucky.

At the end of 1950, there were 670 authorized investigations in advanced stages of completion. The work involved in this survey program was approximately 45% complete. Included in the studies were the Trinity river, Texas; Galveston-Houston-Texas City channel, Texas; the coast of California, to determine the advisability of providing harbours of refuge for small craft; Hudson river improvement for deep-draft tankers; Duluth-Superior harbour, Minnesota; Illinois waterway duplicate locks; Delaware river, Philadelphia to Trenton; Atchafalaya river, Morgan City, La., to Mississippi river via Old River, La.; and a comprehensive





THE "ESSAYONS," largest dredge operated by the U.S. army corps of engineers at the time of its commissioning in 1950, shown at work on a five-year improvement plan for clearing the New York harbour of silt and enlarging main channels

survey of the water resources of Alaska for navigation, power development, flood control and related purposes.

At the Bonneville dam and reservoir, Oregon and Washington, the ten electric-power generating units were operated at capacity throughout the year. At the Fort Peck dam, on the Missouri river in Montana, the reservoir was operated throughout the year for the maintenance of navigation on the Missouri river, and for the secondary purposes of flood control and hydroelectric production. Operation of the two completed generating units was continued during the major portion of the year, with the total power production during the first six months being 143,481,000 kw.hr. Installation of a third generating unit of 35,000-kw. capacity was under construction. (G. Hb.)

**Canada.**—The 1950-51 parliamentary votes included \$9,296,000 for the improvement of harbours and \$9,330,000 for dredging river channels and maintaining navigation service.

Figures released in 1950 revealed that total tonnages handled by national harbours in 1949 were 6% greater and revenues were 10% higher than in 1948. Nevertheless 1949 operations resulted in a net deficit of \$1,493,517, an improvement of 27% over 1948. Vancouver harbour claimed first place in radar harbour control, with 53,000 vessels using its Lion's Gate system in 1949.

Upon representations made by federal shipping officials, London marine underwriters made a one-third reduction in the scale of minimum additional premiums on hull insurance rates on ships trading into Port Churchill, which was open an extra 10 days (total of 77 days) in 1950. The port of Montreal announced a 40% increase in 1950 tonnages over those of 1949.

**FILMS OF 1950.**—*Captain Brown: Harbor Pilot, Exploring a Harbor* (Firth Films); *Harbor Highlights* (Johnson Hunt Productions); *Ohio River—Lower Valley, Ohio River—Upper Valley* (Academy Films).

(C. Cy.)

## Roads and Highways.

There was marked increase in the rate of highway improvement and a pronounced raising of standards for improvement in most parts

of the world in 1950. Important technical advances were made, but they were largely of a nature contributing to improvement in quality and adequacy of highways rather than discovery of revolutionary materials and processes. In Canada a bridge was built entirely of aluminum. A new method of stressing steel reinforcement and concrete in structures during construction to produce more efficient use of materials was applied on a number of bridges. A concrete bridge was built by casting the parts at a material yard and hauling them to the site for placement. Rubber was used experimentally in bituminous road surfaces and various chemicals were studied as stabilizers of soil surfaces and bases. Progress with rubber and chemicals did not reach a stage that justified recommendation of these materials for general use.

**United States.**—The surfaced roads outside cities grew to about 1,637,000 mi. but a large portion of this mileage was no longer adequate for the greatly increased traffic. There was serious congestion and delay on highways in all cities and travel on many sections of main highways between cities was made difficult and dangerous by deficiencies in surface condition, width, grade and curvature. The cost of correcting existing deficiencies was variously estimated at from \$42,000,000,000 to \$47,000,000,000. In a number of states plans for more rapid highway improvement and for increasing funds for highways were debated. In the last half of 1949 and during 1950 ten states increased the rate of tax on gasoline to produce more highway funds.

With use of highways, congestion and public demand for better highways at all-time peaks, highway organizations made improvements at the maximum rate possible with the funds available. There was a marked increase in the number of cities constructing expressways to solve their worst traffic problems. Construction of four-lane, divided highways, often with controlled access, was accelerated. Many miles of obsolete two-lane roads were widened and straightened, often by relocation. Building of secondary or farm-to-market roads went forward at a record-breaking pace.

Awards of construction contracts by state highway departments in the first nine months of the year totalled \$1,100,000,000 for 48,800 mi. of road. It was indicated that the total for the year would rise to \$1,500,000,000 for 65,000 mi. It was estimated that about 45,000 mi. would be completed. These figures do not include work done by counties and cities without state or federal assistance.

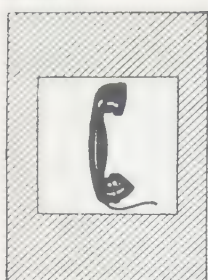
In the federal-aid highway program in co-operation with the states, 20,208 mi. of highway were completed in the fiscal year ending June 30, 1950. Improvements were completed as follows: On the federal-aid primary system outside cities (principal inter-city highways), 5,914 mi. of highway and 1,163 bridges; on urban federal-aid highways, 779 mi. and 353 bridges; and on secondary or farm-to-market roads, 13,515 mi. and 1,631 bridges. Federal-aid funds authorized for the year amounted to \$450,000,000 and work was done at approximately that rate.

**Alaska.**—The enlarged program of modernizing Alaska's 2,000-mi. system of main highways, begun in 1949, was continued in 1950. Improvement of the Alaska highway from the Canadian border to Fairbanks and highways from Fairbanks to the coast at Anchorage and Valdez at a cost of \$45,000,000 went forward rapidly. The year's work resulted in about 150 mi. of improvement.

**Alaska Highway.**—The Canadian and Alaskan sections of the Alaska highway were kept in good condition by the respective governments and served an increasing volume of tourist and commercial traffic. The highway was occasionally closed to travel for short periods because of the weather but in general it was open to travel throughout the year. Trucks and buses operated on schedule in winter as well as in summer.

**Canada.**—A growing population and rapid development of resources led to a large program of construction in every prov-

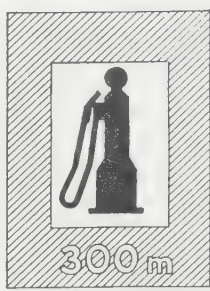


TELEPHONE FACILITIES  
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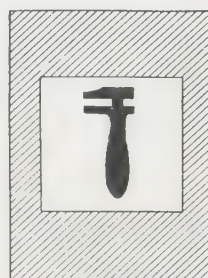
DRAWBRIDGE AHEAD



PEDESTRIAN CROSSING AHEAD

DANGEROUS ZIGZAG  
AHEAD

SERVICE STATION 300 METRES

A DOUBLE OR "S" CURVE  
AHEAD LEFTWATCH FOR ROAD  
CONSTRUCTIONBEWARE OF ANIMALS  
ON HIGHWAY

MECHANICAL HELP

ROAD SIGNS forming part of a uniform code being fostered by the United Nations in 1950. Universal adoption would make it possible for travellers to read the signs anywhere no matter what language they spoke

ince. The character of the work ranged from four-lane, divided highways near some of the larger cities to pioneer trails reaching out into remote unsettled areas.

For many years there had been discussion of a trans-Canada highway and sections of a projected route had been improved but there still was no satisfactory route across Canada. In 1950 the dominion government took steps that would make a good highway an actuality in a period estimated at six or seven years. The dominion government entered into an agreement with nine of the provinces and was negotiating with the remaining one to complete the highway to high standards at a cost estimated at \$300,000,000 and share the cost on a 50-50 basis. The route agreed upon extended 5,000 mi. from St. John's, Nfd., to Victoria, B.C. Minimum standards required a 24-ft. pavement on a 100-ft. right of way. Difficult construction would be necessary in the swampy area north of Lake Superior and in the Rocky mountains.

**Mexico.**—Improvement of main highways and of farm service roads went forward at a rapid pace. Opening of the final section of the Inter-American highway in Mexico was celebrated in May, making travel possible over the entire 2,176 mi. from the Texas border to the Guatemalan border. There were three routes from the United States to Mexico City, one from Laredo, Tex., one from Ciudad Juárez, Mex., and one from Brownsville, Tex.

**Inter-American Highway.**—Lack of funds reduced the rate of progress below that of previous years. Some construction work was done in Mexico, Guatemala and Nicaragua. Of the 3,200 mi. from the United States to Panamá city, 61% was paved, 30% was unpaved but was passable at all times, 1% was passable only in dry weather and 8% was impassable at all times. Beginning at the Mexican-Guatemalan border there was an impassable gap of 25 mi., another of 65 mi. in northern Costa Rica and one of 150

mi. in southern Costa Rica and Panamá.

**South America.**—In most of the countries of South America construction of highways was accelerated and plans were made for still greater progress in the future. The United States-assisted the Peruvian government in reorganizing its highway department, purchasing equipment and training men to operate and repair the equipment. Reports from Colombia, Ecuador, Peru, Bolivia and Chile indicated marked increases in road construction activity. Brazil had numerous construction jobs under way. A large assembly of modern road-building equipment was at work on the most impressive construction yet undertaken, a 258-mi. highway from Rio de Janeiro to São Paulo. Starting out as a four-lane, divided highway from each city, the roadway reduced to two lanes where traffic was not yet heavy, but grading was being done for a second two-lane pavement to be placed when needed. The travel distance between the two cities would be shortened by almost 70 mi. and there were to be no crossings at grade. The project was notable for the 98 bridges required and the large amount of earthwork necessary to meet modern standards for grades and curvature.

**United Kingdom and Europe.**—In the United Kingdom existing highways were maintained but little more was done. The number of motor vehicles had doubled since the end of World War II and highway users were strongly critical of the failure to make major improvements on main routes. The ministry of transport reported approval of five new routes, 1,000 mi. in total length, to be improved as men and money became available, but there was no indication of early action.

In Europe the enormous job of repairing war damage to roads and bridges was nearing an end. A few notable projects were under way. In Lyon, Fr., work progressed on a tunnel more than a mile in length with a 40-ft. roadway. This tunnel would serve as a main route into the city. In western Germany the *Autobahnen* had been repaired and carried a large volume of freight. This service was particularly valuable because of the inadequacy of rail lines. Belgium began work on a 650-mi. system of four-lane, divided highways connecting Brussels, Liège and Ghent. Italy used financial assistance from the United States to modernize the historic road from Naples to Rome.

**Turkey.**—With the assistance of a staff of engineers from the United States, Turkey made great progress in reorganizing its highway department, equipping it with modern road-building machines and training men in many different branches of highway work. Several main highways that had been little used during rainy weather were conditioned for travel at all seasons of the year. In 1947 nearly all highway maintenance was done by the simplest hand methods. By 1950, 4,500 mi. of national highway were maintained by motorized equipment.

**Africa.**—In nearly all political units roads were extended into remote areas to reach productive lands or other resources. Plans were made for the construction of 4,300 mi. of road in French West Africa, 8,500 mi. in French Equatorial Africa and 200 mi. in the French Cameroun. A grant from the United States of \$1,236,000 in Economic Cooperation administration funds was to be used largely for road-building machinery. Areas shut off from the coast by hundreds of miles of jungle were to be made accessible.

**Republic of the Philippines.**—Rehabilitation of war-damaged roads and bridges with assistance from the United States was in its last stages. The 304 construction and engineering projects provided for the rehabilitation of 81 sections of road totalling 360 mi. and 223 major bridges.

**Japan.**—Less than 3% of the roads were paved. Road improvement by occupation forces was of considerable benefit but was limited to the transport needs of the occupation forces. Japanese authorities embarked upon a more extensive general program. They planned construction of 16,600 mi. of new



road, rehabilitation of 262,000 mi. of existing road and bridge construction to cost about \$60,000,000. (See also MOTOR TRANSPORTATION.)

(T. H. MacD.)

**Rockefeller Foundation:**

see SOCIETIES AND ASSOCIATIONS.

**Rockets:** see JET PROPULSION; MUNITIONS OF WAR.

**Rodeos:** see SHOWS.

**Roentgen Ray:** see X-RAY AND RADIOLOGY.

**Roman Catholic Church.**

During 1950 the Roman Catholic Church celebrated its 25th Holy Year. Vatican officials estimated 3,000,000 pilgrims had journeyed to Rome to do penance and gain special indulgences. Seven canonizations took place. Marie Emile de Rodat, founder of the Sisters of the Sacred Family, April 23; Antonio Maria Claret, Spanish textile worker who became archbishop of Cuba, May 7; Bartolomea Capitanio and Vincenza Gerosa, who collaborated in founding the Sisters of Charity of Lovere, May 18; Jeanne de Valois, wife of King Louis XII, May 28; Maria Goretti, 11-year-old martyr of purity, June 24; Maria Ana de Paredes, who offered her life for the plague-stricken people of Ecuador, July 9.

In January Myron C. Taylor resigned as President Truman's personal envoy to the pope after ten years of service.

The Sacred Congregation of the Holy Office issued new instructions explaining the "Monitum" of June 5, 1948, which forbade Catholics to take part in public discussion of religious questions without permission of the Holy See. Bishops were given permission for a period of three years to meet locally with non-Catholics for the purpose of discussing religious "reunion." However, the new instruction reserved to the Holy See itself the right to grant permission for all other conferences or meetings of a larger than local or diocesan scope.

In Africa the first local hierarchies in 14 centuries were formed in Nigeria, the Cameroons, Togoland, the Gold Coast and Sierra Leone.

Indonesia established diplomatic relations with the Vatican. The apostolic delegation in Jakarta was elevated to the rank of papal internunciature and Archbishop George de Jonghe d'Ardoye was named internuncio.

Czechoslovakia expelled Msgr. Ottavio de Liva, sole diplomatic



ROMAN CATHOLIC HOLY YEAR 1950 being ushered in at St. Peter's cathedral in Rome, It. Holy Year activities were climaxed on Nov. 1 by the announcement of a new Roman Catholic dogma: the bodily assumption into heaven of the Virgin Mary

representative of the Vatican, and failed to release Archbishop Josef Beran who was still confined to his palace. Bishop Stanislav Zela, Olomouc auxiliary, and eight other Catholic churchmen were imprisoned. The Communist regime established its own "seminaries" for training Catholic "priests." All old theological faculties and seminaries of Catholic dioceses were liquidated and replaced by new faculties under the supervision of the state office for church affairs and the ministry of education.

In Poland the Communists seized Caritas, Catholic charity organization, and church-held lands. Arrests of priests of religious orders continued.

England celebrated the 100th anniversary of the restoration



of the Catholic hierarchy of England and Wales.

In Moscow, Father Brassard, A.A., of Worcester, Mass., was denied the use of the church by soviet authorities. The only other Roman Catholic clergyman in Moscow, Father Jean de Matha Thomas of France, was denied a resident permit.

The bishops of the United States, at their annual meeting, issued a statement stressing the urgency of religion in child upbringing and condemned world apathy toward religious persecution behind the "iron curtain."

The dogma of the Assumption of the Blessed Virgin Mary was proclaimed Nov. 1. This was the first instance of a solemn dogmatic definition uttered by the pope alone since the definition of the doctrine of the Immaculate Conception of the Virgin Mary on Dec. 8, 1854.

The National Catholic Education association held its 47th annual convention in New Orleans, La., in April. The theme of the meeting was "Education for International Understanding." In March the National Catholic Conference on Family Life met for the 18th annual convention in Detroit, Mich. The Catholic Press association, at the 40th annual convention in Rochester, condemned the Communist conquest of China and called on "all religious-minded persons, irrespective of creed, to unite in a world-wide religious front against secularism, totalitarianism and all their evils." The 36th annual meeting of the National Conference of Catholic Charities was held in Washington; the 28th convention of the National Catholic Rural Life conference in Belleville, Ill.; and the 68th annual meeting of the Knights of Columbus in New York.

In March Pope Pius issued the *Anni Sacri* encyclical, calling Catholics to join him on Passion Sunday in prayers for renewal of Christian morals and a return to order based on truth, justice and charity. The *Summi Maeroris* encyclical urged all Christians to renew prayers for peace. An encyclical letter, *Humani Generis*, warned against compromises that might undermine church doctrine. The encyclical *Mirabile Illud* inaugurated a world-wide prayer for peace crusade.

The world population of Roman Catholics exceeded 400,000,000. In the United States, Hawaii and Alaska, it was estimated at 27,766,141. The number of U.S. dioceses was increased to 102 when the new diocese of Worcester, Mass., was created. There were 23 archdioceses and the vicariate apostolic of Alaska. Parishes totalled 15,292 and there were 42,970 priests, 73,377 brothers and 147,310 nuns.

General Joseph Lawton Collins, army chief of staff, was named 1950 Laetare medalist by the University of Notre Dame. Attorney General J. Howard McGrath and Lou Montgomery, Negro lay leader, were awarded the James J. Hoey Medal for Interracial Justice. The medal "Pro Ecclesia et Pontifice," conferred by Pope Pius XII, was awarded for interracial work to George K. Hunton, executive secretary of the Catholic Interracial council, New York, Emmanuel A. Romero, Elmo M. Anderson and Maceo A. Thomas, all active in the council.

Bishop John J. Wright was appointed first bishop of the new diocese of Worcester, Mass.; Bishop Christopher J. Weldon was appointed in Springfield, Mass.; Bishop George W. Ahr in Trenton, N.J.; Bishop Stephen S. Woznicki in Saginaw, Mich.; Bishop John J. Russell in Charleston, S.C.; Bishop George J. Rehring in Toledo, O.; Archbishop Karl J. Alter in Cincinnati, O.

The College of Cardinals was reduced by the deaths of Luigi Cardinal Lavitrano, prefect of the Congregation of the Religious, and Konrad Cardinal von Preysing, head of the diocese of Berlin. Father Mariano Cordovani, O.P., personal theologian to Pope Pius XII, died in April. (See also CHURCH MEMBERSHIP; RELIGIOUS EDUCATION; PIUS XII; POLAND; SOCIETIES AND ASSOCIATIONS; VATICAN CITY STATE.)

FILMS OF 1950.—*Holy Year of 1950* (Castle Films); *Holy Year Pilgrimage to Rome* (World in Color Productions). (J. LAF.)

**Rome.** Capital and largest city of Italy. Area: 38.6 sq.mi. Pop.: (1936 census) 1,562,580; (1950 est.) 1,700,804. Mayor: Salvatore Rebecchini.

In connection with the Holy Year, Rome expected about 5,000,000 pilgrims, but only 3,000,000 came and two-thirds of them were Italian. The proprietors of Roman hotels and restaurants were disappointed, blaming the "cold war," the "iron curtain" and the currency regulations. Still, 3,000,000 pilgrims was ten times the number of the Holy Year of 1900. Another reason for bad temper among the hoteliers was the gift of \$2,800,000 by the Economic Cooperation administration for building and equipping hotels and hostels to provide pilgrims with food and lodging at nonprofit prices. Rome became the cleanest city of Italy for the Holy Year.

The decoration of the Spina di Borgo, the avenue leading to St. Peter's basilica, with a double row of 28 obelisks aroused many protests, but all Romans were proud of their new central railway station, a beautiful stone building with a rubber floor in the main hall. The new station was built further back than the old Stazione Termini (the only victim of a single Allied air raid on Rome), and the new station's square became the largest in Europe.

The F.A.O. (Food and Agriculture organization) established its headquarters in Rome, taking over the building of the former Italian ministry of colonies. (See also ITALY; VATICAN CITY STATE.)

FILMS OF 1950.—*Holy Year Pilgrimage to Rome* (World in Color Productions). (L. FE.)

**Rosenberg, Anna M.** (1902— ), U.S. assistant secretary of defense, was born on June 19 in Budapest, Hungary, the daughter of Mr. and Mrs. Albert Lederer. She was taken to the U.S. in 1912 and naturalized in 1917. She was married to Julius Rosenberg, New York businessman, in 1919.

Mrs. Rosenberg became a labour and public relations consultant and after 1935 served in a succession of important government positions, including: regional director of the National Recovery administration; regional director of the Social Security administration; regional director of the Office of Defense, Health and Welfare Services; regional director of the War Manpower commission, and a member of the Advisory Committee on Policy of the Office of the Co-Ordinator of Inter-American Affairs.

As personal representative of Pres. Franklin D. Roosevelt in 1944, and of Pres. Harry S. Truman in 1945, Mrs. Rosenberg visited the European theatre of war during World War II. From 1942 to 1945 she served as secretary of President Roosevelt's Labor Victory board. From 1944 to 1947 she served as a member of the Advisory board of the Office of War Mobilization and Reconversion. She was appointed assistant secretary of defense by President Truman, at the request of the secretary of defense, Gen. George C. Marshall, on Nov. 9, 1950. She received the oath of office on Nov. 15, under a recess appointment, and was confirmed in the office by the U.S. senate on Dec. 21, 1950.

**Rotary International:** see SOCIETIES AND ASSOCIATIONS.

**Rowing.** The year 1950 had its rowing preview on New Year's day at the third Palm Beach regatta. Yale won over the University of Pennsylvania by three feet—6 min. 42.2 sec. to 6 min. 42.8 sec.

In England, the usual throng saw Cambridge defeat Oxford by 3½ lengths in the 96th rowing of this event over the wind-





START of the feature race in the Intercollegiate Rowing association regatta held at Marietta, O., June 17, 1950. The University of Washington crews won all three events of the day: the freshman, junior varsity and varsity races

ing 4½-mi. Putney-to-Mortlake course. The Cantabs' time was 20 min. 15 sec.

In the United States in the more important college cup races of the year, Navy was victorious over Columbia for the Stephenson cup. Pennsylvania swept the ancient Childs cup regatta over Princeton and Columbia, as well as the Blackwell cup from Yale and Columbia. Harvard foiled Penn's designs for the Adams cup by winning at Annapolis, Md., with Navy third, and won the Compton cup by three feet from the Massachusetts Institute of Technology with Princeton and Rutgers trailing. Cornell beat Syracuse and Boston university at Ithaca, N.Y., and upset Princeton and Yale at Derby, Conn., for the Carnegie cup. Columbia made a clean sweep over Rutgers on the Harlem river and Washington defeated the University of California Golden Bears at Oakland, Calif.

These regattas culminated in the fifth annual Eastern Association of Rowing Colleges sprint championships at Annapolis. A new champion was crowned when a M.I.T. varsity crew, coached by James B. McMillin, nipped Harvard by four feet. Harvard retained the Rowe cup for the point score and Princeton won the junior varsity race and took second in the freshman and third in the varsity events. Thirty-four crews raced in the three events. The times and order of finish of the leaders were: varsity: M.I.T. 6 min. 28.8 sec., Harvard 6 min. 28.9 sec., Princeton 6 min. 34 sec.; junior varsity: Princeton 6 min. 33 sec., Harvard 6 min. 36.2 sec., Navy 6 min. 39.4 sec.; freshman: Harvard 6 min. 47.1 sec., Princeton 6 min. 50.2 sec., Boston university 6 min. 50.7 sec.

In a final sprint regatta, Harvard beat Cornell on the Charles river by 2½ lengths in the fast time of 8 min. 55.3 sec.

Yale's lightweights swept the Charles, winning the varsity to wrest the Wright cup from Cornell. Penn, Harvard, Princeton and Columbia followed. The times were: Yale 6 min. 52 sec.; Cornell 6 min. 53.7 sec. Yale also won the junior varsity and freshman events.

The eighth annual Dad Vail Rowing association regatta was held at Poughkeepsie, N.Y. Eleven colleges and 21 crews participated. Boston university won the Dad Vail trophy in the varsity for the fourth straight year, with Rollins college, Winter Park, Fla., second. The times were 5 min. 57.2 sec. to 5 min. 59.1 sec. Dartmouth won the junior varsity and Boston university the freshman event.

In the 16th Interscholastic championships at Princeton, N.J.,

Washington and Lee High school of Arlington, Va., kept its 1949 crown. The championship singles went to John Guest, Jr., of Canada.

The 48th Intercollegiate Rowing association regatta, transferred from Poughkeepsie, N.Y., to Marietta, O., for the first time, found the Ohio river on a rampage because of heavy rains. All races had to be shortened and times meant little. In the varsity race the first four crews to finish were Washington, California, Wisconsin and Stanford. The Washington Huskies also led the University of California Golden Bears in the junior varsity race, followed by Navy and Princeton, and won the freshman race, followed by Princeton, Cornell and Pennsylvania.

Harvard won from Yale at New London, Conn., in the only four-mile race in the U.S. The times were 21 min. 36.4 sec. to 21 min. 37.2 sec. Harvard's junior varsity and freshmen also beat Yale, both at two miles.

In the Henley Royal regatta, Harvard won the Grand Challenge cup from the Njord Rowing club of the University of Leyden in 7 min. 23 sec. It was Harvard's third victory in this event. The Thames cup went to Kent school, U.S., for the fourth time, with the Thames Rowing club second. Anthony Rowe won the Diamond Sculls for Great Britain from Robert van Mesdag of the Netherlands. Denmark won the Double Sculls and the Stewards' cup for fours and Belgium the Silver Goblets for pairs.

In the 76th championships of the National Association of Amateur Oarsmen, held at Philadelphia, Pa., the Vesper Boat club of Philadelphia, sparked by John B. Kelly, Jr., won six championships and the Julius H. Barnes trophy. Kelly won the dash and the single sculls and stroked the Vesper eight and the senior quadruple sculls. Joseph Angyal of the New York Athletic club won the lightweight dash to add to his club's intermediate eight victory. The Kieffer brothers, John and Larry, of the Fairmount Rowing association of Philadelphia, won the pair shell races.

At the 68th Royal Canadian Henley at Port Dalhousie, Ont., the point score went to St. Catharines, the host club, with the West Side Rowing club of Buffalo, N.Y., second and the Toronto Argos third. U.S. champion Kelly regained his singles title and crewed to win the doubles as well. U.S. crews won 9 of the 14 championship events.

The European championships were held at Milan, It. There were 15 countries represented. Denmark won the fours with coxswain, the singles and doubles; Italy the pairs with coxswain, fours without coxswain and the eights; and Switzerland



the pairs with coxswain.

Mervyn T. Wood, Australian constable and 1948 Olympic singles champion, successfully defended his world sculling title in the Philadelphia Gold Challenge cup regatta from John B. Kelly, Jr., U.S. and Canadian champion and 1949 European champion, and Anthony Rowe of England, who was the 1950 Diamond Sculls winner. Wood rowed the  $\frac{1}{4}$ -mi. course in 7 min. 14.2 sec. and Kelly in 7 min. 16.3 sec. Rowe trailed Kelly by one length at the finish.

(C. L. Bt.)

**Ruanda and Urundi:** see BELGIAN COLONIAL EMPIRE; TRUST TERRITORIES.

**Rubber.** The confused situation in the world's commercial supply of new rubber made 1950 the most chaotic year in this respect since 1941. Natural rubber spot prices (New York) fluctuated from about 18 cents (Jan. 16) to 86 cents (Nov. 8) per pound. The new supply of natural rubber for the United States through Sept. 1950 was 584,479 long tons as against 478,421 long tons for the same period in 1949. The invasion of South Korea on June 25 led to scare-buying of finished products by consumers and to heavy purchases of the raw material for the U.S. strategic stock pile and by foreign manufacturers for stock. Heavy purchases of rubber by the U.S.S.R. and large shipments to Chinese ports which may have been destined for soviet consumption aggravated the demand. Despite continued slow-down and guerrilla tactics which continued to plague production of crude rubber in Malaya and Indonesia, these sources materially increased their rates of production during 1950. In Indochina, however, the Communist infiltration lowered 1950 rubber production appreciably below 1949 levels. World figures for the first nine months of 1950 showed crude rubber production of 1,332,500 long tons and consumption of 1,215,000 long tons against the corresponding 1949 figures for production 1,082,500 and consumption 1,057,500 long tons.

**Natural Rubber.**—World production of natural rubber in 1949 was 1,487,500 long tons and exceeded world consumption of 1,437,500 tons by only 50,000 tons. In synthetic rubbers, 1949 world production of 440,332 long tons and consumption of 450,000 long tons actually resulted in a deficit of 10,000 long tons. In 1949, U.S. consumption of new rubbers comprised 574,522 long tons of natural and 414,381 long tons of synthetic rubbers—a total of 988,903 long tons. November estimates were for a record 1950 consumption total of 1,240,000 long tons. Net imports of natural rubber latex, Jan. through June 1950 into the United States, were 23,015 long tons dry rubber content, and into the United Kingdom 6,902 long tons. Malaya continued to supply more crude rubber than any other source; with Indonesia it supplied about 70% of the world's total.

Table I.—World Consumption of Natural Rubber  
(in long tons)

Last 1949	U.S.	U.K.	France	Germany	U.S.S.R.*	Other Europe*	Canada	Grand Total*
July . . . . .	40,434	14,080	7,190	5,025	5,000	13,500	2,452	105,000
Aug. . . . .	45,090	12,648	4,002	5,661	5,000	12,500	2,432	105,000
Sept. . . . .	43,755	13,707	7,803	5,655	10,000	13,500	3,259	115,000
Oct. . . . .	51,002	18,905	8,375	6,300	10,000	13,500	3,338	130,000
Nov. . . . .	51,873	16,581	8,018	6,034	5,000	13,500	3,324	125,000
Dec. . . . .	52,690	19,088	8,410	5,111	2,500	13,500	3,512	125,000
First 1950								
Jan. . . . .	59,992	20,011	8,542	5,995	1,000	13,500	3,608	132,500
Feb. . . . .	56,580	17,211	8,708	5,413	2,500	13,000	3,690	125,000
March . . . .	60,859	17,445	5,491	5,606	3,750	13,500	3,916	130,000
April . . . .	57,914	19,143	5,866	4,882	3,750	13,500	3,477	127,500
May . . . . .	63,813	16,697	8,481	5,494	10,750	13,500	3,588	142,500
June . . . . .	63,333	17,641	9,493	6,049	5,750	13,500	4,041	137,500

\*Estimated.

**Synthetic Rubber.**—The general purpose synthetic rubber (GR-S) produced in U.S. government plants in Jan. 1950 was only 18,124 long tons, the lowest level since the plants were

started in 1943. With crude rubber available at 18 cents a pound, the level market price of 18½ cents a pound for GR-S gave manufacturers no great incentive to increase the use of man-made rubber. It was not apparent until the spring quarter 1950 that the industry was going to require more new rubber than in any previous year. On June 12, congress extended the Rubber act of 1948 to be operative until June 30, 1952, largely because of the "systematic disruption of rubber production" in Malaya by guerrilla forces and the "internal strife and virtual anarchy" affecting Indonesia, and the "obvious Communist control of rubber-producing countries." On July 7 the government authorized the reopening of one GR-S plant, one Butyl production unit and one butadiene plant. Three weeks later additional facilities sufficient to bring the total output of GR-S and Butyl up to 675,000 long tons a year were ordered reopened. On Sept. 13 reopening all remaining government facilities, including plants deriving butadiene from alcohol, was directed. In December the Reconstruction Finance corporation announced that the prices of synthetic rubber were to be advanced from 18½ cents a pound to 20¾ cents a pound for Butyl and to 24½ cents a pound for GR-S.

Table II.—Consumption of Synthetic Rubber  
(GR-S or Buna S, Neoprene, Butyl, Nitrile rubbers, in long tons)

Last 1949	U.S.	U.K.	France	Germany	Other Europe*	Canada	Grand Total*
July . . . . .	30,094	179	599	224	300	1,160	32,500
Aug. . . . .	34,419	182	404	219	250	1,186	37,500
Sept. . . . .	32,443	198	685	202	300	1,391	35,000
Oct. . . . .	33,687	215	732	224	300	1,411	37,500
Nov. . . . .	31,684	210	645	236	300	1,397	35,000
Dec. . . . .	31,771	208	758	183	300	1,434	35,000
First 1950							
Jan. . . . .	33,966	234	724	249	300	1,527	37,500
Feb. . . . .	31,860	220	691	216	300	1,630	35,000
March . . . .	37,647	229	346	223	300	1,683	40,000
April . . . .	38,075	234	335	175	300	1,640	40,000
May . . . . .	46,398	211	610	250	300	1,837	50,000
June . . . . .	48,608	226	674	298	300	1,817	52,500

\*Estimated.

**Reclaimed Rubber.**—Except for the two war years of 1942 and 1943, the percentage of reclaimed to new rubber consumed by the United States in transportation items remained remarkably constant after 1939. It thus became prevailing practice in transport items to use about one pound of reclaimed for six to seven pounds of new rubber. While the tonnage consumption of reclaimed rubber in nontransportation items was fairly level each year after 1939, between 111,641 long tons in 1949 and 174,208 long tons in 1944, the percentages of reclaimed to new rubber showed considerable variation, 33.9% in 1949 minimum to 132% maximum ratio in 1942. This data revealed that the levelling effect of reclaimed rubber on the economics of rubber goods manufacture in industrial products was no more marked than for tires, repair gums and auto accessories.

Table III.—Consumption of Reclaimed Rubber  
(in long tons)

Last 1949	U.S.	U.K.	Germany	Australia	Canada	Total
July . . . . .	15,966	1,516	1,794	486	780	20,542
Aug. . . . .	19,297	1,487	1,851	486	752	23,873
Sept. . . . .	18,517	1,642	1,781	486	962	23,388
Oct. . . . .	19,638	1,919	1,694	566	988	24,805
Nov. . . . .	18,512	2,061	1,577	567	897	23,614
Dec. . . . .	18,210	1,993	1,221	566	1,038	23,028
First 1950						
Jan. . . . .	20,106	2,172	1,628	568	1,052	25,526
Feb. . . . .	19,741	1,736	1,294	568	1,070	24,409
March . . . .	22,151	1,719	1,308	568	1,139	27,285
April . . . .	21,318	1,842	1,084	...	1,059	...
May . . . . .	24,158	1,981	1,357	...	1,134	...
June . . . . .	25,253	2,133	1,608	...	1,234	...

**Tires and Tubes.**—More than 8,000,000 new passenger cars made in 1950 in the United States each required new tires and tubes. The replacement shipments of tires were unusually heavy. It was estimated at year-end that about 250,000,000 tires were



in service. Total U.S. shipments of tire casings in the year ending July 30, 1950, were 89,013,000 (75,819,000 passenger car and 13,194,000 truck and bus). During the year brisk buying of automotive rubber goods was accompanied by four price increases for passenger car casings, and five increases in the prices of truck and bus tires. Despite these price advances and an active market all year, there was a spurt of scare-buying of tires during July and August which subsided in September.

Table IV.—U.S. Reclaimed Rubber Consumption: Transport and Nontransport  
Ratio to New Rubber Consumption  
(in long tons)

Year	Transport			Nontransport		
	New rubber	Reclaimed	Per cent	New rubber	Reclaimed	Per cent
1939 . . . . .	442,668	71,477	16.7	151,082	98,523	65.2
1940* . . . . .	457,500	73,280	16.0	193,560	116,920	60.4
1941* . . . . .	525,000	84,000	16.0	256,259	167,231	65.3
1942 . . . . .	269,950	90,736	33.6	124,492	164,084	132.0
1943 . . . . .	348,796	118,792	34.1	139,729	172,290	123.2
1944 . . . . .	491,064	76,875	15.7	219,719	174,208	79.4
1945 . . . . .	590,221	96,798	16.4	208,788	144,238	69.1
1945 (Jan.-June) . . . . .	309,652	51,907	...	122,007	77,587	...
1946 . . . . .	777,058†	107,930	13.9	262,238	167,480	63.8
1946 (May-Dec.) . . . . .	524,067	70,041	...	183,970	118,167	...
1947 . . . . .	830,593	116,581	14.0	291,614	171,814	58.9
1948 . . . . .	744,581	112,408	15.1	324,823	148,705	45.8
1949 . . . . .	659,533	111,038	16.9	329,370	111,641	33.9
1950 (6 months) . . . . .	397,614	65,472	16.5	201,431	67,255	33.4

\*Estimated.

†Includes a year-end adjustment of 5,384 tons of GR-S.

(See also CHEMISTRY; RAYON AND OTHER SYNTHETIC FIBRES.)

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**Rugby:** see FOOTBALL.

**Rulers:** see PRESIDENTS, SOVEREIGNS AND RULERS.

**Rumania.** A people's republic of southeastern Europe, bounded north and northeast by the U.S.S.R., east by the Black sea, south by Bulgaria and west by Yugoslavia and Hungary. Area: (1939) 113,889 sq.mi.; (1947, without Bessarabia, northern Bukovina and southern Dobruja) 91,654 sq.mi. Pop.: (Jan. 25, 1948, census) 15,872,624. Language (1948 census): Rumanian 85.7%; Hungarian 9.4%; German 2.2%; Yiddish 0.9%; other 1.8%. Religion (1947 est.): Greek Orthodox 81%; Greek Catholic 9%; Roman Catholic 7%; other 3%. Chief towns (pop., 1945 est.): Bucharest or Bucuresti (cap., 1948 census, 1,401,807); Cluj (110,956); Jassy or Iași (108,987); Timișoara (108,296); Ploesti (105,114); Brăila (97,292); Galați

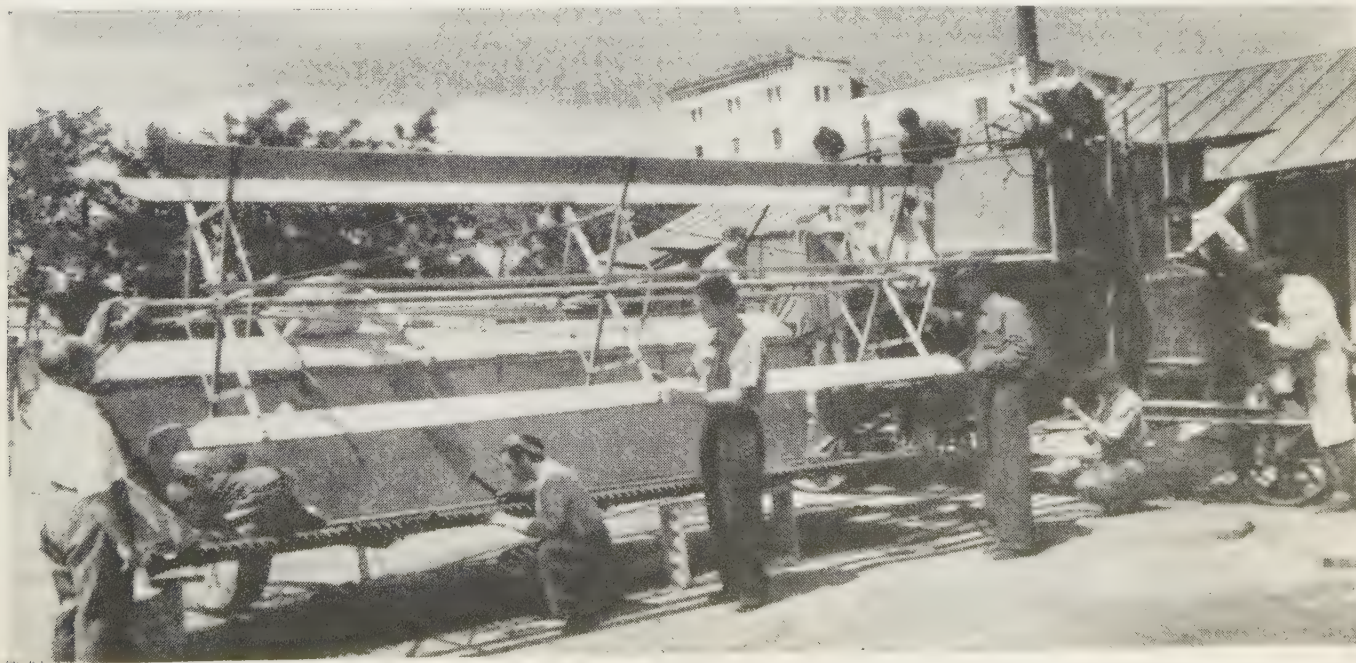
(93,229). Chairman of the presidium of the grand national assembly: Constantin Parhon; prime minister: Petru Groza.

**History.**—On March 16, 1950, a government reshuffle led to the appointment as vice-premiers of Teohari Georgescu, Iosif Chișinevski (Kishinevsky) and Chivu Stoica. All three were prominent and veteran Communists. Georgescu was an expert in police affairs, Chișinevski in education and propaganda, Stoica in industrial and trade union matters.

The "verification" of membership of the Communist party, which began in 1949 and continued into 1950, resulted in the removal of 192,000 members, or 20% of the party's strength. After it was concluded, the party had 720,000 members. According to an official statement at the end of July 1950, the party was to make greater efforts to recruit industrial workers. The aim for two or three years was to ensure that 60% of the party's members should be workers. In future the conditions of admission to the party were to depend on the candidate's social origin. Four-fifths of all new candidates must be workers. A worker in heavy industry would have a period of probation of only six months, and would need to be recommended by two party members who had been in the party not less than three years. For workers in other branches of industry, at machine-tractor stations and on state farms, and for members of collective farms, agricultural labourers and working peasants the period of probation was to be one year, and there must be three sponsors who had been in the party not less than three years. For members of other social classes the period of probation would be one and a half years, and there must be four sponsors all of whom had been party members for not less than four years. It was also stated that during the previous year 249,000 party members had attended courses of instruction in party training centres and that in the coming year 324,000 persons would do so.

On Sept. 6 a new law was passed on the administrative divisions of the country. Many of the old counties, which had arisen for various historical reasons and did not represent economic units, were abolished. In the place of 58 provinces and 424 districts, 28 regions subdivided into 177 districts were created. The new subdivisions resembled those in the Soviet Union. The principles of integration of local with central authority and of the responsibility of each administrative unit, not only to its own electors and population but also to the administrative unit at the level above it, were also stressed. It seemed unlikely that the reorganization would have much importance, as the old units

ONE OF THE FIRST HARVESTING COMBINES manufactured in Rumania, shown receiving finishing touches early in 1950





were in fact as completely controlled by members or nominees of the Communist party as the new units would be. Its significance was perhaps as a symptom of the growing subordination of the country to soviet models, formal as well as real.

Collectivization of agriculture had not yet gone far. The first Rumanian collective farm was set up on July 24, 1949. A year later there were 670, and by mid-September there were about 1,000.

It was officially claimed that the economic plan for 1949 had been achieved to the extent of 108%. Production of tractors was claimed to have been double the proposed target, of steel 27% above the target and of crude oil 9% above. It was also stated that the land held by state farms had been more than trebled (from 220,000 ha. to 720,000 ha.). The targets for the 1950 plan showed a proposed increase over 1949 output of oil by 32%, of electric power by 13%, of steel by 19% and of machinery by 40%. The number of machine-tractor stations was to increase by one-third, and of tractors in them by one-half. In March 1950 a number of criticisms of the Baia Mare mines by a committee of investigation were published. Health services and educational facilities for the miners were insufficient, and technical methods were backward. One of the management's faults was failure to popularize soviet methods. The Stakhanovite system however was pushed ahead in Rumanian industry as a whole. A State Planning commission report of July 28 stated that in the second quarter of the year 67% of all industrial workers had been engaged in "Socialist competition."

A law for the nationalization of all house property belonging to landowners, businessmen, bankers and any of the exploiting class was a further blow against the remnants of the old middle class. The vagueness of its phrasing enabled the government to interpret it as it wished. Removal or damage to any object in the property before the authorities took it over was to be punishable by imprisonment for 5 to 10 years.

The Rumanian government closed the British and U.S. information offices in March 1950. Before this Rumanian personnel employed in these offices had been threatened, and in some cases arrested and maltreated by the political police. At the end of April another spy trial was staged. A woman employee of the British information office was sentenced to 20 years' imprisonment. The well-known newspaper editor, Liviu Nasta, was among the accused at the trial, and also received a 20-year sentence. In July another spy trial was held, which "implicated" the Turkish legation and the papal nunciatura. In August there was a trial of Yugoslavs accused of espionage on behalf of Tito. On Oct. 23 another spy trial included four French subjects, who received long prison sentences.

(H. S.-W.)

**Education.**—Schools (1949-50): elementary, pupils 1,790,000; secondary, pupils 224,000; higher education, students 48,500. Illiteracy (1948) 23.1%.

**Finance and Banking.**—Budget: (1950 est.) revenue 353,880,000,000 lei, expenditure 350,680,000,000 lei. Currency circulation (July 1948) 32,000,000,000 lei. Monetary unit: leu (pl. lei) with an official exchange rate of 153 lei to the U.S. dollar.

**Foreign Trade.**—(1948) Imports U.S. \$96,000,000; exports U.S. \$160,000,000.

**Transport and Communications.**—Roads (1945) 43,163 mi. Licensed motor vehicles (Dec. 1949): cars 14,000; commercial vehicles 12,000. Railways (1949): 7,363 mi. Shipping (1948): merchant vessels 15; total tonnage 32,962. Telephones (1949) 135,000.

**Agriculture.**—Main crops (metric tons): wheat (1948) 2,600,000; maize (1947) 5,279,000; barley (1947) 364,000; oats (1946) 280,000; rye (1947) 66,000; potatoes (1949) 1,090,000; sugar, raw value (1948) 112,000. Livestock: sheep (Dec. 1948) 7,300,000; pigs (March 1947) 1,406,000; cattle (Dec. 1947) 3,048,000; horses (Dec. 1948) 939,000.

**Industry.**—Industrial establishments (1947): 28,295; persons employed 462,305. Fuel and power (1947): coal 162,000 metric tons; lignite 2,108,000 metric tons; natural gas 2,106,000,000 cu.m.; electricity 712,000,000 kw.hr.; crude oil (1949) 4,500,000 metric tons. Raw materials (metric tons, 1947): pig iron 91,000; steel 183,000; lead 3,000; zinc 2,000; gold 2,231 kg.; silver 481,000 fine troy oz. Manufactured goods (metric tons, 1947): refined petroleum products 3,450,000; cotton yarn 11,300; cotton fabrics 3,200; cement 418,000.

**Running:** see TRACK AND FIELD SPORTS.

**Rural Electrification.** The Rural Electrification administration estimated that 5,053,676 farms, or 86.3% of all U.S. farms, had central station electric service as of June 30, 1950. This compared with 78.2% on June 30, 1949; 30.4% in 1940; and 10.9% at the start of the federal rural electrification program in 1935. According to the REA estimates, by the end of 1950 fewer than 800,000 farms were still unelectrified. The percentages and estimates were based on the total number of farms reported in the agricultural censuses of 1935, 1940 and 1945.

The cumulative total of REA loans approved passed the \$2,000,000,000 mark in 1950, and REA-financed lines in operation reached 1,000,000 mi. The borrowers had added about 115,000 mi. of line and 311,315 consumers to their systems by Sept. 30, 1950. At that time the borrowers were serving a total of 3,342,415 consumers and operating a network of 1,054,500 mi. of line in rural areas of 46 states.

REA marked the first anniversary of the rural telephone lending program Oct. 28, 1950, with assurance to more than 50,000 farms and other rural establishments of new or improved telephone service. Under an amendment to the basic REA legislation enacted in 1949, congress authorized REA to undertake a rural telephone loan program to provide for the improvement and expansion of telephone service. As in the electrification program, the loans were to bear 2% interest and be amortized over a period of 35 years. At the close of the first year of this program, REA had approved more than \$12,000,000 in loan allocations to 27 commercial companies and 14 co-operatives for extending and improving service on an area coverage basis in rural areas of 21 states. The first REA-financed telephone facilities went into operation on Sept. 20, 1950, when the Fredericksburg and Wilderness Telephone company of Chancellor, Va., placed its modernized and expanded telephone system in operation.

Under the electrification program, REA borrowers in 1950 included 980 rural electric co-operatives, 41 public power districts, 24 other public bodies and 25 commercial power companies. They had 1,004 rural power systems in operation, an increase of 11 over 1949. During the first nine months of operation, REA had approved \$220,276,951 in electrification loans to its borrowers, increasing the cumulative total to \$2,219,556,657, as compared with \$1,996,000,000 at the close of 1949. Loan funds advanced to borrowers from Jan. 1 to Sept. 30, 1950, to pay for completed construction totalled \$172,712,654. This brought loan funds advanced to \$1,615,882,456 at the end of Sept. 1950.

REA borrowers increased their financial stability during 1950 as was indicated by payments of principal in advance of due date by Sept. 30, 1950, of \$23,500,000. Their payments of principal and interest cumulatively totalled \$255,774,928, which was more than the total amount of funds advanced by REA during the first five years of the electrification program.

REA borrowers distributed about 20% more power in 1950 than in 1949. They sold almost 7,800,000,000 kw.hr. of electric energy, exceeding sales of 1949 by 1,600,000,000 kw.hr. The average annual consumption of electricity per consumer on REA-financed lines increased 175 kw.hr. from 2,240 kw.hr. to 2,415; for 1949 the increase was from 2,084 to 2,240 kw.hr.

During the first nine months of 1950, about 11% of the total amount of power distributed by REA borrowers came from REA-financed generating facilities. The installed capacity of REA-financed generators increased from 335,000 kw. in 1949 to 396,000 kw. in 1950.

At no time in the history of REA had the problem of where to buy additional power been more serious than at the end of 1950. During the year, REA approved loans for the purpose of alleviat-



ing this power shortage in areas lacking transmission facilities or generating capacity or both.

(G. W. Hb.)

**Canada.**—During 1950 the Saskatchewan Power corporation spent \$5,000,000 on expansion and served an additional 2,400 farms. By the beginning of the year 17,000 Manitoba farmers had electricity. During 1950 an additional 5,000 farmers and 37 villages and hamlets were added to the power lines. Alberta added nearly 5,000 farms to rural lines in 1950.

Ontario developments in 1950 included the construction of 2,500 mi. of rural lines and the addition of 1,100 customers on new lines and 2,300 on existing lines. By mid-1950 the provincial government's hydro had 257,000 rural customers, including 100,000 farmers.

The Quebec provincial legislature voted a \$3,000,000 increase for rural electrification programs.

FILMS OF 1950.—*Harnessing the Hills* (British Information Services). (C. Cy.)

**Rural Rehabilitation Loans:** see FARMERS HOME ADMINISTRATION.

## Russell, Bertrand Arthur William Russell,

3RD EARL (1872— ), British philosopher, mathematician and sociologist, was born at Trelleck, Monmouthshire, Eng., May 18. He was educated privately and at Trinity college, Cambridge. (For his early career and an account of his philosophical and mathematical theories, see *Encyclopædia Britannica*.)

In 1944 Russell returned to England from the United States, where he had lectured at various institutions since 1938, and was elected to a fellowship of his college for the second time. In 1946 *A History of Western Philosophy* was published; he had been engaged in writing this work for many years. In late 1948 and early 1949 he gave the first series of Reith lectures, which had been initiated by the British Broadcasting company and were broadcast in its Third program; his subject for the six lectures was "Authority and the Individual." In Nov. 1950 he was awarded the Nobel prize for literature "in recognition of his many-sided and important work in which he has constantly stood forth as a champion of humanity and freedom of thought." Also in 1950 his *Unpopular Essays* were published.

**Russell Sage Foundation:** see SOCIETIES AND ASSOCIATIONS.  
**Russia:** see UNION OF SOVIET SOCIALIST REPUBLICS.

**Russian Literature.** Literature in the Soviet Union continued to suffer from creative drought in 1950. In thought control, the Zhdanov era, inaugurated in 1946, had left all earlier restrictions on artistic creation far behind. If the campaign against "homeless cosmopolitans" abated in 1950, it was because by the end of 1949 all nonconformists had either been silenced or made to toe the line. The stress was therefore shifted to attacks on the "enemies" of the Soviet Union. Most of the older soviet writers were either silent or actively engaged in the campaign against "American warmongers" and in the defense of the soviet version of world peace. The *Literary Gazette*, official organ of the Union of Soviet Writers, had completely lost its literary character and served almost exclusively the cause of Communist political propaganda.

Among individual works by well-known soviet writers may be mentioned Fyodor Gladkov's *Volnitsa* (*Freebooters*), a sequel to his autobiographical *Tale of My Childhood*. Like Maxim Gorky's autobiographical series, which it resembled, it seemed likely to remain the author's most memorable work. Mikhail Slonimsky's novel *Inzheneriy* (*Engineers*) was inferior to most of his earlier works. None of the newcomers to literature was likely to be remembered for work published in 1950. Obeying the party line,

most of the writers concentrated on the portrayal of the heroic features of soviet life (in which the cult of Stalin played an ever-growing part), or on the unmasking of the "warmongers." In poetry the only notable event was a new translation of Goethe's *Faust* by Boris Pasternak, criticized by some Communist pundits for a tendency to read into Goethe his own mood of romantic disillusionment. The pathetic reappearance of Anna Akhmatova, who was hounded off the literary stage in 1946, with a series of poems glorifying Stalin and the Soviet Union as the only champion of peace, was of psychological rather than literary interest. It may even be doubted whether Akhmatova really wrote those trite, mediocre poems.

Outside the U.S.S.R. the most notable event was the book of literary memoirs (*Vospominaniya*) by the octogenarian Ivan Bunin. Full of venomous spite, it exploded—often with gross unfairness—many literary reputations. Mark Aldanov's *Istoki*, published earlier in English as *Before the Deluge*, at last made its appearance in Russian. Boris Zaytsev's *Yunost* (*Youth*) was another instalment of his autobiographical novel *Gleb's Journey*. There were also several interesting volumes of poetry, both by the poets of the older generation (Sergey Makovsky, Georgy Ivanov) and by the younger ones.

Sergey Maksimov's novel *Denis Bushuyev* was acclaimed by critics as the first major literary work by a new *émigré*, a former soviet citizen and "displaced person." A work of uneven quality, somewhat in the Gorky tradition, it gave the first unbiased picture of life on the Volga under the soviet regime. Maksimov showed an undoubted talent for description and characterization, but intellectually often found himself out of his depth. Another displaced person writer, D. Klenovsky, proved a valuable acquisition to the ranks of *émigré* poets.

Ivan Shmelyov died in Paris at the age of 75. He would be best remembered for his first novel *The Waiter*, his *Sun of the Dead*, a grim and powerful picture of the early years of the Revolution, and his semifictional recollections of the old Russian mode of life, now irrevocably gone, in *The Lord's Year*, which is imbued with a strong feeling for the national-religious traditions. Valentin Kostylyov, author of a long historical novel about Ivan the Terrible, and Pavel Bazhov, who turned to account popular legends of the Urals (one of which, *The Stone Flower*, was made into a successful film), died in the Soviet Union. (G. St.)

**Rye.** The U.S. rye crop of 1950, amounting to 22,977,000 bu., was far smaller than the 32,155,000-bu. average of the years 1939-48. Of 3,720,000 ac. sown, 1,822,000 ac. were harvested for grain, as compared with the record low harvested acreage of 1,560,000 in 1949. The yield was slightly above normal at 12.6 bu. per acre against 12.0 bu. in 1949. South Dakota made a particularly favourable showing in producing 5,250,000 bu., compared with only 2,470,000 bu. in 1949; other major producing states were North Dakota (2,808,000 bu.), Nebraska (2,415,000 bu.) and Minnesota (2,349,000 bu.).

Average prices received by farmers for rye fluctuated a few cents above the February low of \$1.19 per bushel in the earlier part of the year, then rose to \$1.37 per bushel in December. The value of the 1950 crop was preliminarily estimated at \$28,937,000, compared with \$22,807,000 for the previous crop. A non-recourse government price support loan was available to farmers on the 1950 crop at an average rate equal to 75% of parity or \$1.28 per bushel. The year end carry-over on July 1 of 9,500,000 bu. was substantial in view of the fact that imports from Canada appeared likely to continue to exceed exports from the U.S.

World rye production in 1950 was estimated preliminarily at 1,665,000,000 bu., moderately below the 1,715,000,000 bu. of 1949, also below average. The Canadian crop, estimated at 13-



346,000 bu., was larger than the 10,071,000-bu. crop of 1949 and the prewar average of 9,191,000 bu. The European crop of 685,000,000 bu. was below 1949 and well below prewar. The estimated production of 910,000,000 bu. in the U.S.S.R. was 40,000,000 bu. below 1949, but exceeded the prewar average.

(J. K. R.)

**Saar.** A German state (*Land*), the Saar was united with France by monetary (from Nov. 20, 1947) and customs (from April 1, 1948) union. Area: 734 sq.mi. Pop. (1948 est.): 914,000. Language: German. Religion: Roman Catholic 75%, Protestant 24%. Capital: Saarbrücken (pop., June 1947 est.) 97,752. High commissioner of the French republic, Gilbert Granval; prime minister (from Dec. 20, 1947), Johannes Hoffmann.

**History.**—An agreement was signed on March 3, 1950 by Johannes Hoffmann, for the Saar government, and Robert Schuman, French foreign minister, regulating the political and economic relations between France and the Saar. A general convention reaffirmed the legislative, administrative and judicial autonomy of the Saar but accorded to the French representative the right of intervention if legislative or executive acts threatened to compromise the economic and customs union with France or the political independence or the external security of the Saar. A Saar representative was to be appointed to France. By an agreement to run 50 years unless the peace treaty determined otherwise France was to manage the coal mines of the Saar but not to become their owner. France promised to support the Saar claim to ownership. A consultative mines council, half of Frenchmen and half of Saarlanders, was to be created. The mines management would pay to the Saar government 30 fr. for each of the first 2,000,000 tons extracted annually irrespective of profits and loss, and the same sum for each further ton provided there would be a profit. It was calculated that the Saar would probably receive 70,000,000 fr. a year. The Saar railways were to remain an independent organization; half the council of administration was to be French, but the director-general a Saarlander. In principle, fares and freight would be the same as in France.

A resolution passed on Dec. 1 by the *landstag* (unanimously except for the one Communist deputy) asked that the Saar should be admitted to the Schuman plan negotiations on an equal footing with the six powers already engaged in them and that the Saar should be granted a substantially larger share of ERP aid by France. It was claimed that it had so far received only 3,500,000,000 fr. Three Saar delegates participated in the European consultative assembly, and a Saar minister, with a consultative voice like the German minister, participated in the committee of ministers at Rome.

During the May day demonstrations organized by the Social Democrats, Communists tried to provoke demonstrations of their own. They carried both the German republican and the red flags. Arrests were made, followed by a trial at the beginning of October. The Communist leaders were condemned to terms of imprisonment for breaches of the peace and violence to the police but they were released pending appeal.

The congress of the Democratic party at the end of October led to the predominance of German nationalists in this party. The party's three deputies declined to accept the new platform and resigned from the party, but retained their seats.

Coal and steel production, in thousand metric tons, was:

	1950	1949	1948	1947	1936-38
Steel : : : :	1,837	1,756	1,216	704	2,418
Coal : : : :	14,700	14,236	12,474	10,500	12,500

(D. R. Gr.)

**Safety:** see ACCIDENT PREVENTION.

**St. Christopher:** see LEEWARD ISLANDS.

**St. Croix:** see VIRGIN ISLANDS.

**St. Helena.** This British colony includes St. Helena with the dependencies of Ascension and Tristan da Cunha, all islands in the South Atlantic; also the uninhabited islands of Nightingale, Inaccessible and Gough and dependencies. Areas and pop. (1946 census): St. Helena 47 sq.mi. (4,748); Ascension 34 sq.mi. (292); Tristan da Cunha 45 sq.mi. (230). Capital: Jamestown (pop. 1,547). Governor: Sir George Joy.

**History.**—Considerable progress was made during the year 1950 with a £200,000 development scheme which included agricultural development, soil conservation, reforestation and housing. The rebuilding of the flax mills, financed by a tax on hemp exports, was nearly completed. The Colonial Development corporation in co-operation with a South African company opened a factory on the isolated dependency of Tristan da Cunha for the canning of crawfish, and a shop. The islanders were thus able to obtain employment and the island entered upon a cash economy.

**Finance and Trade.**—Currency: the pound sterling. Budget (1950 est.): revenue £111,071; expenditure £111,071. Foreign trade (1949): imports £135,080; exports, incl. re-exports, £106,881. Principal exports: flax, lily bulbs. (K. G. B.)

**St. John:** see VIRGIN ISLANDS.

**St. Kitts-Nevis:** see LEEWARD ISLANDS.

**St. Laurent, Louis Stephen** (1882— ), Canadian prime minister, born on Feb. 1 at Compton, Que., was educated at St. Charles college, Sherbrooke, and Laval university, Quebec, Que. He practised law until Dec. 10, 1941, when he entered federal politics as minister of justice and attorney general. From Sept. 4 to Dec. 10, 1946, he held the additional post of secretary of state for external affairs, but on the latter date relinquished the portfolio of justice. He was elected as Liberal member for Quebec East on Feb. 9, 1942, and re-elected in 1945. In 1948 he succeeded W. L. Mackenzie King as leader of the Liberal party and on Nov. 15, when King laid down the office of prime minister, St. Laurent became the 17th prime minister of Canada.

During 1950, St. Laurent led the government in a regular session of parliament and in a special session called to settle the railway strike and to approve the United Nations special force for Korea. He also presided over two federal-provincial conferences, one for the purpose of devising a method of amending the constitution in Canada, and the other dealing with fiscal and social security matters.

St. Laurent twice visited New York city, once to address the Canadian society there and the second time to attend the United Nations. (See also CANADA.) (C. Cy.)

**St. Louis.** St. Louis, Mo., had a population of 852,623 by the 1950 federal census, preliminary figures, with an additional 820,844 in the greater metropolitan area. Its mayor in 1950 was Joseph M. Darst, a Democrat.

A trend, begun in 1948, continued at the Nov. 7, 1950, election with the Democrats winning the seven municipal administrative offices at stake. At the August primary St. Louisians soundly voted down a new city charter chiefly because it permitted imposition of a city earnings tax.

Completed at the end of the year was a new \$11,000,000 vehicular toll bridge over the Mississippi river connecting St. Louis and East St. Louis. It was the eighth bridge, vehicular or railroad, crossing the river at or near St. Louis.

Housing remained a problem though building permits valued at \$73,824,395 broke all records and added 3,670 dwelling units. An ordinance opened the way for a \$50,000,000 slum clearance project for middle income housing to be financed mostly from



private capital.

Streetcar and bus fares were increased by the privately owned transit system from 12 to 15 cents, with the passenger having the option of buying a \$1 weekly pass permitting nickel-a-ride travel.

The 1949-50 fiscal year (ending April 10) showed an operating surplus of \$875,995.78, the first surplus since 1946. This was largely the result of a city earnings tax in effect since Sept. 1, 1948, which yielded \$7,000,000 annually. State authorization of this tax ended July 17, 1950, putting a severe strain on city finances and requiring a shifting of funds. Another operating deficit was in prospect for the 1950-51 fiscal year.

To boost revenue about \$1,096,000, the city increased the assessed valuation of real and personal property by \$42,110,614, bringing the total to \$1,291,626,635. With the tax rate at \$2.74 on \$100 valuation, aggregate real and personal tax bills sent out at the end of 1950 amounted to \$34,737,987.

During the fiscal year ended April 10, 1950, total receipts for operating the municipal government were \$38,984,386.40 and total expenditures \$38,108,390.62. With a deficit of \$2,804,995 at its beginning, the 1950-51 fiscal year budget was fixed at \$39,676,082.85.

(E. L. R.)

**St. Lucia:** see WINDWARD ISLANDS.

**St. Pierre and Miquelon.** This group of eight small islands off the south coast of Newfoundland was a former French colony the status of which was changed in 1946 to that of an overseas territory. Area: 93 sq.mi. Pop. (1945 census): 4,354. Language: French. Religion: Roman Catholic. Chief town: Saint Pierre (pop., 1945, 3,636). Administrator: Alain Alaniou.

**History.**—The cod fishing, which was the territory's only source of wealth, was poor in 1949 (903 metric tons compared with 1,023 tons in 1948, which was a bad year). The greater part of the catch was exported to the West Indies. In spite of opposition by the small-boat owners, the territory in 1950 purchased a trawler in experimental preparation for deep-sea fishing, which, with the inception of a cold-storage warehouse, was likely to revolutionize the local economy. From the time of the first trawl the Development company unloaded by the end of the year 320 metric tons of codfish worth 6,000,000 fr. C. F. A.

**Finance.**—Budget (1949 actual): balanced at 173,300,000 fr. C. F. A. Monetary unit: franc C. F. A.=2 fr. The exchange rate in 1950 for the metropolitan franc was 350 fr. to U.S. \$1.

**Foreign Trade.**—(1949) Imports 330,700,000 fr. C. F. A.; exports 359,900,000 fr. C. F. A. Main exports (1949, metric tons): dry cod 2,583; fresh cod 4,767; cod-liver oil 96.

**Transport and Communications.**—Ships entered (1949) 195; cargo (metric tons): unloaded 25,800, loaded 7,600.

(C. A. J.)

**St. Thomas:** see VIRGIN ISLANDS.

**St. Vincent:** see WINDWARD ISLANDS.

**Sales, Retail:** see BUSINESS REVIEW.

**Salt:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Salvador, El.** A republic on the Pacific coast of Central America, the smallest but most densely populated country on the isthmus, El Salvador has an area of 13,176 sq.mi. and a population (1949 est.) of 2,150,000. Capital: San Salvador (pop., 1948: 124,266). Other principal cities are: Ahuachapán (14,666), Chalchuapa (10,300), Cojutepeque (16,210), Nueva San Salvador (25,684), San Miguel (19,339), San Vicente (14,623), Santa Ana (51,351), Sonsonate (18,898), Suchitoto (10,619), Usulután (9,590) and Zacatecoluca (11,684). Language: Spanish. Religion: predominantly Roman Catholic. President in 1950: Lieut. Col. Oscar Osorio.

**History.**—The year 1950 marked a return to democratic government in El Salvador for the first time since the constitution of 1896 was abolished in 1931. A national election held March 26-28 employed the secret ballot and, for the first time, allowed woman suffrage. The result was a decisive victory for the moderate Revolutionary party. Oscar Osorio was elected president over Col. José Asensio Menéndez of the leftist Reform Action party, and Osorio's partisans won a majority of the seats in the national constituent assembly. The latter enacted a new constitution for the country, which went into effect on Sept. 14, when Osorio was inaugurated. Among other provisions the new basic law contained enabling clauses for social and economic reform and guarantees for democratic government.

Contracts for the construction of the Lempa river dam, part of the 30,000-kw. hydroelectric power project, were let in September. The project was being financed by a loan of \$12,545,000 from the International Bank for Reconstruction and Development and a government bond issue of \$5,200,000.

Social reforms were a major consideration of the new administration. In August it authorized the creation for the first time of labour unions and established machinery for collective bargaining.

In foreign affairs, El Salvador took an affirmative stand on the United Nations' decision to oppose the invasion of South Korea, and in November offered volunteers, economic assistance and 220,000 lb. of rice for the cause.

**Education.**—In 1948 there were 1,986 primary schools with 4,368 teachers and 144,056 students; 53 secondary schools with 636 teachers and approximately 5,000 students. Illiteracy was officially estimated at 87.3%. In 1947 the government appropriated 2,903,040 colones for public education.

**Finance.**—The monetary unit is the colón, valued at 40 cents U.S. The 1950 budget called for expenditures of \$27,000,000; the proposed budget for 1951, a record \$44,000,000. At the end of 1949 the Central bank held gold reserves and foreign exchange amounting to 92,700,000 colones, and money in circulation totalled 117,800,000 colones.

**Trade and Resources.**—Exports in 1949 amounted to \$55,000,000, including gold, silver and specie (\$45,600,000 in 1948); imports, including gold, silver and specie, \$39,600,000 (\$41,500,000 in 1948). More than 70% of the trade was with the United States. Coffee (1,259,939 bags of 132 lb. in 1949) accounted for about 90% of the value of all exports. Other important crops (with 1948-49 production figures) were: corn (247,277 short tons), cotton (5,150 short tons), sugar (25,450 short tons) and sesame seed (19,952 short tons). There were 764,778 head of beef cattle in the country in 1948.

**Communications.**—In 1948 there were two major railroads with 377 mi. of main lines; 700 mi. of surfaced highways and 1,250 mi. of all-weather roads; 2,237 mi. of telegraph lines; 5,093 mi. of telephone lines; 4,900 telephones; and approximately 14,500 radio receiving sets. At the end of 1948 there were 4,296 automobiles and 1,886 trucks and buses registered.

(M. L. M.)

**Salvation Army.** The Salvation Army, a world-wide religious and charitable organization, had corps and outposts in 92 countries and territories throughout the world in 1950. Its 16,847 corps (local units) included 26,799 commissioned officers, 97,218 local officers (laymen) and thousands of soldiers (members) and adherents.

The International Salvation Army was commanded in 1950 by Gen. Albert Orsborn, the sixth general, elected on June 21, 1946, with headquarters in London. In the United States, Com. Ernest I. Pugmire was the national commander, with headquarters in New York city. During the year the organization emphasized its activities and scope in the child welfare and youth field. More than 1,200 Salvation Army young people from all over the world met in London in August to discuss problems and situations facing youth and to re-emphasize and restate the basic convictions inherent in Christian beliefs. One of the high lights of the conference was the extensive exhibit prepared especially for the delegates. This depicted various phases of Salvation Army youth activities, including handiwork, visual aid material, pamphlets, etc.

In connection with the Mid-Century White House Conference





RE-ENACTING the arrival of Salvation Army members in New York city in 1880, during ceremonies marking the 70th anniversary of the organization in the United States

on Children and Youth which was called by Pres. Harry S. Truman in December, the Salvation Army in the United States made extensive plans for its effective participation in the actual meetings and in the important follow-up work after the conference. Its report to the conference, *Testament to Youth*, a thorough analysis of the Salvation Army's youth program and activities and an examination of the problems and needs, was published and widely distributed.

In the United States during 1950 the Salvation Army held 95,187 meetings on street corners. In its social-service program, 22,898 patients were treated in five clinics and dispensaries; 1,258 missing persons were located; 34 maternity homes and hospitals for unwed mothers cared for 11,123 women and children; 45,735 mothers and children were sent to summer camps. A total of 106 men's social-service centres provided shelter and work for 29,216 men.

In the field of prison work, 10,960 prisoners were assisted on discharge and given employment; 1,790 prisoners were paroled in care of the Salvation Army, whose officers devoted 7,988 hours to prison visitation. (See also CHURCH MEMBERSHIP.)

(E. I. P.)

**Samoa, American.** The Samoan Islands extend from 13° 26' to 14° 22' S. latitude and from 168° 10' to 172° 48' W. longitude, and are about 2,700 mi. E. of Australia and 2,200 mi. S. of the Hawaiian Islands. American Samoa consists of the inhabited islands of Tutuila, Tau, Olosega, Ofu and Aunu'u, and the uninhabited coral atoll, Rose Island. Swain's Island, 210 mi. N.W. of Tutuila, was made a part of American Samoa in 1925. Total area of American Samoa is 76 sq.mi. and total population in 1950 was 18,937 with about four-fifths of the population on the main island of Tutuila. Pago Pago, on Tutuila, is the capital. Pago Pago is a well-protected, deepwater harbour that can handle the largest ships.

**History and Government.**—A tripartite treaty signed by the U.S., Great Britain and Germany in 1899 divided Samoa into two possessions, with the U.S. receiving what is now American Samoa and Germany the rest. American Samoa is an unorganized U.S. possession governed by a naval officer appointed by the president. Capt. Thomas F. Darden, Jr., was appointed governor in 1949. By order of Pres. Harry S. Truman, administration of American Samoa was to be transferred to the jurisdiction of the department of the interior on July 1, 1951. In

contemplation of this change, the U.S. naval station at Tutuila was disestablished on Dec. 31, 1949, and replaced by a naval government unit.

American Samoa has a bicameral legislature, known as the Legislature of American Samoa, consisting of the house of representatives, with 54 members popularly elected for two-year terms, and the House of Alii, with 12 members who hold the highest-ranking titles. The legislature has only advisory powers. The governor also has an advisory council consisting of from five to seven Samoans. Each of the three administrative districts has a native governor appointed by the governor of American Samoa. They in turn appoint village chiefs. The judiciary consists of a high court, district courts and village courts.

**Education.**—Education is compulsory for all children from 7 to 15 years of age, inclusive. It was estimated in 1950 that 93% of all persons ten years of age or older were literate. In 1950 there were 5,093 children enrolled in public and private schools, with a total of 161 teachers.

**Production and Trade.**—The main products of American Samoa are copra and native handicrafts, principally mats and rugs woven from grass. The leading crops in 1950, with estimated production, were copra (2,403 metric tons), breadfruit (7,700 metric tons), bananas (19,492 metric tons) and taro (2,900 metric tons). There were approximately 200 cattle and 200 horses in American Samoa in 1950. Imports in the fiscal year ending June 30, 1950, totalled \$886,961; the major imports by volume were preserved meat and textiles. Exports totalled \$313,070, two-thirds of which were copra. Total revenues collected during the 1949-50 fiscal year amounted to \$407,713 in addition to a U.S. government appropriation of \$55,000; expenditures amounted to \$661,143.

**Transportation.**—Tutuila has 65 mi. of roads, 50 mi. of footpaths and a 6,000-ft. coral-surfaced airstrip, no longer in use.

**BIBLIOGRAPHY.**—Rupert Emerson *et al.*, *America's Pacific Dependencies* (1949); U.S. Navy Department, *American Samoa; Information Transmitted by the U.S. to the Secretary-General of the U.N. Pursuant to Article 73(e) of the Charter* (June 1950). (S. Nr.)

**Samoa, Western:** see NEW ZEALAND; TRUST TERRITORIES.

**San Francisco.** The population of the city of San Francisco, Calif., on April 1, 1950, was 760,753, according to the preliminary U.S. census, compared with 643,536 in 1940 and a war-swollen 827,400 on Aug. 1, 1945. Mayor Elmer E. Robinson of San Francisco began his four-year office term Jan. 8, 1948.

General business activity in San Francisco, based on actual reports for the first 11 months of 1950 compared with the same period of 1949, revealed substantial growth. New long-range annual highs appeared possible in several fields including: general business, up 7%; total construction permits, 21%; real estate deeds recorded, 17%; department store sales, 6%; financial transactions based on bank debits, 9%; employment placements, 21%; bridge traffic, 6%; waterborne commerce arrivals, 6%; electrical energy sales, 3%; and airport traffic (10 months), 14%. Gains were also in evidence in San Francisco stock exchange transactions—shares, 40%; postal receipts, 7%; and freight car movements, 8.5%.

The number of outlets licensed to sell tangible personal property at retail during 1950 was 24,001. Estimated 1950 retail sales amounted to \$1,350,000,000.

The consumers' price index three-quarterly average for San Francisco of 173.8 (1935-1939=100 base) was only 0.1% above a like period of 1949. New industries and expansions in San Francisco during 1950 (preliminary) totalled 149 with outlays of \$13,500,000 compared with 113 and outlays of \$6,077,000 in 1949.

Since Nov. 1947, \$164,000,000 of bonds for long-range public improvements in San Francisco had been approved by the voters. They included: \$87,000,000 for Progress bonds; \$48,000,000 for schools; \$15,000,000 for sewage treatment works; \$10,000,000 for airport; and \$4,000,000 for water department storage facilities. As of Sept. 30, 1950, about one-half of these authorized bonds remained unsold.

San Francisco's bonded debt limit, based on 12% of the 1950-



51 assessment roll of \$1,557,848,343, would be \$186,941,801. The bonded debt outstanding on Sept. 30, 1950, was \$179,180,000, of which \$84,146,000 was self-liquidating and exempt from this limitation. The margin remaining within the bonded debt limit as of Sept. 30, 1950, was \$91,907,801 against the authorized but unsold bond total of \$81,860,000.

The tax rate for the 1950-51 fiscal year was \$6.29 per \$100 assessed valuation. The estimated revenue receivable during the 1950-51 fiscal year was \$152,507,425, of which \$66,165,295 was from taxes.

(R. B. KR.)

**San Marino.** A small republic in central Italy, San Marino is entirely surrounded by the province of Emilia and is situated on the slopes of Mt. Titano, 14 mi. S.W. of Rimini. Area: 38 sq.mi. Pop. (June 30, 1950 est.): 12,780. Language: Italian. Religion: Roman Catholic. San Marino is governed by two *capitani reggenti* appointed every six months by a grand council of 60 members elected by universal suffrage every four years. Regents: (April-Sept. 1950) Giuseppe Forcellini and Primo Taddei; (Oct. 1950-March 1951) Marino Della Balda and Luigi Mortironi.

**History.**—On May 16, 1950, the Italian chamber of deputies, on the government's advice, postponed sine die the ratification of a financial agreement concluded between Italy and San Marino according to which the former would pay to the latter an annual sum of 90,000,000 lire as from 1946. As it was explained to the Italian parliament, the reason for this postponement was because Italian businessmen, to avoid Italian taxation, had registered more firms in San Marino than the republic had inhabitants.

**Education.**—In May 1950 there were 1,243 pupils in primary schools and 191 in secondary schools.

**Finance.**—Budget for the financial year April 1, 1949-March 31, 1950, was balanced at 497,737,496 lire and for the year 1950-51 at 551,647,786 lire. San Marino uses Italian currency.

**Santo Domingo:** see DOMINICAN REPUBLIC.

**São Tomé:** see PORTUGUESE COLONIAL EMPIRE.

**Sarawak:** see BRITISH BORNEO.

**Saskatchewan.** Central of three prairie provinces of Canada, Saskatchewan was created in 1905. Area: 251,700 sq.mi. Pop.: (1941) 895,922; (1950 est.) 874,000. Capital: Regina (pop. 1941) 58,245.

**History.**—In a 38-day session of the 1950 legislature, the Saskatchewan Co-operative Commonwealth Federation (Socialist) government was largely occupied defending its estimates from Liberal opposition charges that it was spending more than the province could afford. Significant legislation of the session provided: provincial rent controls to replace federal rent controls on April 1, 1951; authorization for the provincial government to order a municipality to build or extend sewage systems in the interest of public health; an enabling law for federal-provincial housing co-operation; eligibility of women for jury duty (third Canadian province so to act); replacement of the 2% education tax with a 3% education-hospitalization direct tax on various retail purchases, with two-thirds of the expected \$9,600,000 annual revenue to be spent for education and the rest for the provincial hospitalization scheme.

**Education.**—School grants for 1950-51 were \$6,445,300, or \$1,192,000 more than for 1949-50. In the 1945-50 period the government spent \$13,250,000 on rural schools, including 900 new classrooms and 750 new teacherages. The latest revised statistics available in 1950 for provincially controlled schools were for 1947: total enrolment 170,329; average daily attendance 135,038; teachers 7,066; total revenues \$17,787,810.

**Communications.**—Provincial 1950-51 grants included \$3,000,000 for construction of highways and bridges, and \$2,000,000 for improvements on provincial highways designated part of the trans-Canada highway. During 1950, 414,000 tourists used Saskatchewan roads.

**Finance.**—Provincial estimates for the 1950-51 financial year were: revenues \$55,053,910; expenditures \$55,020,760, including \$17,973,000

on capital works. The provincial debt on Dec. 31, 1949, was \$171,234,376 gross and \$147,913,814 net. On June 30, 1949, assets of credit unions totalled \$10,173,592.

**Health and Welfare.**—The 1950-51 provincial appropriation for health services was \$12,320,460 (1949-50: \$10,398,720). With revenues from the hospitalization tax running at \$6,000,000 annually, and expenses at \$10,000,000, the provincial hospitalization scheme had to be assisted by special taxation. New legislation established juvenile courts and made provision for the rehabilitation of delinquents. Amendments to the Workmen's Compensation act extended its provisions, increased benefits and shortened the waiting period.

**Agriculture.**—The 1950 crop year began promisingly with more than average moisture conditions by June, but summer insect damage and autumn frosts cut into the returns. Plans for poultry and honey marketing boards were approved. Production of 1949 field crops included: wheat 183,000,000 bu. worth \$279,990,000; oats 85,000,000 bu., \$44,200,000; barley 33,000,000 bu., \$25,740,000; rye 4,400,000 bu., \$5,368,000; flax 650,000 bu., \$2,158,000. Cash farm income for the first six months of 1949 was \$277,813,000, compared with \$177,153,000 for the same period of 1948, and \$537,267,000 for all of 1948.

Under the 1950 forest management policy, the annual provincial cut was reduced from 150,000,000 bd.ft. to 60,000,000 bd.ft.

**Industry.**—Retail trade during 1949 was 13% greater than in 1948. The employment index in Sept. 1950 stood at 136.5, compared with 133.4 in Sept. 1948 and a monthly average of 99.1 in 1942. The aggregate pay rolls index, Sept. 1950, was 213.5; Sept. 1949, 217.6; 1942 monthly average, 110.1. Average weekly wages for Sept. 1950 were \$40.58; Sept. 1949, \$42.40; 1942 weekly average, \$27.58.

**Minerals.**—In 1950 oil companies spent \$6,000,000 on exploration, 31 geophysical crews were active over 70,000,000 ac., and 55 wells were drilled. During the year, more than 1,500 prospectors searched for uranium, 30 companies spent \$2,000,000 developing claims and the provincial government built roads to accessible deposits (a total of 50 discoveries by mid-1950). Exploitation of Canada's only known source of potash was begun. Total mineral production for 1949 was valued at \$33,969,000.

(C. Cr.)

**Saudi Arabia:** see ARABIA.

**Savings Banks:** see BANKING.

**Sawyer, Charles** (1887- ), U.S. secretary of commerce, was born on Feb. 10 in Cincinnati, O. He studied at Oberlin college, Oberlin, O., and at the University of Cincinnati, and was admitted to the bar in Ohio in 1911. That same year he was elected to the Cincinnati city council. From 1921 on he was a member of the firm of Dinsmore, Shohl, Sawyer and Dinsmore. He served as lieutenant governor of Ohio beginning in 1933, and won the Democratic nomination for governor in 1938, but he was defeated in the election by John W. Bricker. In 1944-45 he served as U.S. ambassador to Belgium and minister to Luxembourg. He became secretary of commerce on May 6, 1948.

After the outbreak of the Korean war in June 1950 Sawyer was occupied with details of the U.S. remobilization program. On Aug. 25 he ordered the first cuts in civilian use of new rubber, the first production curb to result from the war. By the terms of the Defense Production act of 1950, signed Sept. 8, Secretary Sawyer was charged with the duty of controlling all materials and facilities. On Sept. 10 he set up the National Production authority, headed by William Henry Harrison (q.v.), and at the same time instituted controls over the export of critical materials. He also conferred with steel industry officials on plans for expanding steel production within the next two years.

**Schuman, Robert** (1886- ), French foreign minister, was born at Luxembourg. June 29. of Lorraine stock. He was elected deputy of the recovered *département* of Moselle in 1919 and was afterward continually re-elected. On March 21, 1940, he was appointed undersecretary of state in Paul Reynaud's cabinet; in April 1941 he was arrested by the Germans and sent to Germany, but he escaped in Aug. 1942 and went into hiding in France. Again elected deputy of the Moselle in Oct. 1945, and later re-elected, he joined the M.R.P. (Mouvement Républicain Populaire). He was minister of finance in the cabinets of Georges Bidault (June-November 1946) and Paul Ramadier (Jan.-Nov. 1947). On Nov. 22, 1947, he was nominated by the national assembly to form a new government. He resigned



on July 19, 1948, and joined the André Marie cabinet as foreign minister. On Aug. 31 he was again the head of a government that lasted only seven days. On Sept. 11 he became foreign minister in the Henri Queuille cabinet and was reappointed to this post in the Bidault (Oct. 28, 1949), Queuille (June 30, 1950) and René Plevin (July 11) cabinets. In a statement published on May 9, 1950, he launched what was described as the Schuman plan which was aimed at the formation of a European coal and steel pool. (See EUROPEAN UNION.) In Sept. 1950 he visited New York city to take part in the discussions on the international situation with his U.S. and British colleagues and in the meeting of the North Atlantic council.

**Scotland:** see GREAT BRITAIN & NORTHERN IRELAND, UNITED KINGDOM OF.

**Scrap:** see SECONDARY METALS.

**Sculpture.** During 1950 the most significant feature in the field of sculpture was the still methodical revision of process in the development of new concepts of expression. Two main approaches nevertheless were evident: the classical or humanistic and the abstract or experimental—both remaining in wide practice. But while the first was employed for the traditional requirements of portraiture and memorials, the latter became the goal of the greater number of aesthetically ambitious creative artists.

As one authority pointed out, such varied expressions revealed the inadequacy of the word "sculpture," for it was seen in one form as created by the building up and in another by the

breaking down of the material; concepts of solid sculptural mass were opposed by concepts of space achieved, often, in metals by mechanical aids never before intended for modelling or chiselling. In the newer process, whether the results were abstract or "surreal," a relentless search was pursued by artists for a new reality.

A great amount of new work followed the symbolical trends disclosed in England by Henry Moore, in Europe by Alberto Giacometti and in the United States by Theodore Roszak, David Smith and others, in a degree bridging natural forms or ideas and the abstract. As heretofore, Moore found the female figure an ample field for the expression of his great sense of rhythmically ordered forms. Roszak, whose sense of fantasy was admirably fostered by means of fusing or brazing, and Smith, by forging and welding, developed their work in reasonable harmony with Giacometti, who (in his first important New York exhibition) formulated new propositions with spindly forms in amply spaced designs in order to open up fresh perspectives on the problem of a new reality. In the work of Barbara Hepworth the nonfigurative was emphasized and represented British sculpture at the Venice Biennale, where Hans Arp, leader of the still active French exponents of this idiom, exhibited five new works.

In objective sculpture, the more vital examples derived much from Auguste Rodin, Aristide Maillol and German expression, the wooden figures of Ernst Barlach at Venice showing that the latter movement had not lost significance for a later generation. Classical traditions were drawn upon by José de Creeft and Oronzio Maldarelli in the U.S., where William Zorach showed his Renaissance-inspired work retrospectively and where Koren der Harootian progressed with work of a striking and restrained expressiveness; but these maturer talents were generally less prominent before the public during 1950 than were younger experimental sculptors.

Jacob Epstein, at 70, added another to his great stone figures, the controversial "Lazarus," whose power in carving contrasted with that of his 25 modelled portraits (including a magnificent "Dr. Vaughan Williams") exhibited. Karin Jonzen, in England, with her terra-cotta figures, Giacomo Manzù in Italy and Henri Laurens in France with personal variations continued the neoclassic traditions of Charles Despiau and Maillol, along with Frank Dobson, who showed a distinguished head of Lydia Lupkova. Ossip Zadkine, who was seen with his bronze "Orpheus" at Venice, demonstrated that abstract formalism may be shown with the impressive sense of arrested movement which characterizes his sculpture. Returning to Italy after his successful U.S. tour, Marino Marini was still accounted exceptional in assimilation of Chinese T'ang pottery and Etruscan sources in his work, distinguished alike for equestrian forms and portraits.

A strong impetus was given, nevertheless, by the formal concepts of sculpture which were seen in experiments deriving from Pablo Picasso and the pioneer Alexander Archipenko. These were again demonstrated by Jacques Lipchitz's powerfully expressionist work, of which "Mother and Child" was a recent example, in the work of the Italian Mirko Basaldella and the Englishman Charles Adams, whose "Horned Beast" owed much to Picasso. The concepts were opposed to mass expressions of the void, and went on to adopt the mechanistic form of fabrication, contrary to carving and modelling, that was seen in the iron work of Reg Butler in England and Roszak in the U.S.

Important though not numerous acquisitions of modern sculpture were made in the U.S., among them the addition of the abstract "Fish," in gray marble, by Constantin Brancusi to the Museum of Modern Art collection (New York city). One of the larger works of the Rumanian-born sculptor (now in semiretirement), it was joined there by new work by Marini and Giacometti. Projects for sculpture included exhibitions of religious work,



"PIETA," by Joseph P. Pollia, third prize-winner in an ecclesiastical sculpture competition sponsored by the National Sculpture society and exhibited in New York city in the spring of 1950



which were organized as signs of a new spiritual revival in the western world and one of which brought together 100 traditional works by contemporaries. In France organized sculptors strove for a closer rapport among the fine arts, passing resolutions in Paris which called for the inclusion of sculpture with mural painting in all the structures to be built or rebuilt by the state, together with an increase of the fine arts budget.

New monumental sculpture production was somewhat less extensive than in 1949. But the tightening of demand upon materials, already forecast by developments in Korea and the expanding defense program, did not materially affect this activity, or the field of metal sculpture in general. The monumental work was traditional and included, in the U.S., a statue of Brigham Young. It was completed in marble by Mahonri Young, distinguished elder sculptor, a grandson of the Mormon leader, and was unveiled in the rotunda of the national capitol in Washington, D.C.

A bronze equestrian statue of British Field Marshal Sir John Dill was completed by Herbert Haseltine, prominent in the field of animal sculpture. It was unveiled in Arlington National cemetery, near Washington, D.C., in which city Marshal Dill had served with the combined chiefs of staff during World War II, and was the outstanding memorial of its kind in the year—a monumental portrait of a military leader in field costume.

It was an active year also for museums, art schools, universities and exhibiting groups, all of which devoted a proportionate share of their art interests to sculpture. (See also ART EXHIBITIONS.)

FILMS OF 1950.—*Art and Life in Italy* (Coronet Instructional Films). (C. Bu.)

**SEC:** see SECURITIES AND EXCHANGE COMMISSION.

**Secondary Education:** see EDUCATION.

## Secondary Metals.

The salient data on the recovery of secondary metals in the United States

Table I.—Secondary Nonferrous Metals Recovered in the U.S.

(In thousands of short tons or fine ounces)

	1944	1945	1946	1947	1948	1949
<b>Copper—tons</b>						
As metal . . . . .	102.1	112.9	136.9	303.1	284.0	250.1
In alloys . . . . .	835.4	875.0	647.4	639.8	671.2	448.2
In compounds . . . .	13.4	18.7	19.2	18.8	17.6	14.8
Total . . . . .	950.9	1,006.5	803.5	961.7	972.8	713.1
From old scrap*. . .	456.7	497.1	406.5	503.4	505.5	383.5
<b>Lead—tons</b>						
As metal . . . . .	55.0	61.1	73.7	111.5	131.9	152.6
In alloys . . . . .	276.4	301.9	319.1	400.5	368.2	259.6
Total . . . . .	331.4	363.0	392.8	512.0	500.1	412.2
From old scrap*. . .	289.9	309.8	344.5	444.6	432.7	364.1
<b>Zinc—tons</b>						
As metal . . . . .	79.5	83.9	81.4	97.1	102.2	84.2
In alloys . . . . .	229.2	234.6	174.2	158.2	173.5	116.2
In compounds . . . .	36.7	41.9	45.0	55.5	49.0	37.4
Total . . . . .	345.5	360.4	300.7	310.8	324.6	237.8
From old scrap*. . .	113.2	91.3	77.2	75.0	74.2	51.7
<b>Tin—tons</b>						
As metal . . . . .	4.2	3.7	2.9	3.2	3.5	3.9
In alloys . . . . .	27.9	30.9	24.3	26.4	26.0	20.7
In compounds . . . .	0.5	0.5	0.4	0.5	0.6	0.6
Total . . . . .	32.6	35.1	27.7	30.1	30.1	24.9
From old scrap*. . .	21.3	24.0	17.6	19.0	20.1	16.5
<b>Aluminum—tons</b>						
As metal . . . . .	2.3	2.1	2.1	5.1	2.4	0.3
In alloys . . . . .	321.7	295.4	275.4	339.3	283.9	180.0
Total . . . . .	325.6	298.4	278.1	344.8	286.8	180.7
From old scrap*. . .	22.9	27.3	90.5	163.8	95.6	44.6
<b>Magnesium—tons</b>						
Total (in alloys) . .	14.2	9.2	5.1	9.5	7.6	6.0
From old scrap*. . .	0.1	0.8	1.2	4.6	4.2	2.9
<b>Nickel—tons</b>						
Total . . . . .	4.3	6.5	8.2	9.5	8.9	5.7
From old scrap*. . .	2.2	2.2	2.7	2.8	2.9	1.9
<b>Antimony—tons</b>						
Total . . . . .	15.9	17.1	19.1	23.0	21.6	18.1
From old scrap*. . .	15.6	15.1	16.1	19.2	18.0	15.0
<b>Platinum—ounces</b> . .	85.9	58.9	40.4	54.2	58.5	41.7
O.P.M.†—ounces . .	33.5	37.2	32.3	32.9	35.4	41.8
<b>Gold—ounces</b> . . . .	7,337	8,855	13,143	14,066	12,898	11,467
<b>Silver—ounces</b> . . . .	56,189	58,361	36,647	27,866	23,897	22,660

\*Secondary metal recovered from old materials, the remainder having come from the reworking of new plant scrap. †Other platinum group metals.

are shown in Table I, as reported by the U.S. bureau of mines. That portion of the totals which comes from the reworking of plant scrap is new metal not yet put into use. Only recoveries from old scrap represent an increase in supply.

There was a sharp decline in the recoveries of secondary non-ferrous metals in 1949. Total recoveries were 2,152,394 tons in 1948 and 1,598,505 tons in 1949.

**Iron and Steel Scrap.**—Nearly half of the charge in a steel furnace is scrap, so that scrap supply in the industry is a major factor.

Table II.—Scrap in the U.S. Iron and Steel Industry

(In thousands of short tons)

	Pig iron output	Steel output	Plant	Scrap consumption Purchased	Total
1939 . . . . .	34,895	46,079	19,622	16,705	36,327
1945 . . . . .	53,224	79,702	30,861	25,230	56,091
1946 . . . . .	44,842	66,603	26,134	23,350	49,484
1947 . . . . .	58,327	84,894	31,579	29,285	60,864
1948 . . . . .	60,073	88,640	32,420	32,544	64,964
1949 . . . . .	53,323	77,978	29,166	25,172	54,338

The relation between scrap consumption and steel output is shown in Table II. About three-quarters of the scrap supply is used in steel furnaces and one-fifth in cupolas and other types of iron furnaces; the remaining 5%, usually material too small to work well in steel or iron furnaces, goes back to the blast furnace. All told the scrap supply averages about 5% greater than the pig iron output, and the purchased scrap portion adds to the supply an amount equivalent to about one-half of the pig iron output and one-third of the steel output.

(G. A. Ro.)

**Secret Service, U.S.** An agency of the treasury department, the United States secret service has three major functions: the protection of the president of the United States, of members of his family and of the president-elect; the suppression of counterfeiting; and the suppression of the forgery of checks, bonds and other government obligations.

In connection with the protection of the president, special agents of the secret service and officers of the White House police force, a unit of the secret service, defeated an alleged attempt by two Puerto Ricans to assassinate the president at Blair house on Nov. 1, 1950. One of the would-be assassins was shot and killed; the other was seriously wounded. Pvt. Leslie Coffelt of the White House police was killed, and two other officers were wounded in the gun battle. At no time was the president in danger.

Although counterfeiting continued to increase, the force of less than 200 secret service special agents captured \$1,289,281.26 in counterfeit bills and coins, \$554,154.20 of which was seized before it could be passed on the public. Counterfeit bills and coins seized in 1949 totalled \$957,764.

Of the 208 new counterfeit note issues which appeared during the year, 58 were of foreign origin. Special agents captured 542 counterfeiting offenders and 13 plants for the manufacture of bogus bills. Arrests for counterfeiting were 161.8% greater than in 1949.

Government checks and bonds were forged so extensively that the secret service was confronted with one of the heaviest work loads in its 85 years of existence. Agents investigated 30,059 forged government checks worth \$2,066,225.97, and 6,162 forged bonds, and arrested 2,336 check and bond forgers. Convictions in forgery cases totalled 2,080, including convictions on cases pending from prior years. As of Nov. 30, 1950, there were approximately 19,000 cases of all types awaiting investigation.

Arrests for all offenses during the fiscal year 1950 totalled 3,168, with 2,667 convictions, representing 97.3% of convictions



in the cases which went to trial. Prison sentences aggregated 3,245 years and additional sentences of 2,737 years were suspended or probated. Fines in criminal cases totalled \$30,592.70.

(U. E. B.)

**Securities:** see STOCKS AND BONDS.

## Securities and Exchange Commission.

The Securities and Exchange commission (SEC) is a bipartisan, quasi-judicial agency of the U.S. government. It administers several statutes designed for the protection of investors and the public. The following discussion covers the fiscal year ended June 30, 1950, as of which date the members of the commission were Harry A. McDonald (chairman), Richard B. McEntire, Paul R. Rowen, Donald C. Cook and Edward T. McCormick.

**Securities Act of 1933.**—This law requires prior registration with the commission of securities offered for public sale by the issuer or by controlling interests; prohibits misrepresentation or other fraudulent practices in the sale of new or outstanding securities; and empowers the commission to investigate securities frauds or other violations and enforce statutory sanctions when violations are discovered.

During the year, 487 companies registered \$5,000,000,000 of securities comprising 647 separate issues. This increased the total of registered securities to \$60,000,000,000.

The only purpose of the registration requirement is to provide disclosure of financial and other information concerning the issuing company and the securities to be offered for public sale. Purchasers or persons who receive offers through the mails must be supplied with a prospectus (selling circular) reciting the salient factual disclosures contained in the registration statement. Registration is not a "screening" device whereby securities of questionable value may be barred from public sale, nor does it in any sense guarantee investors against loss in the purchase of registered securities. Rather, it is a means of enabling investors to protect themselves against imprudent investments by supplying the data upon which they may make informed and discriminating investment decisions. Although registration does not assure the accuracy of the facts disclosed, certain penalties attach to the filing of false information and investors who suffer losses in the purchase of registered securities have important recovery rights if material facts have been misrepresented.

**Securities Exchange Act of 1934.**—The disclosure doctrine of investor protection extends under this law to outstanding securities which are listed and traded on the securities exchanges throughout the United States. Issuers of such securities must register with the commission and file subsequent annual and other periodic reports containing financial and other information essential to informed investment analyses. At the year-end, 3,544 security issues of 2,182 companies were so registered. Trading volume therein approximated \$17,300,000,000 for the year. A similar periodic reporting requirement applies to more than 600 additional companies which had registered new security offerings under the Securities act.

This law also provides that, in the solicitation of proxies (votes) from holders of listed securities, whether by the management or minority groups, disclosure must be made of all material facts concerning the proposals upon which the security holders are asked to vote. During the year, 1,668 proxy statements were processed by the commission. Another provision seeks to curb misuse of "inside" information by management officials of listed companies (or by 10% owners thereof). To that end, such persons must report their holdings of and transactions in all equity securities of companies having listed equity securities (19,809 reports were filed during the year). They also are prohibited from

making short sales of such equity securities, and are accountable to the issuing company for their short-term trading profits therein.

Other provisions of the statute provide for the regulation of securities trading practices, both on national securities exchanges and in the over-the-counter markets, in the interests of establishing and maintaining just and equitable principles of trade and curbing misrepresentation, market manipulation and other abusive practices. The commission is empowered to promulgate rules designed to implement the statutory objective of free and open competitive markets unaffected by manipulative or other abusive practices, and to investigate securities violations and enforce statutory sanctions against those responsible therefor.

There were registered with the commission at the year-end 16 national securities exchanges, 4,000 over-the-counter brokers and dealers, and one association of over-the-counter dealers organized under the law for self-policing purposes. All are required to observe the prescribed standards of the law and SEC regulations thereunder in the conduct of their business activities; and any wilful infraction may be cause for the issuance of an order by the commission barring their continued conduct of a securities business.

This law and the Securities act each provide as additional sanctions that the commission may apply for court orders enjoining securities violations or seek criminal prosecution through the department of justice.

In the 17 years of administration of the securities laws, there had developed new and improved concepts of practice, not only in the conduct of the securities business but also in the financial, accounting and other related phases of corporate activity, including management's relationship to stockholders.

**Public Utility Holding Company Act of 1935.**—This law establishes special regulatory measures governing the financial and related activities of interstate electric and gas public-utility holding company systems.

One provision, for example, requires that in the issuance and sale of securities by system companies certain minimum standards designed for the protection of investors, consumers and the public must be met. During the year, the commission authorized the sale of more than \$1,000,000,000 of securities as conforming thereto. The sale of an additional \$265,000,000 of portfolio securities was authorized as conforming to other, applicable standards.

The major thrust of the law is directed at the problems created by the abusive practices which attended the creation of huge utility empires during the 15 or so years prior to its enactment. It calls for thoroughgoing readjustments (1) to limit the operations of each holding company system to a co-ordinated group of properties confined in their operations to a single area or region (and to that end requires divestment of companies and properties having no economic or functional relationship to the integrated system); and (2) to simplify the corporate and capital structures of holding companies and to provide for a redistribution of voting power among security holders on a fair and equitable basis in light of existing equities.

This program of integration and simplification had resulted in a reduction from 212 to 67 in the number of registered holding companies and subholding companies; and from 919 to 223 in the number of utility subsidiaries and from 1,034 to 251 of nonutility subsidiaries subject to the act.

**Investment Company and Investment Advisers Acts of 1940.**—These laws provide special regulatory measures governing the activities of investment companies and investment advisers, of which 366 and 1,043, respectively, were registered at the year-end.

The commission also (1) administers the Trust Indenture Act of 1939, under which indentures covering \$18,700,000,000 of debt



securities had been qualified; and (2) serves as adviser to federal courts in proceedings for reorganization of debtor corporations under chapter X of the National Bankruptcy act.

(O. L. Ds.)

**Seeing Eye, The:** see SOCIETIES AND ASSOCIATIONS.

**Seismology.** One of the three greatest earthquakes of the century, and accelerated progress in certain specialized fields of research made 1950 a year of more than average interest in seismology.

The great earthquake on Aug. 15 in northern Burma and adjoining areas was, according to seismographic records, as great as any ever recorded on modern seismographs. While the toll of 574 deaths and an early damage estimate of \$20,000,000 in India seems light in comparison with the losses in scores of other great earthquakes, the extent of the upheaval was verified by airmen who reported that entire mountain chains in the eastern Himalayas had changed form. The damming of rivers by landslides caused many deaths. According to a recently developed formula for measuring earthquake energy, the Aug. 15 shock represented an energy release approximately equivalent to that of all the earthquakes of the world for a normal two-year period.

On July 9, an estimated 150 persons were killed in northeastern Colombia, and on May 21 a highly localized shock at Cuzco, Peru, killed at least 83. Between 15 and 20 persons were killed in each of three shocks that struck eastern Turkey; near Soerabaja, Java; and El Tocuyo, Venez. In Hawaii, a strong shock on May 29 that caused damage in Hilo was the prelude to Mauna Loa's greatest lava flow.

In the field of research new data on the extent and depth of the continental shelf sediments and the depths of other sedimentary layers on the bottom of the Atlantic ocean were obtained by running seismic refraction profiles. A new theory of seismic surface wave propagation was used to postulate the geologic structure of sedimentary layers and basement rocks beneath the oceans from ordinary seismograph records. On land further investigation of the depth of continental structure led

to the conclusion that the basement transition is not well defined in California but in the eastern Appalachian area it is sharply defined with the depth varying from 40 km. to 60 km.

The publication of B. Gutenberg and C. F. Richter's book *The Seismicity of the Earth and Associated Phenomena* (1949) gave for the first time, and under one cover, the magnitudes of several thousand of the strongest shocks recorded on modern seismographs. From this first extensive catalogue evaluating the energy of earthquakes as well as their location and depth, Hugo Benioff concluded that since 1907 the strains accumulated from the slow movements of magmatic rock were released in five active periods of decreasing length separated by quiescent intervals.

Through a world-wide telegraphic service reporting seismographic data the U.S. coast and geodetic survey gave authentic reports on the locations of 600 earthquakes. The great Himalayan earthquake in August was located within five hours. In the United States nine new seismological stations were established in 1950, four of them temporary; several old installations were modernized. (See also COAST AND GEODETIC SURVEY, U.S.; DISASTERS.)

(F. NN.)

**Selective Service.** U.S. Selective Service was a skeletonized organization at the beginning of 1950. It had inducted no men for the armed services for nearly a year and was "doomed" by statute and predictions to expire June 24. Before the end of the year, however, the Selective Service act of 1948 had been extended by congress and the system had been revitalized; it had inducted more than 210,000 men during September, October, November and December, and it was in the process of inducting another 240,000 before March 31, 1951. Committees of both houses of congress were unanimous in favourably reporting out extension measures even before the Korean crisis had developed. The respective houses passed somewhat different versions of extension measures by overwhelming majorities. After differences had been ironed out in the con-

DRAFTTEES called to military service under the Selective Service Extension act signed on June 30, 1950, waiting to fill out pre-examination forms at a local board office in New York city





ference committee, the measure was finally approved as a simple one-year extension, extending the act in its entirety, with only one important amendment. That amendment authorized the president to order to active duty, with or without their consent, units or individuals of the national guard and other reserve components. An amendment subsequently adopted removed the ceiling which the 1948 act had placed on the numerical strength of the armed forces. Authority to draft men for the coast guard was provided for in another amendment. Still another authorized the registration, classification and induction of "certain medical, dental, and allied specialist categories." Although Selective Service had inducted no men since Jan. 1949, the 3,700 local boards had been kept intact. The boards had continued to register men between the ages of 18 and 25, inclusive, and to classify those between the ages of 19 and 25, inclusive. On July 10, 1950, the department of defense issued the first 1950 call for 20,000 men before Sept. 30. Subsequently, the September call was raised to 50,000. The local boards delivered the 50,000 to the army induction stations, with about 930 to spare and on schedule. Subsequent calls were as follows: October 50,000; November 70,000; December 40,000. All were for the army; the navy and air force thus far had depended upon enlistments and re-enlistments.

Following is a brief résumé of the Selective Service act as it existed in Jan. 1951:

Period of service, 21 months, with a maximum five-year reserve obligation subsequent to discharge.

Exemptions or deferments were provided for most World War II veterans under specified conditions. Exempt also were ministers, ministerial students, conscientious objectors and certain public officials and certain aliens. The act was specific in defining those who could qualify for exemption under those provisions.

The act provided that a sole surviving son of a family who had lost one or more sons or daughters in war—either in action or of wounds, injury or service-connected disease—could not be inducted.

Deferments were provided for men who were members of organized units of reserve components at the time of the law's enactment and for certain Reserve Officers Training corps members and other R.O.T.C. members designated by the secretary of defense.

High school students, under the law, could continue their course, if their scholastic work was satisfactory, until graduation, or until they reached the age of 20, whichever was first. College and university students satisfactorily pursuing a full-time course at a college or university ordered to report for induction could have their induction postponed until the end of the academic year.

The act provided substantially the same procedure for occupational deferments as was followed in the World War II act. It authorized the president to issue regulations under which persons whose employment in industry, agriculture or other occupations or employment was found necessary to the maintenance of the national health, safety, or interest could be deferred by their local boards. The president was given authority to issue regulations providing for deferment by local boards of persons whose continued activity in study, research or medical, scientific or other endeavours was found to be necessary to national health, safety or interest.

Provisions authorized the president to issue regulations deferring men who were married or with other dependents.

All males between 18 and 26 residing in the United States were required to register on dates proclaimed by the president, with very few exceptions.

"Blanket deferments" were prohibited. The local boards were required to determine every registrant's case as an individual case and classify him on the basis of his individual status and the law and regulations.

No one could be inducted after reaching his 26th birthday anniversary.

Re-employment rights were substantially the same as under the old Selective Service act, but administration was given to the department of labour.

Regulations in effect, promulgated by the president under authority of the act, established the following classifications:

#### CLASSIFICATIONS

##### Class I

- Class I-A: Available for military service.
- Class I-A-O: Conscientious objector available for noncombatant service only.
- Class I-C: Member of the armed forces of the United States, the coast guard, the coast and geodetic survey or the public health service.
- Class I-D: Member of reserve component or student taking military training.

##### Class II

- Class II-A: Deferred because of civilian employment (except agriculture).
- Class II-C: Deferred because of employment in agriculture.

##### Class III

- Class III-A: Deferred because of dependents.

##### Class IV

- Class IV-A: Registrant who has completed service; sole surviving son.
- Class IV-B: Official deferred by law.
- Class IV-D: Minister of religion or divinity student.
- Class IV-E: Conscientious objector opposed to both combatant and noncombatant military service.
- Class IV-F: Physically, mentally or morally unfit.

##### Class V

- Class V-A: Registrant over the age of liability for military service.

Deferments and exemptions provided specifically in the act could be changed only by an act of congress.

Any registrant might appeal his classification from his local board to the state board of appeals, as might any other interested party, such as his employer, a dependent or the government appeal agent. The state director or the national director might also appeal, either in behalf of the government or the registrant.

The registrant (or interested party) was given ten days to appeal his classification from the date of its mailing by the local board. He filed this appeal in writing with the local board, which forwarded his complete file to the state board of appeal. If the decision of the state board of appeal was not unanimous he might appeal to the national appeal board, which was directly responsible to the president.

During 1950 much study and attention was given to the question of student deferment. In August Maj. Gen. Lewis B. Hershey, director of Selective Service, advised local boards that they could defer students in colleges and universities who were in the upper half of their classes and who had announced their intention to enter, or made arrangements for entering colleges or universities in the autumn.

In the meantime, six scientific advisory committees appointed by General Hershey and composed of noted educators and users of scientific personnel manpower were making exhaustive studies of the problem. On Dec. 18 they submitted a report, recommending a yardstick for student deferment which would be based on an aptitude test, combined with scholastic standing. Stating that he approved of the principle involved in the establishment of a flexible yardstick, General Hershey said the matter was one in which he believed congress would be interested.

General chairman of the six committees was M. H. Trytten, of the National Security council.

Approximately 21,000 physicians, dentists and veterinarians in priorities one and two were registered by local boards on Oct. 16, 1950, under the authority of the so-called Doctor's and Dentist's Draft law passed as an amendment to the Selective Service act of 1948. These were the physicians, dentists and veterinarians who received part or all of their training during World War II at government expense under army and navy programs—or who were deferred to complete their training—and who served less than 21 months subsequent to completion or release from training.

Registration of physicians, dentists and veterinarians in priorities three and four—generally speaking those not included in priorities one and two and under 50 years of age—was scheduled for Jan. 16, 1951. (See also LAW.) (I. W. H.)

**Selenium:** see MINERAL AND METAL PRODUCTION AND PRICES.  
**Senate:** see CONGRESS, UNITED STATES; ELECTIONS, U.S.  
**Sénégal:** see FRENCH UNION; FRENCH WEST AFRICA.



**Seventh-day Adventists.** The most notable event of 1950 was the holding of the quadrennial session of the general conference, the controlling organization of the whole world work of the denomination. This session held in San Francisco, Calif., July 10 to 22, elected the following officers for the ensuing quadrennium: W. H. Branson, president; E. D. Dick, secretary; C. L. Torrey, treasurer. World membership figures reported at this session were 716,538. Of this total, 243,193 reside in the United States and Canada. World membership had increased 100,000 in three years, the most rapid growth for any such period in the history of the church. Total contributions to the church from members in the United States and Canada in 1949 were \$33,627,877. Missionaries sent out during 1949 were 1,235.

At the quadrennial session the following actions, among others, were taken: to authorize a conference for European Adventist youth to be held in Europe in 1951; to approve the revised church manual submitted by a special committee, which manual vigorously reaffirmed the position that divorce is considered valid only if secured on the ground of marital infidelity; to realign, geographically, the boundaries of the northern European division to include the British Isles and certain mission territory in Africa; to create a new division, the east Mediterranean, to administer the church's mission activities in the middle eastern countries; to place special emphasis on evangelism with a view to doubling the membership in four years.

The annual autumn council of the executive committee was held at Grand Rapids, Mich., Oct. 28 to Nov. 1. It was decided to hold the 1952 autumn council in Europe, the first such meeting outside the United States. (See also CHURCH MEMBERSHIP.)

(F. D. N.)

**Seychelles.** Seychelles consists of a British colony and dependencies in the Indian ocean, comprising 92 islands, Mahé being the largest. Area: 156 sq. mi. Pop. (1949 est.): 35,000, mainly Negro. Capital: Victoria (pop. c. 7,000). Governor (1950): Percy Selwyn Selwyn-Clarke; J. D. Bates (temporary, from August).

**History.**—Work on the new transisland road on Mahé from Victoria to Grand Anse was more than half completed by Oct. 1950 and it was already proving possible to exploit the timber resources of considerable areas of hitherto inaccessible crown land. The scheme for improving water supplies was held up by delay in acquiring the necessary catchment areas.

**Finance and Trade.**—Currency: Seychelles rupee divided into 100 cents and valued in Oct. 1950 at 21 cents U.S. Budget (1950 est.): revenue Rs. 3,612,932; expenditure Rs. 3,511,592. Foreign trade (1949): imports Rs. 5,089,418; exports Rs. 5,431,751. Principal exports: copra, guano, oils, tortoise shell, vanilla, calipee.

(K. G. B.)

**Sheep:** see LIVESTOCK.

**Sherman, Forrest Percival** (1896— ), U.S. chief of naval operations, was born on Oct. 30 in Merrimack, N.H. He studied a year (1913-14) at Massachusetts Institute of Technology, Cambridge, Mass., and entered the U.S. Naval academy at Annapolis, Md., graduating in 1917. During World War I he saw duty in European waters, and after that war he became a naval aviator. Early in World War II he served with the war plans division in the office of the chief of naval operations. Later he commanded the carrier "Wasp," which was sunk by the Japanese in 1942. He then served as chief of staff to Vice-Adm. John H. Towers, commander of the navy's Pacific air forces, and as deputy chief of staff to Adm. Chester W. Nimitz, commander in chief of the Pacific fleet. He became chief of naval operations Jan. 27, 1950, succeeding Adm. Louis E. Denfeld, who had been an outspoken critic of the effect of military unification on the navy.

One of Admiral Sherman's first tasks was to issue an order to Capt. John G. Crommelin, who had spoken out against the operation of the unification act, to refrain from criticizing defense policy. Sherman himself on Feb. 20 told the house appropriations committee that the economy budget would not give the navy adequate antisubmarine defense or air power. In the remobilization effort after the outbreak of war in Korea, Admiral Sherman reported on Oct. 2 that 62 ships had already been reactivated and 296 others would be in action by July 1951. On that date, he said, the navy expected to have on active duty 20 carriers, 2 battleships, 15 cruisers, 200 destroyers, 75 submarines, 118 mine-control craft, 256 amphibious craft, 255 auxiliaries and 7,355 planes, including those in the U.S. marine corps.

**Shipbuilding.** The world tonnage of merchant ships of 1,000 gross tons or more, as of June 30, 1950, was distributed as follows among the principal maritime nations:

Country	Number of vessels	Gross tonnage (in thousands)	Country	Number of vessels	Gross tonnage (in thousands)
United States*	3,516	26,114	Sweden	539	1,794
British Commonwealth	3,109	18,869	U.S.S.R.	437	1,365
Norway	945	4,988	Greece	227	1,268
Panamá	485	3,417	Japan	308	1,214
France	511	2,825	Denmark	303	1,082
Netherlands	493	2,775	Other countries	1,771	6,875
Italy	406	2,413	Total	13,050	74,999

\*Excludes vessels operating on the Great Lakes.

The total of 74,999,000 gross tons of vessels in the world fleet was an increase of 4,400,000 gross tons since June 30, 1948, but the United States fleet during the same period decreased by 128 vessels, aggregating 576,000 gross tons. The remainder of the world, however, gained more than 4,900,000 gross tons of shipping. The Shipbuilders Council of America reported, as of Oct. 1950, 951 merchant vessels each of 1,000 gross tons or more, aggregating 7,186,763 gross tons, under construction in the various maritime nations of the world.

At a meeting of the United States, British and French foreign ministers in Sept. 1950, it was decided to instruct the high commission in Germany to remove forthwith all restrictions on size,

Merchant Ships under Construction in the World, Oct. 1950

Country of Building	Number of vessels	Gross tonnage
Great Britain	323	2,965,920
Sweden	129	1,050,980
France	77	473,819
Netherlands	58	446,320
United States	30	420,270
Japan	58	355,570
Italy	39	353,188
Germany	82	280,793
Denmark	45	273,274
Norway	52	266,724
Spain	23	109,668
Belgium	19	101,557
Australia	7	39,330
Canada	3	39,300
Finland	5	8,750
Ireland	1	1,300
	951	7,186,763

speed and number of commercial vessels that might be built in Germany for export. Opening up of German shipyards with ready facilities and an unlimited opportunity to construct any types of ships for export was protested by shipbuilding interests in the United States and some other countries because it undoubtedly would have an effect on the shipbuilding industries of all maritime countries, and moreover would reduce the possibility of any construction contracts being placed in the United States for foreign account.

**United States.**—On Jan. 1, 1950, 38 seagoing commercial vessels were under construction in private seaboard shipyards of the United States as follows: 2 bulk ore carriers, 6 combination passenger-cargo vessels, 1 cargo vessel and 28 tankers, aggregating 620,000 gross tons, and 1 dredge with a displacement of



21,572 tons.

At the same time there were contracted for or under construction in the Great Lakes shipyards two vessels having a combined gross tonnage of 20,149. These consisted of one ore carrier of 12,729 gross tons and one passenger and auto ferry of 7,420 gross tons.

The oil tanker construction program of 62 vessels, contracts for which were awarded during 1948, still constituted a substantial part of the shipbuilding program in the seaboard shipyards in 1950. These tankers, ranging from 26,000 to 32,000 dead-weight tons as compared with the 16,600-dead-weight-ton World War II tankers, would carry the volume of 1,000 tank cars—a train eight miles long.

On Jan. 1, 1950, U.S. naval construction in private yards consisted of only 11 vessels totalling 45,265 displacement tons. During the first 11 months of 1950, orders were placed for 410 non-propelled barges, car floats, etc., aggregating 245,000 gross tons, and for 91 self-propelled craft, such as trawlers, tuna clippers, ferryboats, tugs, towboats, etc., aggregating 19,000 gross tons.

The volume of repair work in U.S. yards continued to taper off; among the reasons was the low average age of vessels in the active fleet. Another factor was that ship repair yards of other countries had gradually been rehabilitated. Increased activity in ship repair yards, however, resulted from the U.S. maritime commission's breaking out of the reserve fleet approximately 200 vessels for repair and overhaul prior to use in the Korean war. (See also SHIPPING, MERCHANT MARINE.) (H. G. S.)

**Great Britain.**—British shipbuilding ended the year 1950 with prospects brighter than they had appeared at the beginning. After something of a lull in contracting for new shipping in 1949 there was a marked improvement in the early months of 1950 which was maintained throughout the year. About half the orders during the year were for tankers, but there was also a revival in the ordering of dry-cargo tramps and liners.

For the first three months of the year contracts were received by British builders for shipping representing 420,000 gross tons. This compared with orders for 438,000 tons received during the whole of 1949. At the end of the third quarter British shipbuild-

ers had under construction, or had orders for 427 British vessels, representing 2,150,000 gross tons and an estimated value at current prices of £180,000,000. There were also orders from abroad for 148 ships of 1,162,000 tons representing £90,000,000, making a total for all the shipyards in the United Kingdom of 575 vessels of 3,312,000 gross tons and an estimated value of £270,000,000.

On Sept. 30, 174 oil tankers of 1,974,000 tons were on the order books of British shipbuilding companies out of a total of 575 vessels of 3,312,000 tons, representing 59.5%. The number of tankers ordered by British owners was 97 of 1,038,000 tons, while 77 tankers of 936,000 tons had been ordered by foreign owners. The heavy contracting for this type of ship reflected the continually expanding demand for oil transport. The great oil-producing and distributing companies had lost ships heavily during World War II. In 1949 these were replaced. The companies continued to enlarge their fleets. They had many uses for their funds, including the construction of large refineries ashore, and their policy had been not to build their tanker fleets up to maximum requirements but to rely for a proportion of their needs on the chartering of free vessels. Thereby they limited the problem of manning immense fleets. They had been willing to charter ships for a period of years. Norwegian owners had been accustomed to expand their tanker fleets by negotiating long-term charters when they contemplated construction. British owners were slow to do likewise. In 1950 several British firms that had previously restricted their activities to the ownership and management of dry-cargo ships embarked on the ownership of oil tankers. (Ct. M.)

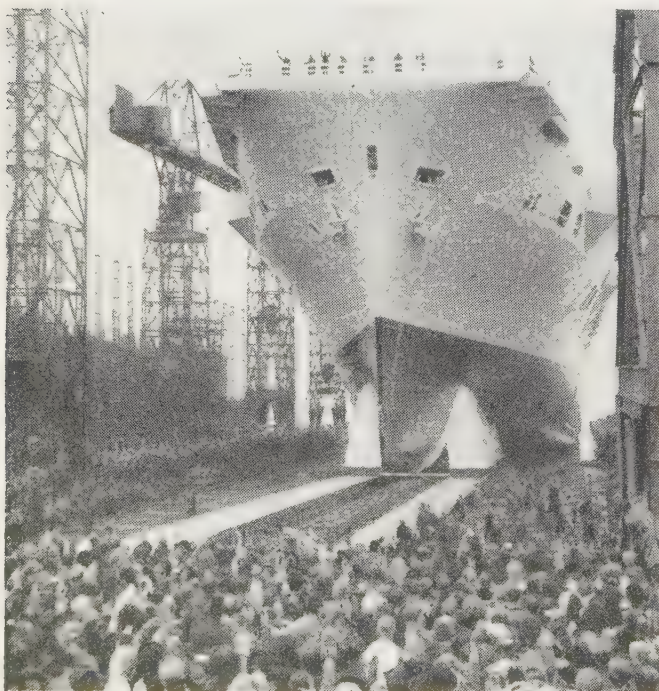
**Shipping, Merchant Marine.** United States flag ocean-going merchant vessels of 1,000 gross tons and over in active operation on Sept. 30, 1950, totalled 1,082 of 13,152,000 dead-weight tons, not including those under military control. This was more than 1,000,000 tons less than the active fleet on Sept. 30, 1949. Privately owned vessels numbered 1,026 of 12,608,000 dead-weight tons; government-owned vessels chartered to private operators numbered 56 of 544,000 dead-weight tons, excluding those chartered to the military sea transportation service. There were 57% of the vessels in foreign trade; United States flag vessels carried 45% of United States cargo in 1949.

Until the Korean emergency, chartering of government-owned ships had been steadily declining. The drop in relief cargoes, the greater activity of foreign fleets, rising costs and falling freight rates had led to the withdrawal of most of the government-owned ships, until only 54 were active on June 30, 1950.

The need to supply United States troops and weapons to support the United Nations action in Korea put a heavy demand on United States shipping. Some of the needed vessels were supplied by private operators, but 152 of them were withdrawn from the government's national defense reserve fleet of laid-up vessels, which had been preserved for such an emergency. Of these vessels 22 were turned over directly to the navy's military sea transportation service for use as troop ships and for other special military needs; the other 130 were bareboat-chartered to private United States operators, who supplied crews and stores and time-chartered the ships to the military sea transportation service.

Other vessels in the reserve fleet were being repaired under an \$18,000,000 program to put the best of the reserve vessels in a state of readiness for any future emergency. The nine reserve fleet sites held a total of 2,098 vessels on Sept. 30, 1950, of which more than 1,600 were slow Liberty ships. Up to Sept. 30, 1,813 ships of the government-owned war-built fleet had been sold, 1,113 to other countries, 700 to United States operators.

There were 22 ocean-going ships of 558,790 dead-weight tons



LAUNCHING of the aircraft carrier "Ark Royal" at Birkenhead, Eng., in May 1950. The 36,800-ton vessel was second in size only to the battleship "Vanguard" in the royal navy



built in the United States from Jan. 1 to Sept. 30, 1950. All of these were privately constructed; 20 of them were tankers. Six passenger or combination passenger-cargo vessels, contracted for with the aid of government subsidies, were under construction. Three of these vessels, however, were to be completed as troop ships at the request of the national defense establishment. Two new-type cargo vessels were being planned by the government; one, which was under construction and nearing completion, was expected to serve as a replacement type for vessels becoming obsolete. The other was intended to serve as a model for a cargo vessel suitable both for peacetime service and as a military auxiliary. A total of \$126,000,000 in contract authority had been requested for construction of vessels of this design.

(E. L. Co.)

**Other Countries.**—Further progress was made during 1950 in the resumption of services interrupted by World War II. The French line commissioned the "Liberté" (49,000 tons gross), previously the German liner "Europa" which was delivered to France as reparations. She returned to the North Atlantic route in time to participate in the closing weeks of the busiest North Atlantic season ever experienced. The appearance of the turbine liner "New Australia" in the special fleet of ships fitted to carry migrants from the United Kingdom to Australia marked the completion of one of the greatest feats of reconstruction ever undertaken. The ship was originally the "Monarch of Bermuda," owned by the Furness lines, and was so seriously raked by fire when she was about to be refitted after war duties that the marine underwriters settled a claim for constructive total loss.

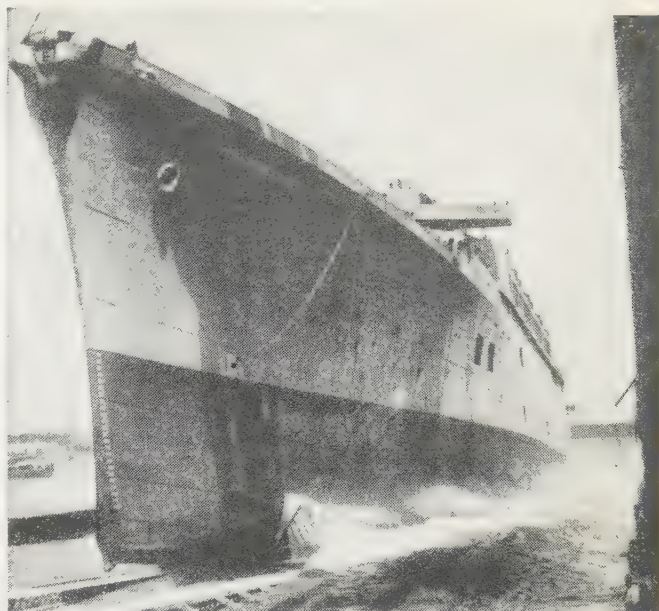
Spokesmen for the leading British companies emphasized in their annual statements during 1950 the seriousness of the great rise in cost in the replacement of ships which had become obsolescent or were approaching that stage. With ageing ships, owners found that the depreciation allowances calculated over the years on ships which cost far less to build went only part of the way to meet the cost of new tonnage. Recourse was had by some shipping companies to building fewer, but larger and faster, ships which would be able to carry at least as many passengers as a larger number of smaller, slower ships, but would provide fewer opportunities of sailing. This plan assumed, however, that handling of the ships in port would be as speedy as before World War II, and the assumption was not justified. In many ports throughout the world working was slower and in some countries and ports it was more unfavourable than in others. All kinds of attempts were made to improve the rate of discharging and loading cargo and in the absence of success, companies raised freight rates either by means of temporary surcharges or by a general upward revision with a view to recouping part of the losses caused by the waste of ships' time in ports.

Beginning June 1 the British lines serving New Zealand imposed a levy of 7.5% on all cargo discharged at Auckland, where delays had been particularly long. The lines serving the trade between the United Kingdom and the continent of Europe and Australia levied a surcharge of 10% on all cargo because of continued delays in ports and increased working expenses.

Notice was given by the Union of South Africa conference that freight rates between the U.S. and South African and East African ports would be raised by 15% from Jan. 1, 1951. Later the U.S. and British lines in the conference concerned with services between the U.S. and India, Pakistan, Ceylon and Burma stated that rates would be raised by from 6% to 10% from Jan. 16, 1951.

Higher rates between the United Kingdom and Brazil, Uruguay and Argentina were announced by nine British and Argentine lines to take effect on Feb. 1, 1951.

Active export trade from the United Kingdom meant that throughout 1950 the regular lines in various routes had to charter tramp tonnage to supplement their own services. This applied



THE S.S. "INDEPENDENCE," 1,000-passenger liner of the American Export Lines, Inc., being launched at Quincy, Mass., on June 3, 1950. The 25-knot liner was scheduled for express service between New York city and the Mediterranean.

particularly to the Australian, New Zealand and West African trades. Consequently, charter rates advanced. The beginning of the war in Korea toward the end of June gave an impetus to the demand for cargo ships. One of the few directions in which freight space was not put to good advantage was in the homeward route from South America where, during the second half of the year, valuable refrigerated ships returned to Europe with their insulated holds bare of meat, resulting from a deadlock in negotiations between the United Kingdom and Argentine governments over the purchase of meat.

FILMS OF 1950.—*Freighter at Sea* (Academy Films).

(Ct. M.)

**Shoe Industry.** U.S. shoe production in 1950 reached 486,000,000 pairs—a gain of 15,000,000 pairs over 1949. Women's shoes accounted for most of this gain, with an increase of about 8,000,000 pairs. This gain is almost insignificant for it raised the per capita production merely from 3.17 in 1949 to 3.21 in 1950. One of the reasons for the almost static position in women's shoe production was that no new nor startling change in pattern, style or design was introduced to create a demand for extra pairs. The opera pump became the number-one shoe at the manufacturing and retail level. There were variations in treatment, from the shell silhouette to the lattice or stripping effects on the vamp; heights of heels varied from flat to high. Platforms and sandalized patterns shared in the popularity, while casual shoes continued to be the choice for leisure and outdoor wear. Comfort and price remained important features in casuals and accounted for the continued success of this type of shoe.

Men's shoe production totalled about 100,400,000 pairs or a per capita rate of 1.84. Specialized promotions and concentrated efforts were put forth to make men more conscious of their shoe wardrobe and the desirability of seasonal changes—heavy and weatherproofed types for winter, lighter weights and ventilated types for spring and summer, plus all the casual, leisure types with nylon mesh and various treatments to make them light and comfortable. In a year of unprecedented prosperity and peak employment, it was difficult to account for the less than two pairs per capita production.

The continued high birth rate and the swiftly growing population under the age of 16 seemed to indicate a rising demand for



## Comparative Statistics of U.S. Shoemaking

		Women's	Men's	Misses' and children's	Youths' and boys'	Infants'	All other	Total
Production of shoes by major types (000's omitted)								
*1949	All leather	177,897	97,387	53,652	16,859	33,660	22,151	401,606
	Other	29,344	382	1,293	10	2,131	38,239	71,399
	Total	207,241	97,769	54,945	16,869	35,791	60,390	473,005
†1950	All leather	184,500	100,100	56,200	16,200	35,200	23,800	416,000
	Other	31,000	300	1,800	...	1,300	35,600	70,000
	Total	215,500	100,400	58,000	16,200	36,500	59,400	486,000
Per capita production of shoes by major types (pairs per capita)								
1949	All leather	3.22	1.81	4.43	1.35	2.19	0.15	2.69
	Other	0.53	0.01	0.11	...	0.13	0.26	.48
	Total	3.75	1.82	4.54	1.35	2.32	0.41	3.17
†1950	All leather	3.29	1.83	4.53	1.26	2.26	0.16	2.75
	Other	0.55	0.01	.15	...	0.08	0.23	0.46
	Total	3.84	1.84	4.68	1.26	2.34	0.39	3.21
Estimated consumption of shoes by major types (000's omitted)								
*1949	All leather	174,500	96,600	53,300	16,300	35,300	20,000	396,000
	Other	28,700	300	1,200	...	2,200	34,600	67,000
	Total	203,200	96,900	54,500	16,300	37,500	54,600	463,000
†1950	All leather	178,600	97,000	54,200	15,500	34,100	22,900	402,300
	Other	30,100	300	1,700	...	1,200	34,400	67,700
	Total	208,700	97,300	55,900	15,500	35,300	57,300	470,000
Estimated consumption of shoes by major types (pairs per capita)								
1949	All leather	3.16	1.79	4.40	1.30	2.29	0.13	2.66
	Other	0.52	0.01	0.10	...	0.14	0.23	0.45
	Total	3.68	1.80	4.50	1.30	2.43	0.36	3.11
†1950	All leather	3.18	1.78	4.37	1.20	2.18	0.15	2.66
	Other	0.54	0.01	0.14	...	0.08	0.23	0.44
	Total	3.72	1.79	4.51	1.20	2.26	0.38	3.10

\*Revised.

†Preliminary.

shoes for infants to misses, children and boys, yet the total production amounted to 110,700,000 pairs, with a per capita rate of 2.70 annually—a decrease from the 2.72 of a year earlier. The miscellaneous category showed a decline in total output which could be traced to the relatively high production of slippers in 1949 which carried over into 1950.

A reasonably favourable balance in U.S. leather supply and demand was achieved by the end of 1950. Domestic slaughter fluctuated from decline in the first six months to a good position in the closing months of the year. Imports during 1950 were sufficient to augment domestic supplies and there was enough leather available for shoes, although at higher prices caused by sharp advances in raw materials, tanning agents and chemicals.

In addition to leather, there was a wide variety of tested substitute materials available for shoemaking, including fabrics, improved plastics and large supplies of synthetic rubber.

**Canada.**—Canadian shoe production for the first eight months of 1950 totalled 21,706,002 pairs compared with 24,167,327 pairs in 1949.

**Other Countries.**—Many countries in Europe, notably Scandinavian nations, Britain and France, sent visiting groups of shoemen to the United States to study tanning and manufacturing techniques with a view to improving their own methods. Great Britain continued to develop export trade of men's shoes to the United States. These shoes had attained a wide acceptance in the U.S. because of their good quality, workmanship and reasonable prices. (See also LEATHER.) (E. G. AN.)

**Shooting.** Trapshooting.—At the 51st Grand American trapshooting tournament, held in 1950 at Vandalia, O., Oscar Scheske, Jr., of Belleville, Ill., smashed 100 straight targets for a perfect score to win the Grand American handicap. Mrs. Anna Linn of Maupin, Ore., captured the women's handicap; Philip J. Luttrell of Alexandria, Va., was first among the juniors and George Heaney of Indianapolis, Ind., led the professionals.

Joe Devers, 19-year-old star from Dayton, O., broke 200 consecutive targets and then 25 more in a shoot-off to win the North American Clay Target championship. Mrs. Cal Ray of Eugene, Ore., paced the feminine contestants with 199 out of

200. The professionals were led by Thomas R. Frye of Findlay, O., also with 199 out of 200.

Vic Reinders of Waukesha, Wis., performed one of the outstanding feats in the history of the championships when he broke 200 straight targets to tie four rivals and then shattered 150 in a row in the shoot-off for the class AA crown. Joan Pflueger of North Miami, Fla., set a new mark in becoming the first woman ever to win the champion of champions feature. Miss Pflueger also captured the women's high-over-all title. The women's champion of champions (closed) title was annexed by Blanche Bowers of Benkelman, Neb.

Rudy Etchen of Bellevue, Wash., professional-class victor, set a high-over-all record for professionals by breaking 980

out of 1,000 during the week's competition. Etchen bettered his own standard of 969 set the year before on 600 targets at 16 yd., 300 at handicaps and 100 at doubles. Reinders and Ned Lilly of Stanton, Mich., with 977 out of 1,000, tied a meet record to share the high-over-all award for amateurs. Among the other major winners was Julius Petty, Stuttgart, Ark., who won the all-around title and national doubles crown.

**Skeet Shooting.**—In skeet shooting, Mrs. Ann Martin of San Antonio, Tex., was the big star, sweeping the women's national championships, all-gauge, high-over-all, 20-gauge, small-gauge and subsmall-gauge. Other leading national winners were: all-gauge, Francis Ellis, Jacksonville, Fla.; high-over-all, Alex H. Kerr, Beverly Hills, Calif.; small-gauge, Grant Ilseng, Houston, Tex.; subsmall-gauge, Ilseng; service individual, Sgt. C. B. Jones, Hensley field, Dallas, Tex.; intercollegiate, Mickey Michaelis, University of Texas, Austin; champion of champions, Ilseng; industry all-gauge, George Heaney; industry high-over-all, D. Lee Braun, Dallas; industry subsmall-gauge, Braun.

**Rifle Shooting.**—The National Rifle association cancelled its rifle and pistol championships in 1950 because of the crisis in world affairs. Maj. P. C. Roettinger of Alexandria, Va., scored 562 out of 600 in the pistol matches of the eastern division meet, while marine corps school's Sgt. T. R. Mitchell of Lubbock, Tex., set a marine corps rifle mark of 573 out of 600 in the same meet. Sgt. H. L. Benner of the U.S. army established a world record with the 45-calibre pistol at Quantico, Va., with 197 at 50 yd. with 20 shots slow fire. Maj. T. J. Sharpe took the national match course pistol title with 282 and Pete Romcovitz of West Newton, Pa., broke three world records in winning the small-bore rifle laurels with 3,198 out of 3,200 at Camp Perry, O. (T. V. H.)

**Shows.** This article covers horse and dog shows, livestock exhibitions and such travelling shows as circuses, carnivals, ice skating shows and rodeos. For musical, dramatic, and terpsichorean events of 1950, see the articles MUSIC, THEATRE and DANCE. (See also MOTION PICTURES.)

**Horse Shows.**—Probably the largest and most representative horse show in the United States is the International Horse show, which was held from Nov. 25 to Dec. 2, 1950, in connection with the International Live Stock exposition at Chicago, Ill. In a



similar class is the American Royal Horse show in Kansas City, Mo., which was held Oct. 14 to 21, 1950.

The two largest shows of quarter horses were the National Western Stock show in Denver, Colo., Jan. 13 to 21, 1950, and the Southwestern Exposition and Fat Stock show in Fort Worth, Tex., Jan. 27 to Feb. 5. The Fort Worth show was also the outstanding one of the year for its cutting horses—competitions that feature horses trained in the quick responses required for range work.

The Grand National Live Stock exposition in San Francisco, Calif., Oct. 27 to Nov. 5, 1950, was the year's outstanding show of reined horses—stock horses that are extremely agile and responsive to rein signals. Another show of national importance was the five-gaited saddle horse show at the Kentucky state fair, Sept. 10 to 16. The Kentucky show ranks at the top as a competition of American saddle horses. Another Kentucky showing of saddle horses, of major rank, was held at Lexington, July 10 to 15.

The National Horse show, held Oct. 31 to Nov. 7, 1950, at Madison Square Garden in New York city was the year's top show of hunters. Other leading horse shows in the general class were the Harrisburg (Pa.) show and those held in conjunction with the Illinois, Indiana, Missouri and Ohio state fairs.

(W. E. O.)

**Livestock Shows.**—Traditionally, the livestock show year of 1950 in the United States started with the top annual event of the range country, the National Western Stock show in Denver, Colo., Jan. 13 to 21. It is the largest show of purebred Hereford cattle held in the United States. It is also famous for its contests featuring purebred Hereford bulls and is the country's leading show source of Whiteface bulls. The 1950 Denver show also featured large classes of quarter horses and Palominos, popular types in ranch work.

Another January show, and the oldest established livestock show in the United States, was the Southwestern Exposition and Fat Stock show, at Ft. Worth, Texas, Jan. 27 to Feb. 5, 1950. The Ft. Worth show includes classes for dairy breeds but is distinguished principally for its excellent exhibits of Herefords, and, to a lesser extent, the other two beef breeds—Aberdeen-Angus and Shorthorns. It also features large exhibitions of purebred Brahman cattle. Another Texas show of growing stature immediately followed in Houston, the Houston Fat Stock show.

County fairs began as usual in July in all the north central states and continued through September, climaxed in each state by the state fairs, the earliest of which was the North Dakota state fair, at Minot July 22–25, 1950. The Wisconsin state fair, held in Milwaukee, Aug. 19 to 27, 1950, was the setting of the country's largest show of the dairy breeds.

One of the major swine shows of 1950, which was confined to the exhibition of all breeds in the slaughter class (barrows), was held in Austin, Minn., in mid-September 1950; and two shows of national rank exclusively devoted to the dairy breeds were held in Iowa and Indiana—the long-established National Dairy Cattle congress in Waterloo, Ia., Sept. 30 to Oct. 7, 1950, and the second International Dairy exposition which took place at Indianapolis immediately thereafter.

First of the sectional livestock exhibitions, which attract top herds and flocks from states within their areas, was the Eastern States exposition, in Springfield, Mass., Sept. 17 to 23. Emphasis was on the dairy breeds from the North Atlantic states. Another in this class was the Ak-Sar-Ben Live Stock show in Omaha, Neb., Sept. 29 to Oct. 7, where the showing consists of meat animals only, and a horse show. Leading show of the northwest was the Pacific International Live Stock exposition in Portland, Ore., Oct. 6 to 14, and, shortly after, the Grand National Live Stock exposition was held in the new Cow Palace in San

Francisco, Calif., Oct. 27 to Nov. 5, 1950.

A newer eastern show, particularly strong in its exhibits of Aberdeen-Angus and Hereford cattle, was the Eastern National Live Stock show, held in Timonium, Md., Nov. 11 to 22. The American Royal Livestock show in Kansas City was held Oct. 14 to 21.

Climaxing them all, in its perennial position at the close of the livestock show year, was the 51st annual International Live Stock exposition, held Nov. 25 to Dec. 2 in the International amphitheatre at the Union Stock Yards, Chicago, Ill. With exhibits from more than 40 states and 5 Canadian provinces in 1950, it reaffirmed its rank as the country's, if not the world's, leading livestock and farm crops show. Its entry comprised 11,008 head of livestock, representing 35 different breeds of meat animals and draft and pleasure horses.

Chicago was also the locale of the country's largest feeder cattle show of 1950, when the 6th annual Chicago Feeder Cattle show and sale was held in the pens of the Chicago stockyards Oct. 26 and 27, 1950.

The Calgary Exhibition and Stampede, the principal event in Canada in the early summer, was held July 10 to 15, 1950; and the largest Canadian summer show was the Canadian National exhibition in Toronto, Ont., Aug. 25 to Sept. 9. The country's principal livestock event, the Royal Agricultural Winter fair, took place in Toronto Nov. 14 to 22.

South America's foremost livestock show is the Palermo, held in Buenos Aires, Arg., in August. It is distinguished as the world's largest showing of purebred Shorthorn cattle.

Scotland's oldest show—that of the Highland and Agricultural

**LIPIZZAN HORSES**, their gold trappings gleaming, shown in a classic quadrille manoeuvre. The historic white horses of Austria were the featured attraction at the National Horse show at Madison Square Garden, New York city, in 1950





society, marked its 111th annual renewal in Paisley June 20 to 23; and the British Royal Agricultural Society show, held July 3 to 7, 1950, at Oxford commemorated its 102nd anniversary under the sponsorship of the English Royal Agricultural society. (W. E. O.)

**Dog Shows.**—Show ring and field trial competition in dogs maintained a high level in 1950; 634 championship and 586 match shows were held with the Morris and Essex show at Madison, N.J., in May having the largest entry, 2,587 dogs competing; the top winner was Jack Spear's Irish setter Champion Clancy. The largest show on the Pacific coast was that at Long Beach, Calif., in June when the imported shepherd from Germany, Korbel and Newman's Champion Quell vom Fredeholz took best of 2,159 dogs.

Field trials simulating actual hunting conditions in the field totalled 880 formal trials. These were made up of 305 bird dog trials, which included the pointing spaniel, the Brittany; 281 beagle trials (on rabbits); 57 retriever trials; 53 spaniel trials; 175 foxhound and coonhound trials; and 9 greyhound trials (these last mentioned do not include the 30 dog racing tracks with seasons varying from 30 to 117 nights).

The winner of the Grand Junction, Tenn., trial in March, considered the bird dog champion of the year, was Gerald M. Livingston's liver and white male pointer Champion Shore's Brownie Doone. His male pointer Kilsyth Brownie's Son also won the national pheasant championship. The national retriever field champion was L. M. Evan's golden retriever Champion Beautywood's Tamarack. The national springer field trial champion was Philip D. Armour III's springer spaniel Champion Whittlemoor George, an English import.

In breed popularity, as evidenced by registrations in the stud book of the American Kennel club, New York city, the first ten in order were: American cocker spaniel, beagle, boxer, collie, dachshund, Boston terrier, Chihuahua, Pekingese, German shepherd and Pomeranian. Total registrations for all stud books amounted to approximately 295,000 of which the American Kennel club had 252,021. (W. Jv.)

**Circuses, Carnivals, Rodeos and Other Travelling Shows.**—Travelling outdoor shows had a poor season in 1950 because of unfavourable weather, unsettled conditions and increased costs of operation. Circuses, which, with the exception of a few well-managed and well-financed organizations, had been declining for a decade, encountered many difficulties and few wound up the season with a profit. In 1950 there were only four circuses travelling on rails, as against 16 on rails in 1925. There were about 30 circuses travelling by motor truck as against 46 on the road 25 years before. Of the four railroad shows operating in 1950, the largest travelled on 80 railroad cars; the other three on 30 cars or less. Truck shows ranged from 4 to 40 trucks. Two of the railroad shows closed in midseason because of poor business. Cole Bros. circus, purchased early in the season by Sonja Henie, Arthur Wirtz, one of the owners of the Sonja Henie ice show, and William Boyd ("Hopalong Cassidy"), closed after a few weeks on the road, and Dailey Bros. circus closed in September after a disastrous season. Ringling Bros.-Barnum & Bailey played to record attendance for 33 days in Madison Square Garden, then after a week in the Boston (Mass.) Garden went under canvas and wound up its season Nov. 19 at Miami, Fla., with profits smaller than those of 1949. The Clyde Beatty circus closed early in November after a fair season. Few of the truck shows wound up with a profit. Indoor circuses, which had increased in number in recent years, had an excellent year. Largest of these organizations were the Hamid-Morton circus and the Polack Bros. circus, which play indoors under auspices, usually of the Shrine. These and other similar organizations conduct intensive promotional campaigns with

telephone crews selling tickets and soliciting program ads, and usually have an advance sale that more than covers the expense of the show. Their profits in 1950 were comparable to those of the previous year.

Conditions in Europe were difficult for circuses. However, the Bertram Mills circus, only large show in Great Britain, had a successful year. On the continent, all circuses faced difficulties resulting from unsettled political and economic conditions, but most of them had fairly successful seasons. In Copenhagen, Denmark, Circus Schumann played continuously in an indoor arena from May to mid-September. Circus Moreno-Reinsch, Circus Louis Schmidt and Circus Belli all played extended engagements in Copenhagen in addition to making road tours.

There were about 300 carnivals operating in the United States, about 12 travelling by rail, the others by motor truck. The largest rail show, the Royal American, travelled on 60 cars, carried 30 amusement rides, a dozen shows and about 30 concessions. Truck shows ranged from the larger shows carrying as many as 20 rides to small outfits with 3 or 4 rides and a number of concessions (games). Few of them showed a profit in 1950, and many closed with a loss.

Rodeos retained their popularity throughout the west and 1950 was an excellent year for them. Those held at Calgary, Alta., Can., Cheyenne, Wyo., and Pendleton, Ore., were among the most famous of these events, but from Kansas and Oklahoma west they were a favourite entertainment. In the central and eastern states comparatively few rodeos were held, and these were minor events and drew small attendance, with one exception. The annual championship rodeo held in Madison Square Garden was the largest and most colourful rodeo in the country. Offering \$100,000 in prize money, it drew the top cowhands from the west and attracted huge crowds. The 25th annual event, in 1950, with Gene Autry as star attraction, set a new attendance record.

For several years ice skating shows had been popular, partly because of vigorous promotion on the part of two leading shows, the *Sonja Henie Ice Show* and Shipstad and Johnson's *Ice Follies*, both spectacular scenic productions. A dozen other ice shows had entered the field, but few were successful. "Wild Life" shows, exhibiting native wild animals, had multiplied since 1940. Showing under canvas and in buildings, most of them were "ding" shows: no admission price was charged but customers were expected to make a cash donation when leaving. High-pressure methods to force donations and activities of subscription solicitors on some of the shows had put them in bad repute, and their 1950 business was not good.

In spite of a multiplicity of attractions, showmen were still willing to take a gamble, and hundreds of small shows of various sorts were travelling about the country, most of them eking out a precarious existence. Puppet shows, miniature circuses, freak shows, mechanical shows, magic shows and others, travelling by truck, played in villages that were not large enough to support larger shows and managed to attract sufficient patronage to keep going.

FILMS OF 1950.—*Circus Show* (Academy Films).

(NA. G.)

**Siam:** see THAILAND.

**Sierra Leone:** see BRITISH WEST AFRICA.

**Sikkim.** Semi-independent state in the eastern Himalayas lying between Nepal to the west and Bhutan to the east on the southern border of Tibet. Area: 2,745 sq.mi. Pop. (1941): 121,520, of whom the majority are Nepalese by origin; the other races are chiefly Bhotias of Tibetan extraction (10,980) and Lepchas or Rongpa (13,060) of Indochinese origin, believed to be the earliest inhabitants of the country. The state



religion is Buddhist of lamaistic type, but most of the Nepalese are Hindu. Capital: Gangtok. The ruling family is Tibetan, and the maharaja (from 1914) is Tashi Namgyal.

**History.**—During the year 1950 the government of India formally succeeded the British government as the protector of Sikkim. On the transfer of power to India in Aug. 1947, a standstill agreement had been negotiated, whereby Sikkim's external affairs, communications and defense became Indian responsibility, pending a permanent settlement. In 1949 internal disorder led the maharaja to call upon India for assistance. Troops were sent to Gangtok and negotiations began for stabilizing relations between India and Sikkim. This was accomplished in the new treaty signed at Gangtok on Dec. 5, 1950. Sikkim secured autonomy in internal affairs but India assumed responsibility for its defense and territorial integrity and would have the right to take such measures as it considered necessary for the defense of Sikkim including the stationing of Indian troops there. The treaty stipulated that the government of Sikkim would have no direct dealings with any foreign power and that India would pay to the government of Sikkim Rs. 300,000 annually. The first payment was made before the end of the year. (E. Hd.)

**Silk.** The second International Silk congress was held Oct. 16–21, 1950, in New York, N.Y. Sixteen silk producing or manufacturing countries were represented by 136 delegates. The conference covered a week of technical, economic and promotional discussions. The raw silk classification system for grading the fibre on the basis of mechanical tests, as developed primarily in the United States, was adopted. Also adopted was a standard of washing practice for silk fabrics and an agreement on a fastness test for underwear silks in pastel colours. Improvement in the put-up of raw silk was strongly recommended for decreasing the cost of fabric manufacture and making the silk yarn practicable for use on modern automatic machinery.

Because of the price fluctuations which had taken place following the removal of controls by the occupation authorities in Japan as of Jan. 1, 1950, there was much discussion of price stabilization. It was pointed out that silk dealers were not so much concerned with the final price at which silk was set, whether high or low, as they were with limiting its tendency to violent shifting. The Japanese delegates proposed that a private corporation be formed in Japan for the purchase and sale of raw silk in which a minimum-maximum price range for raw silk would be established for a fixed period, such as a year. The standard prices would be governed by the cost of cocoon and raw silk production, existing market conditions, prices of rayon and nylon and relative consumption. The U.S. government representative at the conference pointed out that such a plan would be inconsistent with the U.S. antitrust laws, the principle of which governed Japanese trade. The congress, however, voted officially to request the Japanese to study the situation again and prepare a plan, in co-operation with the occupation authorities, which would control the wide fluctuation of prices and yet permit some flexibility. Raw silk prices in the U.S., as reported by the bureau of labour statistics, remained at \$2.70 a pound from Jan. 3 to July 28, 1950. Between July 28 and Aug. 10 the price rose to \$2.90. By Aug. 11, however, it jumped to \$4.00. It dropped again on Sept. 26 to \$3.90 but rose rapidly from Nov. 8 to the end of the year. On Dec. 8 it was \$4.50 a pound.

Proposals to create an international fund for world promotion of silk were discussed and Switzerland reported its agreement on a tax of 25 centimes per pound on raw and thrown silk imported into Switzerland, beginning Oct. 1, 1950, with the understanding that the international body would be in a position further to subsidize such a campaign in the near future. The Japanese, it was announced, were not yet in a position to participate in the

proposed plan of a levy on each pound of raw silk exported.

Raw Silk Domestic Consumption

Country	(In metric tons)			First half year	1950	
	1938	1948	1949		July	August
Japan . . . . .	—	7,609.1	6,906.1	1,369.8*	—	—
France . . . . .	2,429.4	639.2	815.6	504.2	32.7	40.4
Great Britain . . . . .	—	—	741.6	331.1	62.3	—
Italy . . . . .	755	1,107	1,018	495	56	—
Switzerland . . . . .	200	215	297	200*	—	119†
United States . . . . .	23,152	3,526	2,170	1,535.4	417.5	498.3

\*First four months. †Third quarter 1950.

Consumption of raw silk by the principal consuming countries covering eight months of 1950, compared with selected years, was as shown in the table. (See also RAYON AND OTHER SYNTHETIC FIBRES; TEXTILE INDUSTRY.) (I. L. BL.)

**Silver.** The post-World War II recovery in silver production was halted in 1949 by a 5% decline in world output, mostly in Mexico. The outputs of the more important producers, as reported by the U.S. bureau of mines, are shown in Table I; these countries usually produce about 85% of the world total.

Table I.—World Silver Production

	(In millions of fine ounces, smelter output)						
	1943	1944	1945	1946	1947	1948	1949
United States . . . . .	40.79	35.65	29.05	21.10	38.58	39.23	34.94
Canada . . . . .	17.35	13.63	12.94	12.54	12.50	16.11	16.94
Newfoundland . . . . .	1.26	1.16	1.08	1.11	0.96	—	—
Mexico . . . . .	76.63	65.46	61.10	43.26	58.84	57.52	49.45
Honduras . . . . .	3.16	3.12	3.00	2.68	2.41	3.17	3.43
Argentina . . . . .	2.32	1.70	2.76	3.09	2.44	1.20	1.25
Bolivia . . . . .	7.30	6.80	6.68	6.11	6.23	7.56	6.63
Chile . . . . .	1.09	1.00	0.83	0.56	0.75	0.86	0.80
Peru . . . . .	14.66	15.83	13.00	12.33	10.78	9.29	10.63
Belgian Congo . . . . .	3.11	2.61	4.14	5.05	4.06	3.81	4.55
South Africa . . . . .	1.33	1.21	1.24	1.20	1.15	1.17	1.16
Australia . . . . .	10.33	9.37	8.08	9.05	9.53	10.06	9.86
Total . . . . .	205	184.6	162	135	168	172	164.5

**United States.**—The salient features of the industry are presented in Table II, as reported by the U.S. bureau of mines.

Table II.—Silver Industry in the United States

	(In thousands of fine ounces or of dollars)					
	1944	1945	1946	1947	1948	1949
Mine production . . . . .	34,474	29,024	22,914	35,824	38,096	34,675
Imports . . . . .	\$23,373	\$27,278	\$57,578	\$68,140	\$70,884	\$73,536
Exports . . . . .	\$126,915	\$90,937	\$36,455	\$30,649	\$12,400	\$23,281
Industrial use . . . . .	176,289	184,661	123,647	126,366	129,186	110,660
Secondary recovery . . . . .	56,189	58,361	36,647	27,866	23,897	22,660
Net consumption . . . . .	120,100	126,300	87,000	98,500	105,289	88,000

Following a decline of 11% in 1949, the mine production stepped up to 34,772,048 oz. in the first ten months of 1950—a rate which if continued would result in the largest output since 1942.

**Canada.**—Mine output rose from 16,109,982 oz. in 1948 to 17,641,943 oz. in 1949 and 14,086,898 oz. in the first eight months of 1950. (See also MINERAL AND METAL PRODUCTION AND PRICES.) (G. A. Ro.)

**Singapore:** see MALAYA (FEDERATION OF) AND SINGAPORE.  
**Skating:** see ICE SKATING.

**Skiing.** In 1950 the world championships of the Fédération Internationale de Ski were held in the United States for the first time in history. Skiers from 14 countries took part.

The Nordic events, scheduled for Lake Placid, N.Y., found the athletes moving between there and Rumford, Me., in quest of good snow conditions. After a two-day delay, the jumping was held at Lake Placid with Hans Bjornstad of Drammen regaining the title for Norway. Simon Slaattvik, also of Norway, captured the jumping part of the combined event, which included the 18-km. cross-country test at Rumford. Karl-Erik Aastrom of Sweden



won that race, but the combined title went to Heikki Hasu, Olympic champion from Finland, who was sixth in the jump and tenth in cross-country for a total of 455.2 points.

Gunnar Ericksson of Sweden was first in the 50-km. cross-country at Rumford while the Swedish team—by dint of a great third lap by Martin Lundstroem—took the 40-km. relay. Skiing with Lundstroem were Nils Taepp, Aastrom and Enar Josefsson.

Zeno Colo of Italy and Dagmar Rom, graceful Austrian girl, dominated the Alpine championships at Aspen, Colo. The former captured the downhill and giant slalom and just missed winning the slalom which went to Georges Schneider of Switzerland. Schneider triumphed with a combined time of 2 min. 6.4 sec. for two runs, only three-tenths of a second better than that for Colo. Austrians monopolized the women's titles, Trude Beiser-Jochum taking the downhill and Miss Rom the slalom and giant slalom.

Colo also proved the outstanding figure in the North American championships at Banff, Alta., Can., sweeping to downhill, slalom and combined honours. Arthur Devlin of Lake Placid won the jump, Hans Hoolaas of Eugene, Ore., won in cross-country and Noel Paul of Kimberley, B.C., Can., took combined laurels. Devlin established a North American record by leaping 307 ft. at Steamboat Springs, Colo., later in the season.

Janette Burr of Seattle, Wash., took the North American downhill contest while Miss Rom added two prizes to her collection with firsts in the slalom and combined tests.

United States champions for 1950 were: men—Olavi Kuronen, Finland, jumping; O. Alakulppi, Berlin, N.H., cross-country; Gordon Wren, Steamboat Springs, Colo., combined; John Lie, Norway, four-event; Jim Griffith, Sun Valley, Ida., open and closed downhill; Jack Reddish, Salt Lake City, Utah, and Ernie McCullogh, Three Rivers, Que., Can., tie in open slalom; Reddish, closed slalom and combined; McCullogh, open combined; Hans Senger, Austria, giant slalom; women—Janette Burr, open and closed downhill; Mme. Georgette Thiolier-Miller, France, open slalom; Norma Godden, Salt Lake City, closed slalom; Lois Woodworth, Banff, open and closed combined; Resi Ham-

merer, Austria, giant slalom.

National intercollegiate champions were Gustav Raaum, Washington, jumping; Don Johnson, Denver, cross-country; Colin Stewart, Dartmouth, downhill; Brooks Dodge, Dartmouth, slalom; Crosby Perry-Smith, Western State, combined; Dartmouth, team.

(T. V. H.)

**Skin Diseases:** *see* DERMATOLOGY.

**Sloan Foundation, Inc., The Alfred P.:** *see* SOCIETIES AND ASSOCIATIONS.

**Smithsonian Institution.** This institution, located on the Mall in Washington, D.C., was established in 1846 through a bequest from James Smithsonian, an English scientist. Its purpose is "the increase and diffusion of knowledge among men"; this is carried out by means of scientific researches and explorations, publications and museum and art gallery exhibits. The institution is governed by a board of regents, composed of the vice-president of the United States, the chief justice, three senators, three representatives and six citizens from various parts of the country. The executive officer is the secretary, who in 1950 was Alexander Wetmore. The institution has 10 branches: United States National museum, National Gallery of Art, National Collection of Fine Arts, Freer Gallery of Art, Bureau of American Ethnology, International Exchange service, National Zoological park, Astrophysical observatory, National Air museum and Canal Zone biological area.

The National museum collections were increased during 1950 by 793,000 specimens, a large increase over 1949. The total number in the collections reached 32,375,597. Field expeditions took National museum staff members to distant parts of the world.

The National Gallery of Art received 2,354 accessions. It held 10 special exhibitions during the year, including a showing of "Art Treasures from the Vienna Collections," lent by the Austrian government. The National Collection of Fine Arts accessioned a number of paintings accepted for it by the Smithsonian Art commission. Featured was a "Centennial Exhibition of Paintings" by Abbott Handerson Thayer (1849-1921) and an exhibit of paintings of "Ancient Egyptian Monuments" by Joseph Lindon Smith. The Freer Gallery of Art acquired choice specimens of Egyptian, Chinese, Armenian, Indian, Persian and Japanese arts.

The Bureau of American Ethnology continued archaeological research in Panamá and the Canadian arctic, carried on ethnological studies among the Seneca of New York, and collected linguistic data on the Abnaki in Maine and the Maya in Yucatan. The River Basin surveys, a unit of the bureau, continued its archaeological work at sites threatened by construction of dams and reservoirs in connection with various river-basin projects in the United States. Another unit of the bureau, the Institute of Social Anthropology, conducted co-operative field work and teaching in Brazil, Colombia, Mexico and Peru.

The Astrophysical observatory continued its daily measurements of the solar radiation at its two field stations on Mount Montezuma, Chile, and Table mountain, Calif. The observatory's Division of Radiation and Organisms completed its reconstruction of laboratory facilities, and was ready for the undertaking of new photochemical research on plants.

The National Air museum carried forward its preliminary plans for the construction of a building for the national aeronautical collections and presented its report to congress making recommendations on this subject. Notable accessions to the collections included the B-29 Superfortress "Enola Gay," the first aircraft to drop an atomic bomb in warfare, and the original Whittle W-1-X turbojet engine.

The collection of animals in the National Zoological park num-



GEORGES SCHNEIDER, Swiss skier, flashing down the 3,000-ft. course at Aspen, Colo., on Feb. 16, 1950, to capture the men's world slalom title in the Fédération Internationale de Ski Alpine championships



bered 2,820, representing 770 different species. An outstanding accession was the gift of a pair of baby elephants from the government of India through Prime Minister Jawaharlal Nehru.

The Smithsonian's International Exchange service handled 1,009,675 packages of scientific and governmental publications, serving as the U.S. agency for the interchange of such material with other countries.

The institution issued 72 publications during the year, including the 18th vol. of A. C. Bent's *Life Histories of North American Birds*, and vol. 5 of the *Handbook of South American Indians*. The Smithsonian library, including its various branches, numbered about 927,000 vol.

Recorded visitors to the Smithsonian group of buildings totaled 2,600,758, to the National Gallery of Art 2,187,293 and to the National Zoological park 3,437,669. (A. Wt.)

**Snyder, John Wesley** (1896— ), U.S. government official, was born on June 21 in Jonesboro, Ark. He attended Vanderbilt university, Nashville, Tenn. (1914–15), joined the army in 1917, and after World War I entered the banking business in Arkansas and Missouri. In 1930 he joined the field service of the comptroller of the currency of the U.S. and served with this office until 1937, when he became head of the St. Louis, Mo., agency of the Reconstruction Finance corporation. During World War II he helped organize the Defense Plant corporation, an RFC subsidiary, and as its operational vice-president and director administered the agency's commitments of more than \$10,000,000,000 to finance war plants. He was vice-president of the First National bank of St. Louis from Jan. 1943 to April 1945 when he became federal loan administrator.

Snyder was made director of the Office of War Mobilization and Reconversion July 17, 1945, and secretary of the treasury in the cabinet of Pres. Harry S. Truman, June 25, 1946.

During 1950 Secretary Snyder led the administration campaign for tax revision to finance remobilization. On Oct. 4 he reported that U.S. industry was better equipped for war than at the end of World War II because of a peacetime investment of more than \$1,000,000,000 in plant expansion and modernization. He predicted wage-price curbs and an even higher tax burden for 1951 to prevent "damaging inflation," and led the drive for passage of an excess-profits, or "defense profits" tax.

**Soccer.** The sport hit a new high in the United States during 1950 with a heavy schedule of league contests and the invasion of six foreign squads for exhibition games, and then it received tremendous impetus from the surprise 1-0 victory of the United States over England in the world championship matches at Rio de Janeiro, Brazil. The U.S. later was eliminated from the tourney, which was won by Uruguay.

Teams that visited the United States and their records there follow: Manchester United—eight won, two lost, two tied; Hamburg Sport Verein—six won; Besiktas F.C.—five won, one lost, one tied; Jonkopping F.C.—six won, three lost, one tied; Atlas Guadalajara—three won, two tied; English National—ten won, one tied.

The Simpkins S.C. of St. Louis, Mo., took the National Challenge cup by winning from Ponta Delgada of Fall River, Mass., 3 goals to 1. Ponta Delgada had carried off the National Amateur cup by beating the Eintrachts of Astoria, N.Y., 9-7, in the play-offs. The Philadelphia Nationals won in the American league; the Paterson-Dover F.C. of Paterson, N.J., triumphed in the National league and took the New York and New Jersey challenge cups; the New York Americans annexed the Lewis cup and the Eintrachts led the German-American league. (See also FOOTBALL.) (T. V. H.)



BATTLING FOR THE BALL in the first half of the soccer match between British and U.S. all-star teams played at Randall's Island, New York city, on June 18, 1950. The British squad turned in a 1-to-0 victory

**Socialism.** The main strength of the world Socialist movement during 1950 continued to reside in western Europe, with the British Labour party the most powerful of the various Socialist groups. On Feb. 23, 1950, after nearly five years in power, the Labour party was returned to office by winning a slight majority of seats in the house of commons—315 out of 625—as against 393 in 1945. (See GREAT BRITAIN.)

On the continent, the Socialists continued as a dominating force in the Scandinavian countries. In Sweden, the Social Democrats, in control of the federal government, received 49% of the votes cast in the municipal and city elections of Sept. 17, as compared with 46.1% in 1948. During the campaign, the Social Democrats promised to introduce legislation providing for three weeks' vacation for all workers, and for the strengthening of the country's military defenses. The Social Democratic government, however, held to its policy of neutrality during the year, and, while taking an active part in the United Nations, remained outside of the North Atlantic pact nations group.

The Norwegian Labour government, on the other hand, continued its co-operation with the other Atlantic pact nations in joint planning for military defense, though it refused to permit the establishment of Allied bases in Norway. It expanded the nationalized electrical and iron industries, took steps toward the nationalization of concentrated fodder and pharmaceutical products and studied the desirability of transferring the banking, mining and brewery industries to public hands.

In Denmark, the Social Democratic government resigned on Aug. 9 over differences between it and the opposition parties on the problems of taxation and of ways and means of overcoming an unfavourable balance of trade. In the ensuing parliamentary elections, the Social Democrats won 59 seats out of 149, an increase of 2, although its popular vote dropped slightly from 40% to 39.6% of the total. After the elections, Socialist Premier Hans Hedtoft again formed an all-Socialist government, but in late October, after a defeat over the question of rationing (by a vote of 68 to 69), the Socialist government again resigned, and a non-Socialist government was formed.

In Austria, Belgium, Finland, Germany and Switzerland, the



Socialist parties constituted throughout 1950 the second largest parties in their respective countries. The Austrian Socialist party sustained a loss on Dec. 31 in the death of Karl Renner, Socialist president of Austria since the end of World War II, and chancellor of that country after World War I. The party, which participated in Chancellor Leopold Figl's coalition cabinet, co-operated vigorously with the trade unions and other democratic forces in defeating all attempts of the Communist party to seize power.

The Belgian Labour party during the year spearheaded the forces opposing the return of King Leopold to the throne. (*See BELGIUM.*) In the general elections of June 4, held to determine the future status of the king, Labour won 77 seats out of 212, a gain of 11. The Christian Social party returned 107 members. In the Netherlands, Willem Drees, minister-president and leader of the Labour party, continued to head the coalition cabinet. Under his presidency, the Netherlands on July 25 disbanded its 120-year-old colonial army in Indonesia.

In Finland, Socialists constituted the government at the beginning of 1950, with Premier Karl August Fagerholm head of an all-Socialist minority government. In the mid-January elections, the Social Democrats elected 65 out of 300 (as against 55 out of 200 in 1948). Refusing to join the cabinet of the Agrarian leader, Urho Kekkonen, after the elections, the Socialists remained in opposition throughout the remainder of the year.

The most active Socialist party on the continent of Europe during 1950 was that of western Germany. The Social Democratic party, under the leadership of Kurt Schumacher, agitated throughout the year against the remilitarization of western Germany except on the conditions (1) that the German people approve, (2) that Germany be granted full equality in the constitution of the armed forces, and (3) that the United States be willing to furnish a sufficiently large force to withstand (in co-operation with German units) a possible Russian attack. On the domestic front, the Socialists urged a program of socialization, land reform and labour-management co-operation. In elections held early in the year, the Social Democrats came out a close second in North Rhine-Westphalia, although their proportional vote in Schleswig-Holstein in July dropped from 43.8% to 27.5%. In the November elections, when the issue of remilitarization was more intense, Schumacher's followers scored a number of successes. In the December elections in west Berlin, however, the Social Democrats, while retaining their place as the largest single party, received only 43.4% of the total vote as compared with more than 60% in the previous elections.

In France, early 1951 found the Socialist party the third strongest in the national assembly, participating in the Georges Bidault coalition cabinet. In February, however, the party leaders resigned from the cabinet in a dispute with Bidault over the question of a workers' wage bonus. During the following five months, the party remained in the opposition. On July 12, the party's steering committee consented to Socialist participation in the cabinet being formed by René Pleven after the latter had accepted part of the party's program on housing, social insurance and higher wages.

The Italian Socialist party under Pietro Nenni continued under the domination of the Communist party in 1950. The Socialist Party of Italian Workers, led by Giuseppe Saragat, and the Unitary Socialist party, led by Matteo Matteotti, Ignazio Silone and Sen. Giuseppe Romita, continued their separate propagandas. The Saragat group voted at its January convention to rejoin the Alcide de Gasperi coalition government on condition that De Gasperi pledge his support to a number of social reforms.

In the near east, the one democratic Socialist government was that of Israel. Here the Mapai party, a moderate Socialist movement, headed the coalition government with David Ben-

Gurion, leader of the party, as premier. In the municipal and rural elections on Nov. 15, the Mapai party lost a part of its following to the parties of the right.

The Labour parties in Australia and New Zealand continued as the chief opposition parties in their respective countries during 1950. In Japan, the Socialist party remained the second largest, although its parliamentary representation was only about 10% of the total. The party split over right- and left-wing tactics in its January convention, but united again in April. In the June elections for the upper chamber, Socialists made considerable gains.

In India, the Socialist party reported a growth in membership from 12,000 in 1948 to 150,000. The party laid plans for increased political activity, and adopted a program for national survival.

The most active Socialist party of the western hemisphere was the Coöperative Commonwealth Federation (C.C.F.) of Canada, of which M. J. Coldwell was president. The party was represented in parliament by 13 members, constituted the government in Saskatchewan and was the chief opposition in three other provinces. In its July convention, it urged support of the U.N. action in Korea and greater economic aid to undeveloped countries. It also appointed a committee to revise its basic statement of principles, the Regina manifesto.

In the United States, the Socialist party, at its Detroit, Mich., convention, defeated a resolution submitted by the National Executive committee favouring emphasis on Socialist education and the running of candidates for political office "only where specific circumstances present affirmative reasons for considering such campaigns advantageous." Harry Fleischman, the party's secretary, resigned following the convention.

Socialist Mayor McLevy of Bridgeport, Conn., and the Socialist party of Connecticut severed their affiliation with the U.S. Socialist party, following the latter's criticism of McLevy for accepting the endorsement in his campaign for governor of the "ultra-reactionary Independence party" of that state.

The party co-operated during the year with the Social Democratic federation in a number of its undertakings, including the task of organizing an international Socialist information bureau. The party also generally supported the U.N. position in Korea and urged a new drive to halt a world arms race.

In the international field the C.O.M.I.S.C.O. (Committee for International Socialist Conferences) held several meetings at London, its headquarters, and on the continent, to exchange views and formulate programs for Socialist parties to consider. Socialist refugees from "iron curtain" countries likewise met, as the Socialist Union of Central-Eastern Europe, to consider ways and means of promoting Socialist propaganda in countries of eastern Europe. The International Union of Socialist Youth federation, with headquarters in Copenhagen, Den., continued its activity among the youth of Europe and other continents. (*See also COMMUNISM.*)

FILMS OF 1950.—*Two Views on Socialism* (Coronet Instructional Films). (H. W. L.; N. T.)

**Socialist Soviet Republics:** *see* UNION OF SOVIET SOCIALIST REPUBLICS.

**Socialized Medicine:** *see* PUBLIC HEALTH SERVICES.

**Social Security.** Social security systems in several countries were strengthened and extended in 1950, and a few countries established new programs. In addition, the United Nations set up programs of technical assistance in social welfare, in which the federal agencies of the United States participated. Similar programs were operated under bilateral agreements between the United States and other



countries.

**United States.**—The most important development was the enactment by congress of the Social Security Act amendments of 1950, signed by Pres. Harry S. Truman on Aug. 28. The new provisions—some effective immediately after adoption of the legislation and almost all effective before June 1951—made substantial revisions in old-age and survivors insurance and strengthened public assistance and the maternal and child health and child welfare services.

Benefits under the old-age and survivors (administered by the Federal Security agency) program were being paid at the end of June 1950 to 2,900,000 persons at a monthly rate of \$60,700,000. The average monthly benefit for a family of a widowed mother and one child beneficiary was \$36.70; for an aged widow, \$20.90; for a retired man, \$26.80; and for a man and his aged wife, \$41.90.

Effective Jan. 1, 1951, coverage—formerly limited in general to workers in industry and commerce—was extended to include the self-employed (except farmers and those in certain professions); regularly employed agricultural and domestic workers; and, under special arrangements, employees of non-profit institutions and employees of state and local governments not already under a retirement system. Certain civilian federal government employees not under a retirement system and workers in Puerto Rico and the Virgin Islands were included, as well as members of small occupational groups under a broader definition of employee.

Beginning in Sept. 1950, benefits for retired workers were increased by about 77.5% on the average; the minimum primary benefit was \$20 but not less than \$25 for those with average monthly wages of at least \$35; the maximum family benefit was \$150 (but not more than 80% of the average monthly wage). The insured status requirement was also liberalized; a beneficiary might earn as much as \$50 a month in covered employment without loss of benefits and after age 75 would receive benefits regardless of his earnings. Benefits were made payable for the first time to the dependent aged husband of a deceased or retired insured woman worker. The surviving children of a woman currently insured at her death might receive benefits whether or not the father also contributed to their support. Benefits were payable to the wife of a retired worker, regardless of her age, if she had his entitled child in her care. Benefits for dependent parents and for the first survivor child were raised to 75% of the primary amount. World War II veterans were allowed wage credits of \$160 for each month of military service during the war period with a lump sum to be paid for all insured deaths.

A new formula yielding benefits about double existing amounts was to become effective in the second calendar quarter of 1952; until that time the old formula was to be used and increases added as for existing beneficiaries.

Under unemployment insurance (administered in its federal aspects by the department of labour) about 7,000,000 unemployed persons drew one or more benefit checks during the fiscal year ended June 30, 1950. The average beneficiary drew benefits for about 13 weeks, and his average check amounted to \$20.86. The state unemployment insurance systems paid out a total of \$1,862,000,000, which represented partial compensation for wages lost during 91,400,000 weeks of unemployment. Under the three state-federal public assistance programs established by the Social Security act, 2,800,000 needy persons received old-age assistance in June 1950. Nearly 1,700,000 children in 650,000 families received aid to dependent children, and 77,000 persons received aid to the blind. About 526,000 cases (some 1,100,000 persons) received general assistance, financed by states and localities without federal funds. The

average payments throughout the country were \$44 per aged recipient, \$70 per family receiving aid to dependent children, \$48 per blind recipient and \$46 per general assistance case.

The 1950 amendments made federal grants-in-aid available, beginning Oct. 1, 1950, for a fourth category of assistance—aid to the needy permanently and totally disabled, and extended all four categories to Puerto Rico and the Virgin Islands. In the program for aid to dependent children, the relative with whom the child lives could now be included as a recipient for federal matching purposes, except in Puerto Rico and the Virgin Islands.

Under the amendments the federal government could match payments made by the states directly to doctors or others supplying medical care to assistance recipients within the maximums on the individual monthly payments; and it could share in payments to persons in public medical institutions except mental and tuberculosis hospitals.

The annual federal grants to states for maternal and child health services were increased by the 1950 amendments from \$11,000,000 to \$15,000,000 for the fiscal year ending June 1951 and to \$16,500,000 thereafter. Federal grants for services for crippled children were raised from \$7,500,000 to \$12,000,000 annually for the fiscal year ending June 1951 and to \$15,000,000 thereafter. Grants of \$10,000,000 (\$3,500,000 before the amendments) were authorized for child welfare services for the protection and care of homeless and neglected children and children in danger of becoming delinquent.

Federal credit unions, co-operative associations organized to promote thrift among their members and to create a source of loans for provident and productive purposes continued to be an active part of the Social Security program. At the end of June 1950, 4,700 credit unions had been chartered; they were serving 2,000,000 members and had assets of \$363,200,000. (See also RELIEF.)

(A. J. A.)

**Canada.**—On June 30, 1950, there were 287,017 old-age pensioners in Canada, compared to 282,584 on March 31, 1950. Federal contributions for the quarter ended June 30, 1950, amounted to \$24,212,060 (\$23,932,950 for the previous quarter). Total federal commitments for the 1949-50 fiscal year were \$93,188,967. The average monthly pension per province was \$36.44; in only four provinces was the number of pensioners greater than 3% of the total population.

In March parliament set up a joint committee to study the whole question of security for the aged. Federal and provincial authorities met in December to consider the committee's proposals, and recommended early action on constitutional amendments to inaugurate a contributory pension system and to permit provinces to impose an indirect tax to finance their share of the new plan.

On June 30, 1950, pensions were being paid to 10,711 blind persons (March 31, 1950: 10,517) at a total expenditure of \$951,768 for the second quarter of 1950 (\$941,934 for the first quarter). Federal family allowance payments for the 1949-50 fiscal year were \$297,514,033. In March 1950 a government report stated that in 1948 allowances of \$12,804,057 were paid to 32,669 mothers (1947: \$11,009,889 to 29,540). Unemployment insurance statistics for 1949-50 were as follows: employer-employee contributions \$104,432,415; government contributions \$20,094,332; fund revenue (fines and investment interest) \$14,408,988; benefit payments \$85,824,202; balance in fund \$582,646,972. During 1949 workmen's compensation benefits totalled \$58,307,385.

(C. Cy.)

**Great Britain and Other Countries.**—There were no major amendments in the national insurance scheme during the year but in some directions the administrative procedure was simplified, such as for claiming sickness benefit and as to entitlement



to benefit. New regulations were made so that students from other countries who go to Great Britain during their vacations and take up temporary employment relating to their studies are not required to pay national insurance contributions until they have been continuously resident in Great Britain for 26 weeks unless they are ordinarily resident in the United Kingdom, or are already insured. Apprentices from abroad are similarly excused if they have not reached the age of 25 when they take up work in Great Britain which is related to their work abroad and their employment is not expected to last, or does not last for more than three months. Both students and apprentices must, however, pay industrial injury contributions.

It was estimated that 795,000 insured persons in Great Britain were absent from work because of sickness and received national insurance benefits on July 18, 1950, the highest number being in March 1950 when the figure was 1,074,000. On July 18, 1950, 60,000 were absent because of industrial injury. The number was fairly constant during the year, the highest being 67,000 in February.

Agreement was reached between France and Northern Ireland for reciprocity as regards social security measures on the lines previously agreed between France and Great Britain. During the year, the French government co-ordinated the existing general and special schemes of social insurance. In Italy an act was passed introducing improved schemes of insurance against employment injury in agriculture. In Denmark, amending legislation affected a less stringent definition of invalidity and provided allowances on a more liberal basis. (See also INDUSTRIAL HEALTH; LAW.)

FILMS OF 1950.—*Life with Grandpa* (McGraw-Hill Book Co., Text-Film Dept.). (JN. M.)

**Social Service:** see CHILD WELFARE; RELIEF; SOCIAL SECURITY.

**Societies and Associations.** The following is a selected list of U.S. societies and associations, with date of founding, membership, officers and chief activities during 1950. (See also the separate articles on RED CROSS; VETERANS' ORGANIZATIONS; etc.)

**Alcoholic Foundation, Inc. (Alcoholics Anonymous).**—This fellowship of men and women was organized in 1938 to help the sick alcoholic recover sobriety. There are no dues or fees, and the only requirement for membership is stated to be "an honest desire to stop drinking." The foundation itself is a nonprofit membership corporation serving as a general service board for the Alcoholics Anonymous movement. It publishes a book *Alcoholics Anonymous* and the monthly *The A. A. Grapevine*. There is no endowment, nor are there national officers. Headquarters: P.O. Box 459, Grand Central Annex, New York 17, N.Y.

**American Academy of Arts and Letters.**—The purpose of the academy, founded April 23, 1904, is to protect and further literature and the arts. On May 25, 1950, the academy held a special meeting followed by a joint public ceremonial with the National Institute of Arts and Letters at which members of both organizations were inducted. Medals for achievement and arts and letters grants of \$1,000 each were awarded to encourage creative work in the arts. Membership of the academy is 50, and its publications include art catalogues, a ceremonial program and the *Yearbook*. Officers, 1950: Paul Manship, president; Chauncey B. Tinker, chancellor; Mark van Doren, secretary; Deems Taylor, treasurer. Headquarters: 633 W. 155th St., New York 32, N.Y.

**American Academy of Political and Social Science.**—Founded in 1889 and incorporated in 1891, this organization acts as a forum for the discussion of social, political and economic questions through meetings and publications. Membership, 1950: 16,076. Publication: *The Annals*, a bimonthly journal. Officers: Ernest M. Patterson, president; Herbert Hoover and Carl Helsey, vice-presidents; J. P. Lichtenberger, secretary. Headquarters: 3817 Spruce St., Philadelphia 43, Pa.

**American Association for the Advancement of Science.**—Founded in 1848, this association seeks to further the work of scientists, facilitate co-operation among them, and improve public understanding of the importance of science in human progress. Its membership in 1950 was 45,000; endowment, \$250,000. The annual meeting was held in Dec. 1950 in Cleveland, O. Numerous scientific books and papers were published during the year, in addition to the weekly *Science* and *The Scientific Monthly*. Officers (1950): Roger Adams, University of Illinois, president; Howard A. Meyerhoff, Washington, D.C., administrative secretary; E. C. Stakman, University of Minnesota, chairman of the executive committee. Headquarters: 1515 Massachusetts Ave., N.W., Washington 5, D.C.

**American Association of Law Libraries.**—Founded in 1906 to cultivate the science of law librarianship and increase the usefulness of law

libraries, this association in 1950 numbered 595 members. Its activities during the year included development of time-saving methods, co-operation with publishers to improve the content and format of law books and the creation of a special committee to study cataloguing. Publications: *Law Library Journal*; *Index to Legal Periodicals*; *Law Libraries in the U.S. and Canada*, 1950. Jean Ashman was president and Margaret E. Coonan secretary in 1950. Headquarters: Bureau of the Law Library, State House Annex, Trenton, N.J.

**American Association of University Professors.**—This organization of college and university teachers was founded in 1915 to promote discussion and action on problems affecting education in institutions of higher learning, and to provide means for expression of its membership. Its members in Jan. 1950 totalled 37,524. Publication: the *Bulletin*, a quarterly journal. Officers, 1950, included: Richard H. Shryock, The Johns Hopkins University, president; Ralph E. Himstead, general secretary. Headquarters (1951): 1785 Massachusetts Ave., N.W., Washington 6, D.C.

**American Association of University Women.**—This organization was founded in 1882 as the Association of Collegiate Alumnae for "the uniting of the alumnae of different institutions for practical educational work." Membership in June 1950 totalled 115,402. The association gives fellowships to encourage women in creative research, and after World War II this program was extended to bring women from war-ravaged countries to the U.S. to study. The fellowship endowment funds totalled (June 1950) \$1,082,287. For 1950-51, 32 fellowship awards, ranging from \$1,500 to \$2,500, were made, and 52 women from 15 other countries were enabled to study in the U.S. Publications: *Journal*, quarterly; the *General Director's Letter*, handbooks, study guides and bibliographies. The association also sponsors circulating art exhibitions. Officers, 1950: Althea Kratz Hotel, president; Louise Troxell and Dorothy Kenyon, vice-presidents; Mrs. Arthur J. White, treasurer. Headquarters: 1634 I St., N.W., Washington 6, D.C.

**American Bankers Association.**—This U.S. banking organization had in 1950 a membership of 16,556 banks and banking offices. Founded in 1875, its objective is to promote the welfare and usefulness of banks and financial institutions. Its 1950 program emphasized "economic and social strength" and urged national policies to promote this goal and to avert inflation. In its four divisions it operates through more than 40 working groups. It is the parent organization of the American Institute of Banking, which conducts educational programs for bank personnel and in 1950 had 95,000 members, and the Graduate School of Banking, held at Rutgers university, New Brunswick, N.J., annually. In 1950 the latter's enrolment was 998 bank officers from about 40 states. Officers (1950): President, James E. Shelton, Security-First National bank, Los Angeles, Calif.; vice-president, C. Francis Cocke, First National Exchange bank, Roanoke, Va.; treasurer, Glenn L. Emmons, First State Bank of Gallup, N. Mex. Headquarters: 12 E. 36th St., New York, N.Y.

**American Bar Association.**—Founded in 1878 to advance the science of jurisprudence and promote the administration of justice in the U.S., the association numbered 42,121 members as of June 30, 1950. In 1950 the annual medal for conspicuous service to U.S. jurisprudence was awarded to Orrie L. Phillips of the U.S. court of appeals; the Ross prize went to Norman C. Melvin for his essay "The Use of Injunctions in Labour Disputes." Its publications include the *American Bar Association Journal*, an annual volume of reports and proceedings, and miscellaneous reports of committees. Officers, 1950: Cody Fowler, president; Roy E. Willy, chairman of the house of delegates; Joseph D. Stecher, secretary, and Harold H. Bredell, treasurer. Headquarters: 1140 N. Dearborn St., Chicago 10, Ill.

**American Bible Society.**—Founded in 1816, the society encourages the wider circulation and use of the Holy Scriptures without note or comment and without purpose of profit. In 1950 special aid was given in the field of translation to missionaries working in primitive languages of Latin America and also to the Revision committee of the Portuguese Bible in Brazil. The *Illustrated Gospel of Luke* was published in English, Japanese, Spanish and Indonesian, and about 10,000,000 copies of the Scriptures were distributed. Membership (1950): 175,000. Publication: *The Bible Society Record*. Officers (1950): Eric M. North, Frederick W. Cropp, Frank H. Mann and Robert T. Taylor, general secretaries; Francis C. Stifler, recording secretary; Gilbert Darlington, treasurer. Headquarters: 450 Park Ave., New York 22, N.Y.

**American Chemical Society.**—Founded in 1876, this society's purpose is to encourage the advancement of chemistry, promote research in chemical science and industry, maintain high professional and ethical standards, and promote the diffusion of knowledge on chemical subjects. In 1950 the society conferred a number of medals and awards for outstanding achievements in chemistry. Its membership was about 63,000. Publications include *Journal of the American Chemical Society*; *Industrial and Engineering Chemistry*; *Analytical Chemistry*; *Chemical and Engineering News* and *Chemical Abstracts*. Officers, 1950: E. H. Volwiler, president; Alden H. Emery, executive secretary; Robert V. Mellefont, treasurer. Headquarters: 1155 16th St., N.W., Washington 6, D.C.

**American College of Dentists.**—The association was formed Aug. 20, 1920, to advance the standards and efficiency of dentistry, stimulate graduate study in dentistry, confer fellowships in recognition of meritorious achievement in the science, and improve public understanding of oral health service. Membership in 1950 was 1,535. Meetings of the college and its regents, and the 27 sections of the college carried forward the objectives during 1950. The *Journal of the American College of Dentists* is published quarterly. Officers (1950): Walter H. Wright, New York, N.Y., president; Edward L. Thompson, Daytona Beach, Fla., vice-president; O. W. Brandhorst, secretary, at the 1950 headquarters address, 4952 Maryland Ave., St. Louis, Mo.

**American College of Life Underwriters.**—Founded in 1927 to establish an educational standard for the profession of life underwriters and to encourage formal training for this field, the organization awards qualified candidates a professional certificate of recognition. At the end of 1950, 3,765 had been awarded this certificate (C.L.U.) and 93 had received certificates of proficiency. In June 1950, 2,794 candidates took examinations



for the certificate at 155 universities and colleges, and a total of 3,839 tests were taken during the year. A total of 4,039 persons had completed the five examinations necessary for the certificate, and 5,735 others had credit for one or more of the examinations. Publications: *Annual Announcement*; *Annual Report*, and brochures. An endowment of \$42,000 was raised in addition to about \$63,000 received annually from contributing life insurance companies. Officers (1950): Julian S. Myrick, chairman of the board; S. S. Huebner, president; Joseph H. Reese, secretary. Headquarters: 3924 Walnut St., Philadelphia 4, Pa.

**American College of Physicians.**—This society was founded May 11, 1915, to bring together physicians of high standing for the maintenance and advancement of medical education, practice and research. Membership in 1950 totalled 6,937, and activities included the 31st annual session in Boston, Mass., plus 30 regional or state meetings in the U.S., Puerto Rico and Canada, and 16 short, postgraduate courses for internists and specialists. The college also awarded fellowships and memorial awards to outstanding practitioners. Publications include a directory and *Annals of Internal Medicine*, a monthly. Endowment funds totalled \$329,102. Officers (1950): William S. Middleton, Madison, Wis., president; Ernest H. Falconer, San Francisco, Calif., vice-president; William D. Stroud, Philadelphia, Pa., treasurer; George Morris Piersol, Philadelphia, secretary general; E. R. Loveland, Philadelphia, executive secretary. Headquarters: 4200 Pine St., Philadelphia 4, Pa.

**American College of Surgeons.**—Founded in 1913 to elevate the standards of surgery, the organization held its 36th clinical congress in Boston, Mass., Oct. 23-27, 1950. The total attendance of 9,000 included the 29th Hospital Standardization conference. Membership of the college in 1950 was 17,000. Publications: *Surgery, Gynecology and Obstetrics* and a quarterly bulletin. Officers (1950): Henry W. Cave, president; Alton Ochsner, president-elect; Warren H. Cole and G. Gavin Miller, vice-presidents; Paul R. Hawley, director. Headquarters: 40 E. Erie St., Chicago 11, Ill.

**American Dental Association.**—Founded in 1859 as a professional organization of dentists, this association in 1950 numbered 77,104 members. Its house of delegates approved the addition of small quantities of fluoride salts to community water supplies to reduce incidence of tooth decay, and by Dec. 1950, 50 U.S. cities and towns were fluoridating their water supplies. The association in February sponsored its second annual national children's dental health day and distributed more than a million pieces of literature and visual aids to teachers and parents during the year. A nation-wide system of aptitude tests for pre-dental students was instituted. The number of operating dental schools was increased to 42 with the opening of a dental school at the University of North Carolina, Chapel Hill. The association also approved creation of a new specialty board for the field of public-health dentistry. Officers, 1950-51: Harold W. Oppice, president; Harold Hillenbrand, secretary; H. B. Washburn, treasurer.

**American Economic Association.**—This association which in 1950 had 7,200 members and 2,600 library, corporate and individual subscriptions, was founded in 1885 to encourage economic research and freedom of economic discussion, and to issue publications on economic subjects. The annual meeting was held in Chicago, Ill., Dec. 27-30, 1950, and in September the organization's representatives attended the first meeting of the International Economic association in Monaco. Publications: *American Economic Review*, quarterly, and *Papers and Proceedings* of the annual meeting. Officers (1950): Frank H. Knight, The University of Chicago, president; James Washington Bell, Northwestern university, secretary-treasurer and editor of the annual proceedings; Paul T. Homan, University of California, editor of the quarterly. Headquarters: Northwestern university, Evanston, Ill.

**American Geographical Society.**—Founded in 1852 to promote geographical research and exploration and to disseminate geographical knowledge, the society in 1950 published a symposium by 20 leading authorities entitled *World Geography of Petroleum* and a *German-English Glossary of Geographical Terms*. Publication was also begun of *Focus*, a monthly periodical devoted to background facts and geographical interpretations of world problems. The long-term program of glacial studies was continued with expeditions to Alaska and the Canadian Rockies. A map showing distribution of poliomyelitis was published by the society's department of medical research, and a number of sheets of the map of Hispanic America, 1:1,000,000, were revised under contract with the U.S. army map service. Publications include: *Geographical Review*; *Current Geographical Publications*; monographs and maps. Membership: about 4,500. Officers, 1950: Richard Upjohn Light, president; George H. T. Kimble, director. Headquarters: Broadway at 156th St., New York 32, N.Y.

**American Historical Association.**—This association of professional and nonprofessional students of history was founded in 1884 to promote historical studies, collect and preserve historical manuscripts, and promote sound teaching of American history. It was incorporated by act of congress in 1889. Its membership in 1950 was about 5,800, and its endowment was \$279,000. It publishes the *American Historical Review*, and selected historical monographs. Officers (1950): Samuel E. Morison, Harvard university, president; Robert L. Schuyler, Columbia university, vice-president, and Guy Stanton Ford, executive secretary. Headquarters: Study Room 274, Library of Congress Annex, Washington 25, D.C.

**American Institute for Property and Liability Underwriters, Inc.**—Founded in 1942, this organization strives to establish an educational standard for the profession of property and casualty insurance underwriting. In 1950, 1,806 persons took examinations which are held by the institution for certification of underwriters. In addition, 1,383 persons had credit for one or more of the five examinations which were held at 112 universities and colleges in 44 states, the District of Columbia and Hawaii. At the end of 1950 a total of 491 examinees had received the C.P.C.U. designation. Publication: *Announcement*, annual. Officers (1950): S. S. Huebner, chairman of the board of trustees; Harold C. Conick, president; Arthur C. Goerlich, secretary. Headquarters: 3924 Walnut St., Philadelphia 4, Pa.

**American Institute of Accountants.**—A national professional society of certified public accountants, founded in 1887 to maintain high professional and ethical standards, to develop accountancy education and to provide for the examination of candidates for membership. In 1950 the institute had a membership of 16,200. The year's activities included the preparing

of the uniform C.P.A. examination given in 47 states, conducting of local and regional meetings, and the issuing of recommendations for improvement and simplification of federal income tax laws. Publications: *Journal of Accountancy* and *Certified Public Accountant*, both monthly. Officers: T. Coleman Andrews, president; Harold R. Caffyn, treasurer. Headquarters: 270 Madison Ave., New York 16, N.Y.

**American Institute of Chemical Engineers.**—This organization was founded in 1908 for the advancement of chemical engineering in theory and practice and the maintenance of a high professional standard among its members. Activities in 1950 included sponsorship of one annual and three regional meetings, plus an average of eight meetings by each of the approximately 33 local sections. As of July 31, 1950, the membership was 10,145. Publication: *Chemical Engineering Progress*, monthly. Officers (1950): Warren L. McCabe, president; Stephen L. Tyler, secretary and executive secretary. Headquarters: 120 E. 41st St., New York 17, N.Y.

**American Institute of Electrical Engineers.**—This association was founded in 1884 to advance the theory and practice of electrical engineering and to maintain high professional standing among its members. Its 1950 activities included the development of standards for electrical equipment, the publication of technical papers, the holding of numerous meetings on subjects within its cognizance, and the establishment of five technical divisions covering communication, general applications, industry, power, and science and electronics. Membership as of Oct. 1, 1950, was 37,792. Publications: *Electrical Engineering*, monthly; *Transactions and Year Book*, annually, and *Standards* and special publications, published irregularly. Officers (1950): T. G. LeClair, president; H. H. Henline, secretary. Headquarters: 33 W. 39th St., New York 18, N.Y.

**American Institute of Mining and Metallurgical Engineers.**—This society was founded in 1871 to promote the arts and sciences connected with the economic production of minerals and metals, and the welfare of those employed in these industries. Activities during 1950 included the conduct of the regular annual meeting in New York, N.Y., Feb. 12-16, plus branch and divisional meetings. Publications include *Mining Engineering*, *Journal of Metals*, and *Journal of Petroleum Technology*, all monthly, and transactions volumes and branch and divisional proceedings. Membership, 1950, was 16,500. The institute's 21 special funds and endowments totalled more than \$800,000. Officers (1950): D. H. McLaughlin, president; Edward H. Robie, secretary. Headquarters: 29 W. 39th St., New York 18, N.Y.

**American Iron and Steel Institute.**—In 1908 this organization was founded to promote the interests of the iron and steel industry, distribute information and promote discussion of problems relating to the industry. Its 1950 membership included about 2,400 individual, associate, corporate, and honorary and emeritus members. Publications: *Steelworks*, bimonthly; *Steel Facts*, bimonthly; and numerous booklets and pamphlets. Officers (1950) included Walter S. Tower, president; Harold L. Hughes, treasurer; George S. Rose, secretary. Headquarters: 350 Fifth Ave., New York 1, N.Y.

**American Law Institute, The.**—Founded Feb. 23, 1923, this organization is designed to promote the clarification and simplification of the law and its better adaptation to social needs. Its 1950 activities included work toward the completion of a draft of a uniform commercial code; promotion of courses of literature of importance to practising lawyers; drafting of a federal income tax statute; and development of such codes as that which the U.S. congress enacted into law in 1950—a statute providing for the scientific administration of criminal justice in the cases of youthful offenders. In 1950 there were 1,114 elected members. Publications include numerous statements bearing on the law. Headquarters, 1950: 133 S. 36th St., Philadelphia 4, Pa.

**American Mathematical Society.**—Established in 1888 to encourage and maintain an active interest in mathematical science, the society held the first International Congress of Mathematicians since 1936 at Harvard university, Aug. 30-Sept. 6, 1950, with more than 2,100 attending. Publications: *Bulletin of the American Mathematical Society*; *Transactions of the American Mathematical Society*; *Mathematical Reviews*; *Colloquium Publications*; *Mathematical Surveys*. Membership in 1950, 4,400; endowments \$71,000, plus prize and other special funds of \$33,000. Officers (1950): J. I. Walsh, Harvard university, president; J. R. Kline, University of Pennsylvania, secretary. Headquarters: 531 W. 116th St., New York 27, N.Y.

**American Medical Association.**—This federation of constituent state and territorial medical associations was founded in 1847 to promote the science and art of medicine and the betterment of public health. During 1950 the association continued to oppose plans for the federal control of medicine and public health, but encouraged the construction of hospitals, the extension of local medical care improvements and the application of medical advances, especially for children and the aged. Its house of delegates adopted a report authorizing a student American Medical association and another denouncing systems whereby hospitals hire salaried physicians for medical care and bill the patients for this care. Publications: *The Journal of the American Medical Association* and nine special journals. Officers elected in 1950 by the house of delegates were John W. Cline, San Francisco, Calif., president-elect; George F. Lull, Chicago, Ill., secretary and general manager. Headquarters: 535 N. Dearborn St., Chicago 10, Ill.

**American Prison Association, The.**—Founded in 1870, this association works for the improvement of laws governing public offenders; studies the causes of crime and the nature of offenders and their social surroundings, and works for the improvement of penal institutions and jobs for former prisoners. Work in 1950 especially emphasized rehabilitation of lawbreakers. Membership for 1950-51 was about 1,000, consisting of court, crime-enforcement and penal officials and citizens interested in crime problems. Publications include an annual directory of correctional institutions; a handbook on pre-release preparation; handbook on classification in correctional institutions; manual of criminal statistics and the bimonthly *The Prison World*. Officers (1950-51): Joseph E. Ragen, president; E. R. Cass, general secretary; John L. Schoenfeld, treasurer. Headquarters: 135 E. 15th St., New York 3, N.Y.

**American Society of Civil Engineers.**—The society was founded in 1852 for the purpose of advancing the sciences of engineering and architecture. Membership at the end of 1950 was about 31,200. Professional activities



of the society were directed through its headquarters, its professional committees, student chapters in 129 engineering colleges and the 14 following technical divisions: air transport, city planning, construction, engineering economics, engineering mechanics, highways, hydraulics, irrigation, power, sanitary engineering, soil mechanics and foundations, structural, surveying and mapping, and waterways. Publications: *Proceedings*, also several pamphlets each month; *Transactions*, yearly; *Civil Engineering*, monthly; and a *Yearbook*. Officers (1950): Ernest E. Howard, president; (1951) Gail A. Hathaway, president; William N. Carey, executive secretary. Headquarters: 33 W. 39th St., New York 18, N.Y.

**American Society of Composers, Authors and Publishers (ASCAP).**—Founded Feb. 13, 1914, the society collects performing right royalties for allocation to members whose copyrighted musical works are used in public performances for profit. Its 1950 activities included the extension of its licensing activities into the field of television. Its membership in 1950 totaled 2,589, comprising 2,174 composers and authors and 415 publishers. Officers (1950) included: Otto A. Harbach, president; Saul H. Bourne and Oscar Hammerstein II, vice presidents; George W. Meyer, secretary; Louis Bernstein, treasurer. The headquarters address, after March 1, 1951, was to be 575 Madison Ave., New York 21, N.Y.

**American Society of Mechanical Engineers.**—A national organization founded in 1880 to promote the art and science of engineering and mechanical construction for scientific purposes, the society in 1950 was grouped into 20 professional divisions, with 73 sections in the U.S. and Canada and student branches in 127 engineering schools. Membership totaled 34,000. Publications: *Mechanical Engineering*, monthly; *Journal of Applied Mechanics*, quarterly; *Applied Mechanics Reviews*, monthly review of world literature in applied mechanics. Officers (1950): James D. Cunningham, president; Clarence E. Davies, secretary. Headquarters: 29 W. 39th St., New York 18, N.Y.

**American Sunday-School Union.**—Founded in 1817, this corporation's aim is to maintain Sunday schools and publish and circulate moral and religious literature, especially among remote rural populations of the U.S. During 1950, 270 new Sunday schools were organized; 73 were reorganized, 1,687 vacation Bible schools were held; about 6,000 Bibles and 4,000 Testaments were distributed and nearly 200,000 families were visited in their homes. Active missionaries in 1950 numbered 180; retired missionaries, 37; the 2,671 Sunday schools enrolled 101,498 scholars. Publications included a full line of Sunday-school periodicals. The work is supported largely by contributions, plus a small endowment. Officers, 1950: Belding B. Slifer, president; Elliott D. Parkhill, secretary of missions; William J. Jones, editor of publications. Headquarters: 1816 Chestnut St., Philadelphia, Pa.

**Boy Scouts of America.**—This nation-wide youth organization with activities for boys of eight years and older was organized in 1910 and chartered by congress in 1916. Objectives are to teach patriotism and citizenship and the importance of religion in daily life. In 1950 the national scouting program emphasized the theme, "Strengthen Liberty." Twelve representative scouts presented a "Report to the Nation" on scouting service to Pres. Harry S. Truman. At a summertime boy scout jamboree at Valley Forge, Pa., 47,163 boys and leaders participated in camping and sightseeing. The scouts adopted a plan of co-operation on civil defense activities. Camping was promoted, and 3,000 older scouts took part in wilderness experiences at Philmont Scout ranch in New Mexico. Membership, Sept. 30, 1950, was 2,603,424 men and boys organized in 75,639 units, including 1,920,946 boys and 682,478 leaders. The world scout membership, as of 1949, was 4,416,306 in 46 countries.

**Brookings Institution.**—A nonprofit organization dedicated to public service through research and training in economics and government, the institution was founded in 1928 and is supported by income on its own endowment, grants from foundations, and the sale of publications. During 1950 the following studies were published: *Authoritarianism and the Individual*, by Harold W. Metz and C. A. H. Thomson; *The Cost and Financing of Social Security*, by Lewis Meriam, Karl Schlotterbeck and Mildred Maroney; *The United States and the Restoration of World Trade*, by William Adams Brown, Jr.; *Taxes and Economic Incentives*, by Lewis H. Kimmel; *The Right to Organize and Its Limits*, by Kurt Braun; *The Dynamic Economy*, by Harold G. Moulton. Officers (1950): William R. Biggs, chairman; Harold G. Moulton, president; Elizabeth H. Wilson, secretary. Headquarters: 722 Jackson Place N.W., Washington 6, D.C.

**Buhl Foundation, The.**—Established in 1927, the foundation had by 1950 granted to existing (or especially established) agencies a total of \$6,265,440 for the promotion of nationally significant programs in the Pittsburgh, Pa., district. These programs were in regional economics, historical and social research, in higher education and in research in natural sciences. The foundation's \$1,700,000 Chatham Village, pioneering demonstration of a large-scale planned residential community built for long-term investment, had received international recognition. The \$1,100,000 Buhl planetarium, built and maintained as a memorial to the founder, had conducted since 1939 a program of popular science education from elementary school to adult level. Foundation assets in 1950 were \$12,997,721. Director: Charles F. Lewis. Headquarters: Farmers Bank building, Pittsburgh 22, Pa.

**Camp Fire Girls, Inc.**—This youth organization was founded in 1910 to help girls develop into alert citizens, homemakers and professional women, and its program operated through seven crafts—home, outdoors, creative arts, science, business, sports and games and citizenship. In 1950 more than 360,000 girls were reported enrolled in its three groups: Blue Birds, 7 to 10 years old; Camp Fire Girls, 10 to 15 years old; and Horizon club members, of senior high school age. The Camp Fire law bids girls to "Worship God, Seek Beauty, Give Service, Pursue Knowledge, Be Trustworthy, Hold on to Health, Glorify Work, Be Happy." In 1950 there were 281 local councils in the U.S., and groups met in seven other countries. National officers for 1951: Mrs. Richard W. Blalock, president; George W. Hearn, chairman of the board; Mrs. Bernard Gimbel, Mrs. James C. Parker and Mrs. Louis Zagoren, vice-presidents; Mrs. Frank C. Love, secretary, and Miss Martha F. Allen, national director. Headquarters: 16 East 48th St., New York 17, N.Y.

**Carnegie Trusts.**—Six autonomous and separately administered agencies in the U.S. were established by Andrew Carnegie for various philanthropic

purposes; in addition there are four Carnegie trusts in Great Britain, and Carnegie Hero funds operate in nine European countries.

**Carnegie Corporation of New York** (1911), with a basic endowment of \$135,000,000, had in 1950 assets of more than \$175,000,000; the income from \$12,000,000 of this is applicable in the British dominions and colonies. It included in its 1950 program the advancement of education through support of specific undertakings in institutions of higher education, in organizations and agencies devoted especially to the social sciences, and in enterprises which gave promise to new knowledge through research, studies which may point to better conditions, or demonstrations of how new knowledge may be effectively applied. President (1950), Charles D. Lard; secretary, Robert M. Lester. Headquarters: 522 Fifth Ave., New York 18, N.Y.

**Carnegie Institute of Pittsburgh** (1896) includes a department of fine arts, a music hall and a museum of natural history, and to it are closely related the Carnegie Library of Pittsburgh, the Carnegie Library school, and the Carnegie Institute of Technology. President (1950), James M. Bovard; secretary, Augustus K. Oliver. Headquarters: 4400 Forbes St., Pittsburgh 13, Pa.

**Carnegie Institution of Washington** (1902), with assets exceeding \$45,000,000 in 1950, conducts fundamental scientific investigation, particularly in astronomy, terrestrial magnetism, plant biology, embryology, genetics and historical research. President (1950), Vannevar Bush; executive officer, Paul A. Scherer. Headquarters: 1530 P St., N.W., Washington 5, D.C.

**Carnegie Hero Fund Commission** (1904), with assets in 1950 of approximately \$10,000,000 was established to recognize by medals and monetary awards heroic acts performed in the peaceful walks of life. President (1950), Thomas S. Arbutnot; manager, M. H. Floto. Headquarters: Oliver building, Pittsburgh 22, Pa.

**Carnegie Foundation for the Advancement of Teaching** (1905) was established to provide retiring pensions for teachers and to advance higher education, having received \$31,000,000 from Carnegie and substantial additional sums from the Carnegie corporation for a program to improve teaching in southern colleges. President (1950), Oliver C. Carmichael; secretary, Robert M. Lester. Headquarters: 522 Fifth Ave., New York 18, N.Y.

**Carnegie Endowment for International Peace** (1910) uses the income from its \$10,000,000 endowment to further friendly understanding among nations, its aim in 1950 being to support the United Nations by stimulating public education in foreign affairs and by conducting studies and seminars. President (1950), Joseph E. Johnson; secretary, Leslie Paffrath. Headquarters: 405 W. 117th St., New York 27, N.Y.

**Catholic Community Service, National.**—This service organization was founded on Nov. 13, 1940, as the agency designated by the Catholic bishops of the U.S. to mobilize and co-ordinate the Catholic resources of the country to assist in serving the spiritual, educational, recreational and welfare needs of the men and women in the armed forces, their families and patients in Veterans' administration hospitals. It served as a co-operating agency of the United Service Organizations, Inc., until the latter body was deactivated, Jan. 31, 1950. During 1950 the service conducted programs in 31 activities located near major military establishments in the U.S. and overseas; conducted volunteer programs in 134 VA hospitals, and loaned staff members to the president's committee on religion and moral welfare in the armed forces. Publications: *NCCS Program Bulletin*; *NCCS VA Hospital News*; and *Focus on Faith*, a religious pamphlet series. Thomas D. Hinton was executive director in 1950; headquarters were at 1312 Massachusetts Ave., N.W., Washington 5, D.C.

**Catholic Library Association.**—Founded in 1921 as a section of the National Catholic Educational association, it became an independent organization in 1929. Its aim is to disseminate knowledge of library service; compile bibliographical research aids to promote Catholic scholarship; and act as standardizing agent of Catholic library schools by co-operation with national and state standardizing agents. In 1950 new units were established in Nashville, Tenn., and Richmond, Va. Publications: *Catholic Library World*; *Catholic Periodical Index*; *The Catholic Booklist*. Officers (1950): Sister Mary Reparata, Rosary college, River Forest, Ill., president; John M. O'Loughlin, Boston college, Chestnut Hill, Mass., vice-president; Laurence A. Leavey, executive secretary, at the national headquarters address: P.O. Box 25, Kingsbridge Station, New York 63, N.Y.

**Catholic Organizations for Youth.**—These organizations generally are conducted within dioceses, with a central co-ordinating agency in the youth department of the National Catholic Welfare conference, of which the Very Rev. Joseph E. Schieder was the director in 1950. The purpose of the diocesan Catholic youth organizations is the fostering of the spiritual welfare of young people through religious, cultural, social and athletic activities. In addition, there are such national Catholic youth organizations as the National Federation of Catholic College Students, the National Newman Club federation, the Columbian Squires, the Junior Catholic Daughters of America, the Young Christian Workers, and the Daughters of Isabella. The total number of young persons reached by the various programs was estimated in 1950 at about 7,000,000. Diocesan groups have individual publications, and the youth department of the N.C.W.C. publishes *Newsnotes*, a monthly with material of interest to diocesan youth directors; *Program Service*, for parish youth directors; a *Catholic Youth Directory*; and pamphlets.

**Catholic Rural Life Conference, National.**—This organization was founded in 1923 to care for underprivileged Catholics in farming areas, and to encourage Catholics to settle and remain on the land. The 1950 convention endorsed the principles of Pres. Harry S. Truman's "Point Four" program for aid to backward and undeveloped countries, and also approved resolutions opposing curtailment of protection for soil, forest and water resources. *Christian Farmer*, monthly, is the organization's publication. Its president in 1950 was Bishop Albert R. Zuroweste of Belleville, Ill., and its executive secretary was Msgr. L. G. Ligutti. Headquarters: 3801 Grand Ave., Des Moines, Ia.

**Catholic Welfare Conference, National.**—This organization was founded in 1919 to organize and co-ordinate the Catholic residents of the U.S. in works of education, social welfare, immigrant aid and other activities. During 1950 its social action department published *Catholic Social Prin-*



**ciples**, a source book of authoritative documents from the pope and the hierarchy. War Relief Services distributed 38,945,659 lb. of relief material valued at \$18,788,493 and reported 31,899 persons brought into the U.S. under its auspices. The National Council of Catholic Men sponsored the radio Catholic Hour series against communism entitled "Operation Survival." The monthly publication is *Catholic Action*. Officers, 1950: Archbishop John T. McNicholas, Cincinnati, O., chairman; Bishop John F. Noll, Fort Wayne, Ind., secretary. Headquarters: 1312 Massachusetts Ave., N.W., Washington 5, D.C.

**Charles Hayden Foundation.**—This organization was established in 1937 under the will of its founder to assist young men to "receive proper training in boyhood and youth . . . in the manner of right and proper living." It concentrates on boys' clubs, boys' camps and similar projects for underprivileged boys, especially those of the New York, N.Y., and Boston, Mass., areas. By Sept. 30, 1950, the foundation had contributed \$15,270,000 for these purposes, and there was approximately \$55,000,000 in the fund. Officers: J. Willard Hayden, president; Edgar A. Doubleday, executive vice-president and treasurer, Erle V. Daveler, vice-president. Headquarters: 25 Broad St., New York 4, N.Y.

**Commonwealth Fund, The.**—Established in 1918 by Mrs. Stephen V. Harkness "to do something for the welfare of mankind," the fund at the end of the fiscal year 1949-50 amounted to approximately \$63,000,000. Appropriations for that year were \$2,001,833.31. Activities tending to promote or maintain health accounted for the larger part of this total. Grants for medical education, including fellowships in medicine and allied fields, amounted to \$693,370; for experimental health services, public health, and hospital activities, \$550,845.60; and for medical research \$380,002.09. During 1950, 39 men and 2 women held Commonwealth fund fellowships for students and civil servants from Great Britain and other parts of the British commonwealth. The Fund publishes an *Annual Report*. President, Malcolm P. Aldrich. Headquarters: 41 E. 57th St., New York 22, N.Y.

**Daughters of the American Revolution, National Society of the.**—Founded in 1890 for historical, patriotic and educational purposes, the society in 1950 had 167,846 members in 2,676 chapters. During the year it operated two schools and provided financial assistance to others; conducted programs for good citizenship; operated 11,232 Junior American Citizens clubs with 342,600 members; maintained a genealogical library, and conducted various educational programs of a patriotic nature. Publications: *Daughters of the American Revolution Magazine* and *Press Relations Digest*. President general (1950): Mrs. James B. Patton; headquarters: 1776 D St. N.W., Washington 6, D.C.

**Duke Endowment, The.**—By an indenture executed Dec. 11, 1924, by James B. Duke, this endowment was established as a common-law trust "to make provision in some measure for the needs of mankind along physical, mental and spiritual lines." The fund allocates payments to educational institutions, including Duke university, and also distributes funds to help support hospitals, orphanages and the Methodist church in rural areas. The amount distributed from Dec. 11, 1924 to Dec. 31, 1949, was \$81,782,235.46, in addition to a reserve fund and a retained balance that totalled \$85,471,367.62 net income earmarked as available for distribution. The fund is supervised by a self-perpetuating board of 15 trustees. Officers (1950): George G. Allen, chairman; Alex. H. Sands, Jr., secretary; Walter C. Parker, treasurer. Headquarters: Power building, Charlotte 1, N.C.

**Elks, Benevolent and Protective Order of.**—Founded in 1868, this service organization in 1950 had 1,025,000 members in 1,575 lodges. Its purpose: To practise charity, justice, brotherly love and fidelity; promote the welfare and enhance the happiness of its members; quicken the spirit of American patriotism and cultivate good fellowship. Activities in 1950 included veterans', children's and invalids' charities, totalling more than \$6,000,000, plus youth and patriotic programs. Publication: *The Elks Magazine*. Officers (1950): Joseph B. Kyle, grand exalted ruler, Gary, Ind., J. E. Masters, grand secretary, 2750 Lakeview Ave., Chicago 14, Ill., the national headquarters.

**Falk Foundation, The Maurice and Laura.**—Founded Dec. 14, 1929, this foundation's general purpose is the advancement of human welfare, and its field of concentration had largely been in basic economic problems, though in 1950 grants were made in the areas of psychiatry and mental health and education for participation in practical politics. Grants during 1950 totalled \$714,240. Publications: *The Cost and Financing of Social Security*; *Employment and Compensation in Education*; *Taxes and Economic Incentives*; and *The Dynamic Economy*. Funds as of Dec. 31, 1950, totalled \$10,889,224. Officers, 1950: Leon Falk, Jr., chairman; Eugene B. Strassburger, secretary; Arthur E. Braun, treasurer; J. Steele Gow, executive director. Headquarters: 1911 Farmers Bank Bldg., Pittsburgh, Pa.

**Ford Foundation.**—Founded Jan. 15, 1936, this foundation has as its purpose the receiving and administering of funds for scientific, educational and charitable purposes, all for the public welfare. Its assets as of June 30, 1950, amounted to approximately \$240,000,000. Officers (1950): Henry Ford II, president; B. J. Craig, secretary and treasurer. Headquarters: 2612 Buhl building, Detroit 26, Mich.

**Franklin Institute of the State of Pennsylvania.**—This is a nonprofit institution founded in 1824 for promotion of the mechanic arts. It devotes itself to interpreting science for nontechnical persons and to research for the benefit of industry and government. Activities include: maintenance of the Benjamin Franklin memorial, a museum of science and industry including Fels planetarium; a technical library of 131,000 volumes, 46,000 pamphlets and more than 4,000 maps; lectures on a wide variety of subjects; honour awards for distinguished achievements in science and technology; publication of *The Journal of The Franklin Institute*; the Franklin Institute Laboratories for Research and Development; the Bartol foundation and the Biochemical Research foundation. A new laboratory was built in 1950 for the Bartol foundation, housing a 10,000,000-v. Van de Graaf accelerator. Income is derived from dues of 5,900 members; museum and planetarium admissions; bequests and gifts; and industrial sponsorship of research and exhibits. Officers (1950): Richard T. Nalle, president; Henry B. Allen, executive vice-president and secretary. Headquarters: Benjamin Franklin Parkway at 20th St., Philadelphia 3, Pa.

**Freemasonry.**—The oldest and largest fraternal organization in the world, the Masonic Fraternity is nonsectarian, nonpolitical, and has no benefit or insurance provisions. Its purpose is the moral and spiritual elevation of its members and, through them, of mankind. Since the 18th century its lodges have been joined together in grand lodges, mostly on a territorial basis, each grand lodge being independent of every other. Masonic organizations based on lodge membership include the Royal Arch, the Knights Templar and the Scottish Rite. An outstanding event of the year 1950 occurred on Feb. 22, when the Order of DeMolay for Boys presented the heroic bronze statue which was to be the central figure in the \$6,000,000 George Washington Masonic National memorial at Alexandria, Va. Masonic membership in the United States was 3,552,982, in 15,406 lodges; world membership was in excess of 5,000,000. Publications: annual transactions by all grand lodges and by many of the related organizations.

**Future Farmers of America.**—This organization, founded Nov. 20, 1928, is a national organization of boys studying vocational agriculture in public secondary schools under the provisions of the national vocational education acts. The chief of the agricultural education service of the U.S. office of education is chairman of an adult national advisory council. The purpose of the Future Farmers is to develop competent, aggressive, rural and agricultural leadership; to nurture a love of country life; to help guide those following agricultural vocations, and generally to support scientific farming methods. During 1950 the organization held its national convention at Kansas City, Mo., with 7,000 members attending; continued an international exchange with the National Federation of Young Farmers Clubs of Great Britain, and promoted leadership and community betterment activities. Membership in 1950 was 319,261. Officers: Walter Cummins, Freedom, Okla., president; Wayne Staritt, Catawba, W.Va., student secretary. Headquarters: U.S. Office of Education, Washington 25, D.C.

**Georgia Warm Springs Foundation.**—This nonprofit organization was founded on July 28, 1927, to conduct a hospital for the after-treatment of poliomyelitis and to train physiotherapists for this work. In 1950 about 900 patients were treated. It has no endowment, its annual deficit being financed by appropriations from the National Foundation of Infantile Paralysis. Publications include annual reports and medical articles of the professional staff. Officers (1950): Basil O'Connor, president and treasurer; Henry K. Urion, executive vice-president and counsel; William F. Snyder, vice-president and secretary. Headquarters: 120 Broadway, New York 5, N.Y.

**Girl Scouts of the United States of America.**—Founded in 1912 by Juliette Low, this organization continued in 1950 to expand its work for international friendship. In March a congressional charter was conferred upon the Girl Scouts of the U.S. in recognition of 38 years of service to youth. Activities for the year included the distribution of 55 tons of schoolbags, made by Girl Scouts and filled with pens, pencils, paper and other supplies, to "Schoolmates Overseas" in 28 countries. In an international exchange of personnel sponsored by the Girl Scouts of the U.S. 15 young adults from the U.S. Girl Scout movement served as counselors in Girl Guide camps in seven European countries. Within the U.S., leaders of local Girl Scout units met in 12 regional conferences during October and November to discuss current problems and to plan for the future. The semiannual registration count of June 30, 1950, showed a total membership of 1,612,074, including 546,489 Brownie Scouts, 638,594 Girl Scouts, 56,911 Senior Girl Scouts and a total of 370,080 adult volunteers and professional workers. National executive director (1950): Dorothy Stratton. National headquarters: 155 E. 44th St., New York 17, N.Y.

**Guggenheim Memorial Foundation, John Simon.**—Founded in 1925 to improve the quality of education and the practice of the arts and professions in the U.S., to foster research and to provide for the cause of international understanding, the organization had in 1950 endowments of about \$30,000,000. Activities in 1950 included the granting of 183 fellowships, tenable in the U.S., to U.S. citizens, Canadians, citizens of the Latin American republics and of the Republic of the Philippines. Officers (1950): Mrs. Simon Guggenheim, president; Francis H. Brownell, vice-president; Henry Allen Moe, secretary-general; E. M. Lundell, Jr., treasurer. Headquarters: 511 Fifth Ave., New York 17, N.Y.

**International College of Surgeons.**—This organization was founded in Geneva, Switz., in 1935 for the creation of a common bond among surgeons of all nations and to promote high standards in surgery. In 1950 international, sectional and national meetings were held. Membership was about 7,500. Its publication is *The Journal of the International College of Surgeons*. Officers (1950): Herbert Acuff, president; Max Thorek, secretary-general. Headquarters: 1516 Lake Shore drive, Chicago 10, Ill.

**Jewish Welfare Board, National.**—Founded in 1913, this agency is authorized by the U.S. government to serve the religious, welfare and morale needs of Jews in the U.S. armed forces and Veterans' administration hospitals. In 1950 it founded the Associated Services for the Armed Forces, with the Y.M.C.A. and the National Catholic Community service, which early in 1951 was consolidated with the re-establishment of the United Service Organizations (U.S.O.). The 1950 activity also included reactivation of activities at military installations throughout the world and the launching of a recruiting campaign for 111 additional Jewish chaplains. The membership in 1950 included 331 Jewish community centres with 490,000 members; and 41 national Jewish organizations. Officers, 1950: Irving Edison, president; Frank L. Weil, honorary president; S. D. Gershovitz, executive director. Headquarters: 145 E. 32nd St., New York 16, N.Y.

**Kellogg Foundation.**—The W. K. Kellogg foundation was founded in 1930 to promote the health, education and welfare of mankind, but principally of children and youth. It functions through these divisions: general education, including public libraries, camping, youth organizations and character-building agencies; medical education; nursing education; public health; hospitals and dental education. It is administered by a board of nine trustees and its funds, June 30, 1950, totalled \$52,211,159.38. Officers 1950: W. K. Kellogg, chairman of the board; Bessie Rogers Young, secretary and treasurer. Headquarters: 250 Champion St., Battle Creek, Mich.

**Kiwanis International.**—Founded Jan. 21, 1915, in Detroit, Mich., this



service organization operates through Kiwanis clubs in local communities, comprising business and professional men. During 1950 Kiwanis clubs provided 560,343 luncheons for needy children; assisted 31,191 needy families, paid for medical examinations for 130,000 children; gave vocational guidance to 247,052 boys and girls; entertained 115,000 farmers at rural-urban meetings; counseled 23,704 veterans; and raised \$19,903,958 for public-welfare campaigns. Membership included more than 200,000 in 3,200 clubs of the U.S., Canada, Alaska, Hawaii and the Yukon territory. Publications: *The Kiwanis Magazine*, *The Monthly Club Bulletin*, and *The Keynote*, organ of the Kiwanis-sponsored Key clubs for outstanding high-school youths. Officers, 1950-51: Don H. Murdoch, Winnipeg, Man., Can., president; O. E. Peterson, Chicago, Ill., secretary; John R. Wright, Lakeland, Fla., treasurer. Headquarters: 520 N. Michigan Ave., Chicago 11, Ill.

**Knights of Columbus.**—This Roman Catholic men's organization was founded in 1882 for the mutual help of its members and to conduct educational, charitable, religious, social, war relief and public relief work. During 1950 the organization continued its series of radio broadcasts entitled "Render to Caesar." Its committee on religious information supplied pamphlets in answer to more than 564,000 requests inspired by newspaper and magazine advertisements, and sent mail instruction in the Catholic religion to 50,000 persons. Its membership in 1950 was 790,615. Publication: *Columbia*, a monthly, John E. Swift was supreme knight during 1950 and headquarters were at New Haven 7, Conn.

**League of Women Voters of the United States.**—Founded Feb. 14, 1920, to promote political responsibility through informed and active participation of citizens in government, the membership of this organization in 1950 was given as 100,000. It operates through state and local leagues, and its 1950 program emphasized strengthening of the United Nations and action against inflation. Its publications include numerous pamphlets and study guides on current political questions. Officers, 1950: Mrs. John G. Lee, president; Mrs. Walter Neale, secretary; Mrs. Bradford L. Patton, treasurer. Headquarters: 1026 17th St., N.W., Washington 6, D.C.

**Lions Clubs, The International Association of.**—Founded in 1917 as a nonpolitical, nonsectarian association of service clubs, this organization's purpose is to create international good will, promote good citizenship and good government, take an active interest in community welfare and provide for good fellowship and free discussion. In 1950 individual Lions clubs completed 116,276 activities designed to further these aims. Membership in 1950 was 420,000, in 8,400 clubs in 29 countries. Publication: *The Lion*, monthly. Officers (1950): H. C. Petry, Jr., Carrizo Springs, Tex., president; R. Roy Keaton, Chicago, Ill., director general. Headquarters: 332 S. Michigan Ave., Chicago 4, Ill.

**Milbank Memorial Fund.**—A membership corporation of ten members under the laws of the state of New York, this organization was founded April 3, 1905, to improve the physical, mental and moral condition of humanity and generally to advance charitable and benevolent objects. Its 1950 activities emphasized public health. Payments made on grants for the last available calendar year (1949) totalled \$291,815.31 paid on 1949 grants, and \$64,057.09 paid on grants of prior years. Its publication is the *Milbank Memorial fund Quarterly*. Total funds in 1950 amounted to \$10,467,226.26. Officers (1950): Morris Hadley, president; Frank G. Boudreau, executive director; Catherine A. Doran, secretary. Headquarters: 40 Wall St., New York 19, N.Y.

**Music Library Association.**—Founded in 1931, this association seeks to promote the establishment and growth of music libraries and collections in the U.S. Its 1950 membership was 875. Publications: *Notes*, quarterly, and its supplement. Officers, 1950: President, Edward E. Colby, music librarian, Stanford university, Stanford, Calif.; secretary, George R. Henderson, chief of the music division, Washington, D.C., public library. Headquarters: Music division, Library of Congress, Washington 25, D.C.

**National Academy of Sciences.**—Founded in 1863, by act of congress, to investigate and report upon any subject of science when called upon by any governmental department, the academy in 1949 numbered 439 members and had an endowment of \$3,550,000, in addition to funds for general and specific purposes. Publications: an *Annual Report*; and *Proceedings*. On April 25, 1950, the Henry Draper gold medal for 1949 was awarded to Otto Struve of Yerkes and McDonald observatories; the Daniel Giraud Elliot gold medal to Robert Broom of Transvaal museum, South Africa; the Mary Clark Thompson gold medal to Laue Koch, Copenhagen, Den. Detlev W. Bronk was elected president of the academy in April 1950. Headquarters: 2101 Constitution Ave., Washington 25, D.C.

**National Association for Advancement of Colored People.**—Founded in 1909, this organization directed its 1950 activities toward abolishing segregation and discrimination in housing, the armed forces, recreation facilities, employment and education. Membership in 1950 was 150,000; the association's annual convention was held in Boston, Mass., June 20-25, 1950. Publication: *The Crisis* magazine. Officers (1950): Arthur B. Spingarn, president; Walter White, executive secretary; Roy Wilkins, administrator. Headquarters: 20 W. 40th St., New York 18, N.Y.

**National Association of Manufacturers.**—The N.A.M. was founded in 1895 to promote the industrial interests of the U.S., foster domestic and foreign commerce, improve employer and employee relations, protect individual liberty and the rights of employer and employee, and support legislation in furtherance of these principles. Its activities in 1950 were exercised through about a dozen committees, and included emphasis on the dissemination of public information. Membership in 1950 was more than 15,000. Publications: *NAM News*, weekly; *NAM Law Digest*, quarterly; and others. Officers (1950): Claude A. Putnam, president; Earl Bunting, managing director; Noel Sargent, secretary; Kenneth R. Miller, treasurer. Headquarters: 14 W. 40th St., New York 20, N.Y.

**National Association of State Libraries.**—This association was founded in 1889 to provide active co-operation among state libraries and to facilitate the exchange of state laws, court reports and public documents. Its 1950 membership included 46 state libraries. Its national convention was held in Cleveland, O., in July. Publications include check lists of collected public documents, legislative journals, session laws and statutes. Officers (1950): Elinor M. Stephens, Salem, Ore., president; Alfred Decker Keator, Harrisburg, Pa., secretary-treasurer. Headquarters: State library, Harrisburg, Pa.

**National Education Association of the United States.**—Founded in 1857; held its 88th annual meeting and its 29th representative assembly at St. Louis, Mo., July 3-7, 1950. Progress in the activities of its committees, in public relations, in its work with state and local associations and in the field of standards for the preparation and certification of teachers continued. The theme for American Education week, Nov. 6-12, 1950, was "Government Of, By and For the People." It had in 1950 a membership of 453,797 and its affiliated state associations had a membership of 856,7502. Publication: *NEA Journal*. Officers (1950-51): Corma Mowrey, president; Willard E. Givens, executive secretary. Headquarters: 1201 16th St., N.W., Washington 6, D.C.

**National Temperance League, Inc., The.**—This federation of state temperance organizations was formed by the merger of the Temperance League of America (formerly the Anti-Saloon League of America) and the National Temperance Movement, Inc., at a meeting of the governing boards of both organizations, ratified in Des Moines, Ia., Nov. 20, 1950. Its purpose is to promote abstinence and to diminish and ultimately to eliminate the traffic in alcoholic beverages and the evils arising therefrom. Officers, 1950: President, Robert G. Lee, Memphis, Tenn.; secretary, James R. Swedenburg, Birmingham, Ala.; general counsel, Edward B. Dunford, Washington, D.C. The finance and publication department is at 1321 Chicago Temple, Chicago, Ill. The legal, legislative and research departments are at 131 Independence Ave., S.E., Washington 3, D.C.

**Parents and Teachers, National Congress of.**—This organization, founded in 1897, had in 1950 a membership of 6,167,079 parents, teachers and other citizens interested in its objectives, organized in about 35,000 individual local associations. Its purpose is to promote the welfare of children; raise the standards of home life; secure laws for care and protection of children and youth; bring the home and school into closer relationship; and develop plans for joint action along these lines by educators and the general public. Activities for the fulfillment of these aims are carried on in each local P.T.A. unit in the form of monthly programs. Local committee chairmen work in co-operation with corresponding chairmen in their state congresses, and these in turn with their opposite numbers in the national organization. Publications: the *National Parent-Teacher*, the *P.T.A. Magazine*; the *National Congress Bulletin*, a monthly news-sheet for local leaders; books and special publications. National headquarters: 600 S. Michigan Blvd., Chicago 5, Ill.

**Research Libraries, The Association of.**—Founded in 1931, this association of 48 institutions seeks by co-operative effort to develop and increase the resources and usefulness of the research collections in American libraries. Publications include *Doctoral Dissertations Accepted by American Universities and Newspapers on Microfilm: A Union Check List*. Charles W. David was executive secretary in 1950, and headquarters were at the University of Pennsylvania library, Philadelphia, Pa.

**Rockefeller Foundation, The.**—Founded in 1913 "to promote the well-being of mankind throughout the world," the foundation during 1950 made grants to institutions or agencies such as universities, research institutes or governmental agencies, in the following fields in which its program for the advancement and application of knowledge to human interest was currently concentrated: medical sciences; natural sciences; social sciences; humanities; and public health. The 21 trustees are the 21 members of the corporation. Assets, Dec. 31, 1949, totalled \$122,989,438. Officers: Chester I. Barnard, president; Lindsley F. Kimball, vice-president; Flora M. Rhind, secretary. Headquarters: 49 W. 49th St., New York 20, N.Y.

**Rotary International.**—This world-wide service organization comprises business and professional men devoted to "helpfulness to others in business and community life." The first Rotary club was organized in Chicago, Ill., Feb. 23, 1905, and in 1950 there were more than 7,200 Rotary clubs with more than 344,000 members. During 1950 Rotary activities included promotion of good citizenship among boys and girls, and advancement of international understanding. The Rotary foundation fellowships, under which graduate students are given grants to study in a country other than their own (begun in 1947), by 1950 totalled more than 195 fellowships and grants of almost \$500,000. Publications include the official monthly magazine, *The Rotarian*, also circulated in Spanish and French, plus such special publications as a monthly summary report on activities at the United Nations. For the fiscal year 1950-51, Arthur Laqueux of Quebec City, Can., was president of Rotary International and Philip Lovejoy of Chicago, general secretary. Headquarters office of Rotary International is in Chicago, and additional offices to serve Rotary clubs overseas are located in London, Eng., and Zürich, Switz.

**Russell Sage Foundation.**—Established in 1907 by Mrs. Russell Sage for "the improvement of social and living conditions in the U.S.," the foundation's program underwent a revision in 1948 when its library collection, relating chiefly to social work, was divided between the New York School of Social Work and the College of the City of New York. Its later program consisted of varied research and consultation projects, designed to bring into closer relationship research in the social sciences and the work of practitioners concerned with the problems of society. In 1950 were issued the publications, *Effective Use of Social Science Research in the Federal Services and Philanthropic Giving*, a report of present-day philanthropy in the U.S. Assets of the foundation, as of Dec. 31, 1950, were \$13,955,569. Officers (1951): president, Eli Whitney Debevoise; general director, Donald Young; treasurer, Dave H. Morris, Jr.; secretary, Ralph G. Hurlin. Headquarters: 505 Park Ave., New York 22, N.Y.

**Seeing Eye, Inc., The.**—A national philanthropy founded in 1929 and supported through annual memberships, public contributions and bequests. The society's purposes include the training of dogs to guide blind persons, teaching instructors the technique of training the guide dogs and training the blind in the proper use of their guide dogs. During 1950, 187 blind persons were provided with dog guides. Of this total, 124 received their first dog guide and 63 their second, third or fourth dog guides. Membership in 1950 was about 20,000; a total of 1,800 dogs had been trained for the blind since the organization's inception. Publications: *The Seeing Eye Guide*, published quarterly for the members of The Seeing Eye, and printed booklets on the organization and its policies. Officers (1950): Henry A. Colgate, president; W. H. Ebeling, executive vice-president; James Carey, treasurer. Headquarters: Morristown, N.J.



**Sloan Foundation, Inc., The Alfred P.**—Founded in 1934, the foundation's primary purpose is the increase and spread of economic knowledge; it also promotes interest in cancer research, primarily through the Sloan-Kettering Institute for Cancer Research of the Memorial Cancer centre in New York city. Economic activities include grants to research organizations and institutions of higher learning, and for the production and distribution of radio programs, motion pictures, pamphlets and related material in the field of economics. In 1950 its funds totalled \$18,162,250. Officers (1950): Alfred P. Sloan, Jr., president; Arnold J. Zurcher, vice-president and executive director; James F. Kenney, secretary and treasurer. Headquarters: 30 Rockefeller plaza, New York 20, N.Y.

**Sodality of Our Lady.**—This international Catholic body was founded in 1563 to foster devotion to Mary, the Mother of God. During 1950 it sponsored a Marian-Holy Year pilgrimage to European shrines on a chartered ship carrying 904 pilgrims from 46 states. Five sodality summer schools of Catholic Action were held with a total attendance of 6,551. A delegation of eight regional Jesuit secretaries participated in the first international meeting of sodality directors in Rome in April. U.S. sodalists sent to Pope Pius XII, as a spiritual Christmas gift, offerings of 941,526 masses and 790,039 communions. In the U.S., membership in 1950 comprised 16,565 affiliated units with from 6 to 2,000 members in each. Publications include *The Queen's Work*, *Action Now*, *Junior Sodalist* and pamphlets. Officers are a number of priests of the Jesuit order. Headquarters, 3115 S. Grand Blvd., St. Louis, Mo.

**Twentieth Century Fund.**—Founded in 1919 by Edward A. Filene, this is a nonprofit, nonpartisan foundation for research and public education on current economic problems. Activities during 1950 included publication of *America's Capital Requirements: Estimates for 1946-1960*, and completion, for release in Jan. 1951, of *Monopoly and Free Enterprise*. Also nearing publication were reports on wages and employment in the U.S., government finance and economic stabilization. Other economic problems were under study. Findings from two fund reports were used in a filmstrip, "Machine-Power Means Plenty," and in a documentary film to be released in 1951 entitled "Working Together: A Case History of Labor-Management Co-operation." The fund also collaborated with the National Broadcasting company in a 13-week series of programs, beginning in Dec. 1950, entitled "The People Act." Total assets, Dec. 31, 1950: \$7,547,270. Pres. John H. Fahey of the fund died Nov. 19, 1950; A. A. Berle, Jr., was treasurer; Evans Clark, executive director, and J. Frederic Dewhurst, economist. Headquarters: 330 W. 42nd St., New York 18, N.Y.

**Woman's Christian Temperance Union, National.**—This organization was founded in 1874 to unite Christian women of the U.S. to rally public sentiment for total abstinence from all alcoholic liquors and to abolish traffic in alcoholic liquors. Membership in 1950 was about 400,000; publications include *The Union Signal* (weekly) and *The Young Crusader* (monthly), primarily for children. During the year it conducted training schools in Illinois, Indiana and New York, and carried on its comprehensive educational program. Officers (1950): Mrs. D. Leigh Colvin, president; Mrs. B. Blanch Butts, corresponding secretary; Violet T. Black, treasurer. Headquarters: 1730 Chicago Ave., Evanston, Ill.

**Women's Clubs, General Federation of.**—Founded in 1890, this organization aims at uniting women's clubs throughout the world to promote education, philanthropy, public welfare, moral values, civics and fine arts. Its 1950 activities stressed an educational program on the United Nations; sending of relief supplies to war areas; co-operation of 2,895 clubs in a "Build a Better Community" contest; a scholarship program and programs to stimulate interest in the welfare of youth. Membership in 1950 included 770,000, with a total in affiliated organizations of about 11,000,000 in the U.S. and 38 other countries. Publication: *General Federation Clubwoman* (monthly). Officers (1950): Mrs. Hiram Cole Houghton, president; Mrs. R. I. C. Prout, treasurer; Mrs. Thalia S. Woods, executive secretary. Headquarters: 1734 N St. N.W., Washington, D.C.

**Young Men's Christian Association.**—Founded in London, Eng., in 1844, this is a world-wide fellowship seeking to improve the spiritual, social, recreational and physical lives of young people. During 1949 (latest

data available in 1950) there were 1,651 Y.M.C.A.s operating in cities and rural areas, with memberships of almost 2,750,000. More than 150,000 clubs, classes, teams, special-interest groups and councils met regularly with programs emphasizing physical, educational, social and religious features, plus emphasis on citizenship and world affairs. Among high school youth, 9,656 Hi-Y clubs for boys and 2,760 Tri-Hi-Y clubs for girls were functioning. During 1950, 24 states of the U.S. conducted "model legislatures" under a youth-and-government program. Publications included *National Council Bulletin* and *YMCA Year Book* for 1950. Endowments totalled \$48,990,500. Officers, 1950: Harper Sibley, president; Eugene E. Barnett, general secretary. The corporate body, the National Board of Y.M.C.A.s, had headquarters at 291 Broadway, New York 7, N.Y.

**Young Womens Christian Association of the United States of America.**—This organization was founded in England in 1855 and in the U.S. in 1858, to build a fellowship of women and girls devoted to the pursuit of Christian ideals in personal and social living. During 1950, 3,000,000 women and girls participated in its activities, which engage women from high school age on. Publications: *The Woman's Press* and *The Bookshelf*. Officers, 1950: Mrs. Arthur Forrest Anderson, president; Mrs. Roland P. Beattie, treasurer; Mrs. Harrison S. Elliott, general secretary. Headquarters: 600 Lexington Ave., New York 22, N.Y.

**Zionist Organization of America.**—Founded in 1897, this organization's purpose is to safeguard the integrity and independence of Israel as a free and democratic commonwealth by means consistent with U.S. laws, and to strengthen Jewish sentiment and consciousness as a people and promote cultural creativity. Its 1950 activities included charitable and cultural work consistent with these purposes. Membership in 1950 was 250,000 and publications included *The New Palestine*, *Dos Yiddishe Folk* and *Inside Israel*. Officers (1950): Benjamin G. Browdy, president; Sidney Marks, secretary. Headquarters: 41 East 42nd St., New York 17, N.Y.

**Zonta International.**—A service organization of executive women in business and the professions, founded in 1919, this organization encourages high ethical business and professional standards and the improvement of the legal, political, economic and professional status of women, plus international understanding through a world fellowship of executive women. Membership in 1950 included about 225 clubs with approximately 8,500 members in the U.S. and other countries. Publications: *Zontian* and pamphlets. Officers (1950-51): Elizabeth Gist Dozier, San Fernando, Calif., president; Ellen Fireoved, Chicago, Ill., executive secretary. Headquarters: 59 E. Van Buren St., Chicago 5, Ill.

**Sociology.** The trend most clearly apparent in 1950 was the continuing merger of sociology with a vaguely general social science as yet unnamed. The merger was the result of drift; there was certainly little semblance of planning. Thus there was much overlapping of effort, concealed by competing terminologies and esoteric techniques.

Among the fields in which work was going on during 1950 that was capable of being linked up with an eventual general theory of the social sciences, despite some overlapping, was social psychology. The work of Muzafer Sherif on social norms, of H. A. Murray and Norman Cameron on abnormal personality, of L. S. Cottrell and others on subjective aspects of social interaction,

**COMMUNITY LEADERS** of Morningside Heights, Inc., a project under way in 1950 to halt the "creeping obsolescence" of neighbourhood decay by efforts at total planning. The community comprised Morningside Heights, N.Y., and adjoining Manhattanville, known as "the Valley"





and of the followers of Kurt Lewin on group dynamics was all relevant. In particular, Cottrell's revival of attention to the phenomena loosely called empathy promised much, for it gave some assurance that the almost-forgotten work of Max Scheler on "the forms of sympathy"—compathy, transpathy, mimpathy, empathy, unipathy, and propathy—would soon be integrated with current theory and research. Further, the trends in group dynamics correlated not only with R. Freed Bales' *Interaction Process Analysis* but also with the quasi-sociological studies carried on by the school centring around J. L. Moreno and his journals, *Sociometry* and *Sociatry*, and with the renewed interest in the study of small groups. Among the ways in which this interest appeared was the translation by Kurt H. Wolff of *The Sociology of Georg Simmel* and the reissue of Howard Becker's *Systematic Sociology on the Basis of the Beziehungslehre and Gebildelehre of Leopold von Wiese*.

The field roughly described by the phrase "culture and personality" also gave some indication of eventual interconnection with general social science theory. Initially stimulated by grants from the Social Science Research council in the early 1930s, and intended to serve as an open court for all the social sciences, the study of "culture and personality" had been largely taken over by the anthropologists in the early 1940s. Discredited to some extent by the free-and-easy speculations of Margaret Mead, Geoffrey Gorer, Gregory Bateson and even Ruth Benedict, but retaining a good deal of esteem because of the more circumspect work of Ralph Linton and others, "culture and personality" showed signs in 1950 of profiting by contact with social psychology rather than with psychoanalysis only, and also of absorbing effectively the French sociological contributions of Émile Durkheim, Marcel Granet, Louis Gernet and Maurice Halbwachs. If this integrative trend were to continue, it would mean that sociology of knowledge, not only of French derivation but also stemming from the German varieties represented by Max Scheler and Karl Mannheim, would either incorporate "culture and personality" or be incorporated by it. The end product, moreover, would be readily assimilable into one important section of a general theory of the social sciences.

During World War II there had emerged a strong interest in what might be called a concrete rather than abstract integration of the social sciences, namely, area studies. Focused primarily on Axis countries and necessarily of *ad hoc* character, this interest nevertheless led to the conviction that the various social sciences, including those that were almost wholly descriptive, could be brought into some semblance of unity when an area or region provided the integrating boundary. Interest in abstract integration soon developed. Werner J. Cahnmann, a sociologist, was among the first to advance a general theory of area studies, and in 1950 the Social Science Research council published a monograph by Julian H. Steward, an anthropologist, entitled *Area Research*. Further, a number of grants were made for area research training fellowships and travel. The Russian institutes at Harvard and Columbia universities continued to function essentially as centres of area studies, and other institutes dealing with the far east, notably the one at Yale, were also established. The state of world affairs had again given a concrete emphasis to area studies, but in 1950 the abstract counterpart was not lacking, and might be expected to develop further.

Perhaps more important than any other 1950 development toward the integration of the social sciences, because it was not of limited perspective, was the November Princeton conference, sponsored by the American Council of Learned Societies, on "Uniformities in History." There had been previous conferences along related lines, but the one in 1950 was particularly designed to take advantage of the presence in the United States of the

author of *A Study of History*, A. J. Toynbee. In view of the fact that his work, vast in its sweep and implications, included far more than conventional history, philosophers, anthropologists, sociologists and students of language and literature were brought together with a number of specialists in various historical fields. The topic was "Feudalism," but might just as well have been called "Methods for the Comparative Study of Social Structures, with Special Reference to Feudalism." Toynbee participated actively in the discussions, and those present agreed that a definite step toward the integration of history (in certain of its aspects) with the other social sciences had been made. It remained to be seen what later conferences would bring forth.

During 1950 the American Sociological society further expanded, consolidated and increased the number and quality of services to its members. For the first time, the annual meeting was held west of the Mississippi and at a time other than the Christmas holidays—Denver, Colo., Sept. 7–9. In Oct. 1950, the Philosophy of Science association held its annual meeting in Chicago, Ill., where attention was focused on the philosophy of the social sciences.

In Europe, the outstanding sociological event of the year was the meeting of the International Sociological congress at Zürich, Switz., during the summer. Another organization, likewise calling itself international but having few participants, met somewhat earlier at Rome.

**BIBLIOGRAPHY.**—Howard Becker, *Through Values to Social Interpretation* (1950); Karl Mannheim, *Freedom, Power and Democratic Planning*, ed. by H. H. Gerth et al. (1950).

**FILMS OF 1950.**—*The Gang* (Nu-Art Films, Inc.); *Life with Grandpa*, *Social Development* (McGraw-Hill Book Co., Text-Film Dept.).

(H. BEC.)

**Sodality of Our Lady:** see SOCIETIES AND ASSOCIATIONS.

**Softball.** Avenging their setback of the previous campaign, the Clearwater, Fla., Bombers dethroned the Toronto (Ont.) Tip Top Tailors as Amateur Softball association champions. The two teams came through to a showdown play-off in the world tournament at Austin, Tex., and the Bombers triumphed, 1–0, as Johnny Hunter twirled his 11th consecutive shutout.

Laurels in the women's championship, played at San Antonio, Tex., were won by the Orange, Calif., Lionettes. The strong coast team frustrated the bid of the Phoenix, Ariz., Ramblers for their third straight crown when the two rivals met in the deciding game of the tourney on the last day. With Bertha Ragan, their mound star, showing the way, the Lionettes tallied twice in the 15th inning to triumph, 3–1.

(T. V. H.)

**Soil Erosion and Soil Conservation.** By 1950 it had become apparent that many of the world's soil and water conservation programs were being developed as permanent national institutions. Not only were individual nations consolidating their facilities for conservation work, but groups of nations were taking steps to co-ordinate their programs for greater speed of accomplishment and mutual benefit. An example of the latter was the Inter-African Information Bureau on the Conservation and Utilization of the Soil, formed early in the year by Belgium, France, Portugal, Great Britain and the Union of South Africa.

At the close of the year, 22 countries besides the United States had organized soil conservation programs. Some conservation measures had been applied to farm land in 30 other countries. In general, nearly all these programs were patterned after that of the United States.

Some of the problems that had developed in connection with the spread of soil conservation were attacked with vigour during 1950. Important beginnings were made to solve the most serious problem of all—the training of soil conservation tech-



nicians in sufficient numbers to staff programs. A plan for in-service training on the island of Cyprus was launched by the Food and Agriculture organization of the United Nations and the government of Cyprus during meetings held in April. Twelve near east and south European countries participated in the co-operative training program: Cyrenaica, Iran, Jordan, Lebanon, Saudi Arabia, Syria, Turkey, Israel, France, Greece, Italy and Yugoslavia. Technicians from these countries were sent to Cyprus to spend one year or more working under supervision of conservation officials of Cyprus, either on a broad over-all basis or as specialists in one particular field of land and water conservation.

Other serious problems seen with greater clarity at the turning of the half century were those having to do with steep cultivated lands in areas of heavy rainfall, wind erosion on newly drained and cultivated flat areas, sloping land subject to landslips, tropical soils of low fertility and irrigated areas destroyed by misuse of water. Research was started in several parts of the world to find conservation methods suitable for these special land and climatic conditions. Pilot experiments were in progress in West Bengal, India, and in Ceylon, to study the volume, rate and types of erosion in relation to rainfall. Field experiments to adapt drainage-type terraces to rolling land with tight subsoil and excessive runoff were in progress in the Republic of the Philippines. In New Zealand the prevention of soil slips on eroded steep slopes was being investigated through various methods of revegetation. Wind erosion on light peat soils after drainage was being studied in the East Anglia fenlands of England. Exchange of seed and other planting materials of potential erosion-control values was carried on among the United States, Australia, New Zealand, African countries, India and Japan, and among South and Central American countries, especially those in the tropical zone. Sand dune control plants also were made available to France, and to Israel and other near east countries, from various parts of the western hemisphere.

**United States.**—By Nov. 1, 1950, farmers and ranchers in continental United States and in Alaska, Hawaii, Puerto Rico and the Virgin Islands had organized 2,319 soil conservation districts covering 1,270,000,000 ac. and 4,817,820 farms. The more than 11,000 farmer directors or supervisors of the districts constituted the largest group in the world of voluntary, unpaid agricultural leaders devoted to conservation of soil and water, the basic agricultural resources. During 1950 the main objective of the districts, and of the soil conservation service which provides technical assistance to the districts, was to speed up the work of applying soil conservation plans to farm land. A rate-of-progress study showed that nearly five times as much conservation work was done on the land in 1950 as was done in 1942, and that approximately 19% of the task of applying the basic conservation measures had been completed, nation-wide, as of June 30, 1950.

At the end of the fiscal year, detailed conservation surveys had been completed on 344,770,000 ac. of farm and ranch land. Complete conservation farm plans had been prepared for 873,181 farms including 240,000,000 ac. Nearly 218,000,000 ac. of the farm land planned were being operated according to the conservation plans. About 200,000 additional farmers and ranchers had made application to the soil conservation service for assistance in preparing plans for their land.

Considerable progress was made in the land capability survey work, a function of the soil conservation service. Data reported from the survey showed that more than 31% of the land of the United States falls in classes I, II and III—land which is suitable for continuous cultivation, with careful conservation treatment of classes II and III. Eight and one-half per cent consists of class IV, a borderline grade which should be under

good grass cover most of the time with only an occasional plowing for crop production. And about 55.5% consists of land classes V, VI and VII, suited only for growing grass and trees. A small percentage (5%) is in class VIII, which consists of marshes, beaches, rock outcrop and other land good only for wildlife or recreational purposes.

A progress report of flood control operations carried on by the soil conservation service in 11 watersheds showed that 554 subwatershed work plans, covering 7,174,703 ac. and 40,057 farms, had been completed by June 30, 1950. It was estimated that the program of improvement works in the 11 watersheds would require from 10 to 24 years, varying with the needs of the areas for upstream flood control measures.

Intensive studies were carried out in the southern Great Plains on the mechanics of wind erosion. A carefully standardized wind tunnel of laboratory type was used for measuring the susceptibility of soils to wind erosion when prepared by a variety of conservation practices. The studies confirmed the great importance of roughness in seedbed preparation in the plains, especially the protection given by clod structures against erosive winds. Projects also were devoted to the delineation of zones of high erosion risks for dry-land farming in the High Plains. Two areas of maximum wind erosion risk were indicated—the sandy row-crop land west and southwest of Lubbock, Tex., and the newly broken expanded small-grain area in southeastern Colorado as well as adjoining counties in Kansas. Stubble mulch farming, important wind erosion control practice, was practised on more than 35,000,000 ac. of cropland by the end of the year.

**Latin-American Countries.**—Developments in nearly all Latin-American countries included important research and demonstrations to determine and prove the conservation practices best suited to different soil and climatic conditions. There was a

TAPPING FOR WATER TABLES beneath Saharan dunes in 1950, as scientists of the Centre of Saharan Research at Beni Abbès, Alg., explored for ways and means of restoring desert fertility and making the land habitable





distinct trend toward introducing technical planning of individual farms as the essential feature of co-operative programs between landowners and the government. In Mexico, complete conservation plans were made for 1,000 ac. of irrigated farms in Durango and the plans given farmers for use in planting, cultivating and irrigating to prevent erosion, alkalization and waste of water. In unirrigated areas, bench terraces, rock dams, contouring and strip cropping, hillside tree planting and range management were widely used.

In Costa Rica a soil conservation project was organized in the Palmares valley where erosion is serious because of continuous cultivation for tobacco. Nearly 1,000 ac. were terraced. Green-manure cropping, contour strip cropping and rotations including pasture crops were introduced on many farms. In El Salvador, the soil conservation program, originally started for rehabilitation of coffee lands, was extended to all farm land, with skilfully managed educational programs in all localities.

Tree planting in the Argentine pampas was launched by governmental order as a part of the program to halt soil erosion. At the same time, intensive ecological studies were in progress to determine native and exotic plants suitable for stabilization of moving sand dunes in the province of Buenos Aires.

More than 100 trained soil conservationists were working in various regions of Colombia to assist farmers with erosion control. Watershed studies were made and reported to the government for use in setting up regional soil and water conservation projects. A survey of the land of Ecuador, to determine the critical eroded areas of both steep and level lands and the areas requiring reforestation, were made and the report submitted to the Food and Agriculture organization of the United Nations. The Ecuadorian government urged formation of an inter-American institute for soil conservation and reforestation, proposing Ecuador for location of the institute and the land of Ecuador for study and demonstrations to benefit all South American countries having similar problems.

**Europe.**—A meeting of European experts in land and water utilization and conservation was held at Amsterdam, Neth., in July. It was sponsored by the Food and Agriculture organization of the United Nations. Countries sending delegates were Austria, Belgium, Denmark, Finland, France, Ireland, Italy, the Netherlands, Norway, Sweden and the United Kingdom. Observers attended from Spain, western Germany and the United States. Some of the problems brought to light were:

1. Lack of co-ordination, within most European countries, of agencies concerned with different phases of land and water utilization. In Spain, a government decree ordered that all soil conservation activities be co-ordinated in a soil conservation service. France and Italy, too, had taken initial steps to draw together their conservation facilities. In the United Kingdom there was an effective co-ordination of activities concerned with the major aspects of land and water use.

2. Need for exchange among all European countries of knowledge resulting from scientific experiments which might be of use for soil conservation throughout the continent. The conference stressed the need for publication, through all Europe, of negative results as well as successful ones in order to minimize duplication of research.

3. Need for a mutual assistance agreement among European nations in setting up regulations for protection of agricultural lands against sand, clay, peat, stone and other types of industrial exploitation. Norway, the United Kingdom, Belgium and the Netherlands had such regulations, but in other countries they were lacking.

4. The overgrazing of pastures, both highland and lowland, in the Mediterranean countries had created a very difficult problem. Uncontrolled grazing on mountain lands had seriously dam-

aged forest land and endangered the productivity of valley land by flooding, spreading of erosion debris and clogging of streams and reservoirs. Research in pasture management and improvement was strongly recommended by the conference.

The conference recommended establishment of a permanent soil conservation working commission for Europe, with two subsections, a northern and a southern group, meeting at stated intervals and on call for consideration of critical area problems which might arise.

Serious soil erosion was reported in western Norway, with dust storms on cultivated land, and in the western and northern areas where peat and grass and heather turf are cut for fuel. The soil conservation committee of the department of agriculture proposed legislation for soil conservation in the Norwegian parliament.

**Africa.**—The Algerian soil conservation program, organized in 1941, was given fresh impetus during 1950 by the granting of Economic Cooperation administration funds for purchase of heavy machinery for use in applying erosion-control practices on 4,800,000 ac. of farm land urgently in need of protection. Nearly 50,000 ac. were restored in 1950, making about 100,000 ac. treated with modern conservation practices such as contour terracing, bench terraces on steep slopes, tree planting and control of gullying.

Important soil structure and fertility investigations were in progress throughout much of East and South Africa, for use in determining conservation measures suitable to cultivated and pasture lands in Uganda, Kenya, Tanganyika, Nyasaland, Rhodesia and the Union of South Africa. Two main groups of projects were studies of the functions of organic manures in supplying nutrients to the plants, and investigations of soil structure as related to crop rotations including grass, the carbon and nitrogen cycles in soil and mechanization in relation to soil moisture. Surveys showed that considerable erosion damage in East African countries had resulted from the "increased crops" production during World War II. All governments announced that the programs for soil conservation education would be intensified in native areas. The soil conservation service of South Africa was reorganized to provide for regionalization of both administration and activities on the land, with a view to farm planning in individual-farm units.

**Israel.**—The soil conservation service of Israel consisted of 50 technicians who were responsible for introducing soil conservation measures on settlement lands as the areas were laid out by the government. Conservation plans had been prepared for nearly 100 settlements by the end of 1950. Contour planting, terracing, pasture seeding, water spreading, tree planting and conservation crop rotations were basic practices in use. Grass nurseries were started, one at Gaza near the Egyptian border, for tests of grasses from the United States and for expansion of orchard grass, native to Israel. A water conservation experiment station was planned, and a range management division was established to function as a part of the soil conservation service.

(See also AQUEDUCTS; DAMS; FORESTS; IRRIGATION.)

FILMS OF 1950.—*Oklahoma Forestry* (Photographic Service Department, University of Oklahoma); *Yours Is the Land* (Encyclopædia Britannica Films Inc.). (H. H. BE.)

**Solar System:** see ASTRONOMY.

**Solomon Islands:** see PACIFIC ISLANDS, BRITISH; TRUST TERRITORIES.

**Somaliland, British:** see BRITISH EAST AFRICA.

**Somaliland, French.** This former colony situated in the Gulf of Aden, the status of which was changed in 1946 to that of overseas territory, is bounded north



by Eritrea, northwest and southwest by Ethiopia and southeast by British Somaliland. Area: 8,376 sq.mi. Pop. (1949 est.) 47,000. Among the natives there were 21,000 Danakils, 15,700 Somalis and 5,600 Arabs. There were also about 2,034 Europeans, including 1,260 French. Capital of the Côte Française des Somalis: Jibuti (pop., 1948, 22,000). Governor: Numa Sadoul.

**History.**—By an act of Aug. 19, 1950, was created a representative assembly of 25 members divided into two sections deliberating together, the metropolitan section consisting of 12 members and the native section of 13 members elected by constituencies based on ethnic considerations (4 Issas, 4 Danakils, 2 Issaks, 2 Arabs and 1 Gadabourcy). On Nov. 5 election of the metropolitan section took place: only candidates of the Rassemblement du Peuple Français (Gen. Charles de Gaulle's party) were elected.

**Finance.**—Budget (1949 est.): 403,300,000 Jibuti francs. Monetary unit: Jibuti franc with an exchange rate of 100 Jibuti francs=168 metropolitan francs. The exchange rate in 1950 for the metropolitan franc was 350 to the U.S. dollar.

**Foreign Trade.**—(1949) Imports 1,940,200,000 Jibuti francs; exports 1,490,200,000 Jibuti francs. Main exports (metric tons): salt 112,015; Ethiopian coffee 5,341; Ethiopian cereals 4,409; Ethiopian hides 1,670.

**Transport and Communications.**—Railway (a section of the Jibuti-Addis Ababa line): 98 km. Roads (1948): 25 km. Motor vehicles licensed (1948): cars 169, commercial 210. Ships entered at Jibuti (1949) 1,550; cargo (metric tons): unloaded 277,900; loaded 133,000. (C. A. J.)

**Somaliland, Italian.** This former Italian colony in east Africa, under British military administration from 1941, was consigned to Italian trusteeship on April 1, 1950; bounded southeast by the Indian ocean, northwest by British Somaliland and Ethiopia and west by Kenya. Area: 194,000 sq.mi. Pop.: (1949 est.) 955,000, almost exclusively Somali, with 2,985 Italians. Capital: Mogadishu (pop., 1949 est., 74,000, including the majority of Italians in the territory). Administrator: Giovanni Fornari.

**History.**—On Nov. 21, 1949, by a resolution of the general assembly of the United Nations, Italian Somaliland was placed under the trusteeship system, with Italy as the administering authority, with the provision that it should become an independent sovereign state in ten years. Pending ratification of the trusteeship agreement the administration, which had been British since the territory was occupied by Allied forces in 1941, was taken over by Italy on April 1, 1950.

The transfer of powers took place without incident and a temporary administrative boundary between Somaliland and Ethiopia, the frontier of which remained undefined, was agreed upon by the parties concerned. As part of the trusteeship machinery an advisory council was established in Mogadishu, consisting of representatives of Colombia, Egypt and the Philippines, to advise the administering power.

The advisory council reported favourably to the United Nations in Nov. 1950 on the work of the Italian administration and noted an improvement in public security. During the fifth session of the general assembly of the U.N. the trusteeship agreement for the territory was approved despite an objection by the Ethiopian government that it was invalid because as an interested power they had not concurred in it. During the debates representatives of the Somali Youth league, which had bitterly opposed the return of Italy, complained of oppression and victimization and of intense Italian immigration, but the report of the advisory council suggested that the complaints were exaggerated. Ethiopian opposition to Italy softened considerably after the satisfactory solution approved for Eritrea (*q.v.*) and discussions between these two countries over the thorny problem of the disputed boundary, which formed the pretext for the Italian conquest of Ethiopia in 1936, began. (See also TRUST TERRITORIES.) (F.E. St.)

**Economy.**—Budget (1948-49, actual): revenue £1,114,747; expenditure £1,405,832. Foreign trade (1949): imports £1,378,500; exports £878,900. Roads (1947): 5,300 mi.

**Somoza, Anastasio** (1896— ), Nicaraguan government leader, was born on Feb. 1 in San Marcos, province of Carazo, Nic. He was educated at the Instituto Nacional de Oriente, Granada, Nic., and at the Pierce Commercial school in Philadelphia, Pa. He was collector of internal revenue of the department of León in 1925, and after his party came into power in 1928 rose rapidly in national affairs, becoming successively governor of León, minister of war, envoy extraordinary and minister plenipotentiary to Costa Rica, assistant secretary of foreign affairs and finally minister of foreign affairs. He was president of the republic, 1937-47. He held the post of war minister when he announced, Feb. 12, 1950, that he would run for president in that year to succeed Víctor Román y Reyes. He was elected to a six-year term on May 21, 1950.

**South Africa, British:** see BRITISH SOUTH AFRICAN PROTECTORATES.

**South Africa, The Union of.** The Union of South Africa is a self-governing dominion of the British Commonwealth of Nations. The four provinces of which it consists, the Cape of Good Hope, Natal, the Transvaal and the Orange Free State, extend from the southernmost point of the African continent to the Limpopo river in the north. The total area of the Union is 472,494 sq.mi. (incl. Walvis bay, 430 sq.mi.). Pop. (1946 census): 11,418,349; (1949 est.): 12,108,000 (Europeans 20.7%; native [Bantu] 68.7%; Asiatic 2.5%; mixed 8.1%). South-West Africa (area 317,725 sq.mi., pop. est. 1949: 374,000), a former German colony, has been administered by the Union of South Africa since 1920 under League of Nations mandate and governed as an integral part of the Union (see also TRUST TERRITORIES).

Official languages (European pop., 1946): Afrikaans (derived from Dutch) 55.9%, English 39.9%. The Africans are Bantu-speaking; of the coloured, more than 90% are in the Cape province and all speak Afrikaans or English; of the Asians (Indians), more than 80% live in Natal. Religion: (European pop., 1946) Christian 95.5% (Dutch Reformed Church 55%, Anglican 19%, Methodist 6%, Presbyterian 5%, Roman Catholic 5%), Jewish 4%; (non-European pop.) Christian 51%, no religion 44%, the remainder Hindu, Moslem and Buddhist. Chief towns (pop., 1946 census): Capetown (seat of legislature 470,911, incl. 220,398 Europeans); Pretoria (seat of government, 244,887, incl. 130,810 Europeans); Johannesburg (765,457, incl. 332,026 Europeans); Durban (372,269, incl. 130,143 Europeans); Port Elizabeth (147,907, incl. 65,271 Europeans). Governors general: (1950) Maj. Gideon Brand van Zyl, (from Jan. 1, 1951) Ernest George Jansen; prime minister and minister of external affairs, Daniel François Malan.

**History.**—The most important event in 1950 was the death of Gen. J. C. Smuts (see OBITUARIES) which occurred on Sept. 11. The whole country was deeply moved by the passing of the man who was by common consent regarded as the greatest figure South Africa had produced. Jacobus Gideon Nel Strauss was unanimously elected leader of the United party and of the parliamentary opposition in succession to General Smuts.

The first elections held on Aug. 30 in the mandated territory of South-West Africa under the act passed in 1949 resulted in a sweeping victory for Malan's Nationalist party, which won all the six new seats in the Union house of assembly as well as 15 of the 18 seats in the local legislature. The government's slender majority in parliament was strengthened accordingly,





SOUTH AFRICAN MINING RECRUIT being fingerprinted by an official of the National Recruiting corporation in 1950, by way of signing up for work in the nation's gold mines

there being a total of 86 members of the assembly supporting the government and 73 forming the opposition (including all parties).

Ernest George Jansen resigned the portfolio of native affairs following the announcement that he would take office on Jan. 1, 1951 as Governor general. A former speaker of the house of assembly, he would be the first Nationalist to hold the office of governor general.

**Legislation.**—The parliamentary session lasted from January till June. There were four highly controversial measures. The Group Areas act provided for the population to be divided into three major groups, white, native and coloured, and for the native and coloured groups to be subdivided on ethnic, linguistic or cultural lines. The government was empowered to proclaim areas for occupation by members of the three racial groups. A person who was not a member of a group was prohibited from owning or occupying property or trading in the group area unless he had been granted an official permit issued at the discretion of the minister of the interior. It was announced that the act would also be applied to the small Chinese section of the popu-

lation.

The Population Registration act provided for the compilation of a register of the whole population and for the issue of identity cards to persons whose names were included in the register. Every registered person was to be classified as a white person or a native or a coloured person and natives and coloured people were to be further classified according to the ethnic or other group to which they belonged.

A third measure was also designed to implement the government's avowed policy of *apartheid* or segregation of the races. It was the Immorality act, which declared sexual intercourse between white and coloured persons to be a serious crime, thereby extending the law of 1927 which had made such relations between Europeans and Africans an offense.

Considerable criticism not only by the parliamentary opposition but by the legal profession and other bodies was directed against the passage of the Suppression of Communism act. The act conferred on the minister of justice far-reaching powers. He might declare any organization unlawful and name any person a Communist where in his opinion the person or organization had promoted the spread of communism. Communism was defined in wide terms to include the doctrines of Lenin, Trotsky,



the Comintern and the Cominform and also the encouragement of feelings of hostility between the European and non-European races of the Union. A person named by the minister might be prohibited from taking any part in public life and from holding any office. If such a person were a member of parliament, the minister could direct him to resign. Severe penalties of imprisonment might be applied to persons who failed to comply with official orders or who hindered investigations made under the act. The act also declared the Communist party of South Africa to be an unlawful organization, but the party dissolved itself shortly before the act was passed. About 300 people were named under the new law. Although the act virtually excluded appeal to the courts, the government's appointment of a liquidator to wind up unlawful bodies and to compile a list of persons named was challenged at law.

**International Relations.**—The general assembly of the United Nations asked the International Court of Justice (*q.v.*) for an advisory opinion on the status of the mandated territory of South-West Africa and on the international obligations of the Union arising therefrom. By a vote of 8 to 6, the court held that the United Nations charter did not impose on South Africa a legal obligation to put the territory under trusteeship. By 12 votes to 2, however, the court held that South Africa continued to have certain obligations, including the transmission of petitions to the United Nations from the inhabitants of the territory. The court further held unanimously that South Africa acting alone could not modify the international status of the territory without the consent of the United Nations. The prime minister promptly declared that the implications of this decision were not acceptable to the Union government.

After preliminary talks, the round-table conference between India, Pakistan and South Africa, proposed by the general assembly of the United Nations, was not held. The government of India declined to participate on the ground that new legislation had aggravated the treatment of Indians in the Union. This subject, as well as the status of South-West Africa, was debated by the United Nations. (Ju. L.)

**Education.**—State schools (1947): primary 1,190 (European 1,110), pupils 115,368 (European 92,291), teachers 3,927; secondary and high schools 241, pupils 75,339 (European 65,232), teachers 3,122. Mission schools 3,036, pupils 386,054, teachers 9,421. Other schools 99, pupils 3,031; training institutions 32 (European 9), pupils 3,790 (European 874), teachers 218. Private schools (1947): kindergarten 92; primary 773; secondary 114; commercial and business 19; other 10; pupils at all private schools 73,787 (European 36,500). Technical colleges (1946) 11, students 43,110, teachers 2,063. Universities (1946) 4 and constituent colleges of the University of South Africa, Pretoria, 5, students 19,994, professors and lecturers 1,743.

**Finance and Banking.**—Budget: (1949–50 est.) revenue £(S.A.)146,000,000, expenditure £(S.A.)147,000,000; (1950–51 est.) revenue £(S.A.)149,000,000, expenditure £(S.A.)149,000,000. National debt (Aug. 1950) £(S.A.)747,000,000. Currency circulation (Aug. 1950) £(S.A.)68,400,000. Gold and foreign exchange (Sept. 1950) U.S. \$416,000,000. Bank deposits (Aug. 1950) £(S.A.)307,600,000. Monetary unit: South African pound at par with the pound sterling and with an exchange rate (Nov. 1950) of £(S.A.)0.357 to the U.S. dollar.

**Foreign Trade.**—Imports (1949): £(S.A.)314,000,000; exports (1949) excluding gold bullion: £(S.A.)152,600,000. Main sources of imports (1949): U.K. 40.9%; U.S. 27.7%; Canada 5.6%; Iran 2.6%. Main destinations of exports (1949): U.K. 28.3%; Southern Rhodesia 9.8%; France 9.8%; U.S. 8.3%.

**Transport and Communications.**—Licensed motor vehicles (Dec. 1949): cars 406,000; trucks 113,000. Railways (1949) 13,931 mi.; freight net ton-miles 11,021,000,000; freight carried 44,868,000 metric tons. Shipping (July 1949): number of merchant vessels over 100 gross tonnage 157; total tonnage 177,268. Air transport (1949): passenger-miles 104,000,000; cargo net ton-miles 3,378,000. Telephones (1947–48): subscribers 206,493. Radio receiving sets (1949) 497,428.

**Agriculture and Fisheries.**—Main crops (metric tons, 1949): maize 2,363,000; wheat 372,000; barley (1948) 31,000; oats 116,000; potatoes 285,000; rice, milled equivalent 15,000; sugar, raw value 508,000; peanuts 85,000; sunflower seed 31,000; grapes, total 430,000; raisins (1948) 9,500; citrus fruit (1948) 194,000; tobacco 20,900. Wine production (1948) 2,700,000 hl. Livestock: cattle (Aug. 1949) 12,242,000; sheep (Aug. 1948) 32,612,000; pigs (Aug. 1946) 1,118,000; horses (1946) 687,000. Meat production (1949) 435,000 metric tons, of which beef and veal made up 309,000 metric tons. Dairy production (metric tons, 1949): butter, factory production 21,100; cheese, factory production 7,800. Wool production, greasy basis (1949) 97,000 metric tons.

**Industry.**—Industrial establishments (1946–47): 11,886; persons employed 558,725 (Europeans 194,937). Fuel and power (1949): coal 25,008,000 metric tons; electricity 9,924,000,000 kw.hr. Raw materials (metric tons, 1949): iron ore, metal content, 1,248,000; pig iron 708,000; steel ingots and castings 636,000; copper 29,600. Gold 11,708,000 fine ounces; diamonds 1,265,000 metric carats; cement production 1,363,200 metric tons.

**South America:** see ARGENTINA; BOLIVIA; BRAZIL; BRITISH GUIANA; CHILE; COLOMBIA; ECUADOR; PARAGUAY; PERU; SURINAM; URUGUAY; VENEZUELA.

## South Carolina.

A south Atlantic state of the United States, eighth of the original 13 to ratify the constitution (1788), South Carolina is known as the "Palmetto state." Area 31,055 sq.mi., 461 sq.mi. being inland water. Population (1950 census): 2,117,027, an increase of 11.4% over 1940; distribution (1940): 57% white; 42.9% Negro; 0.1% other; 75.5% rural; 0.3% foreign-born. Capital: Columbia. Chief cities (with preliminary 1950 pop.): Columbia (85,945); Charleston (68,243); Greenville (57,932); Spartanburg (36,674); Rock Hill (24,472); Florence (22,378).

**History.**—In 1950 the legislature passed a comprehensive elections law which belatedly gave the voter a secret, party-column ballot and regulated registration, primaries, conventions and general elections. Literacy, or property, requirements for voting in general elections were extended to the primary to minimize the vote of the Negro whose right to party membership was definitely established by federal court decisions in 1948. With little friction a small number of Negroes attended precinct meetings, county and state conventions and voted in the primary. Constitutional amendments abolishing the poll tax as a voting requirement, eliminating separate registration for municipal elections and allowing larger school districts were approved by the people but had again to pass the legislature.

Accepting a proposal of the commission on government reorganization, the legislature consolidated eight fiscal and personnel agencies under a single budget and control board and established central purchasing. Other legislative acts created a water pollution control board and a state-wide civil defense agency under the adjutant general. Bills for premarital examinations and for referenda on biennial sessions and a veterans' bonus were killed.

In the primary election former U.S. Supreme Court Justice James F. Byrnes easily won the Democratic nomination for governor over three opponents. In the senatorial race Sen. Olin D. Johnston overcame Gov. J. Strom Thurmond, both endorsing racial segregation and opposing Pres. Harry S. Truman's civil rights and Fair Deal program. In the general election, with Democratic nominees unopposed, only 50,641 votes were cast. Chief state officers elected were: J. F. Byrnes, governor; G. B. Timmerman, lieutenant governor; C. F. Thornton, secretary of state; T. C. Callison, attorney general; J. B. Bates, treasurer; E. C. Rhodes, comptroller general; J. T. Anderson, superintendent of education.

The Atomic Energy commission announced that a 250,000 ac. tract on the Savannah river in Aiken and Barnwell counties was chosen for construction of an atomic materials production plant



JAMES F. BYRNES, Democrat, elected governor of South Carolina, Nov. 7, 1950



which would cost \$260,000,000, employ 5,000 persons and necessitate the relocation of 1,500 families.

**Education.**—For the year ending June 30, 1950, enrolment in white elementary schools was 109,465, an increase of 5,291; in Negro elementary schools, 186,891, an increase of 3,148; in white high schools, 81,840, an increase of 4,470; in Negro high schools, 34,989, an increase of 3,173; total white and Negro teachers, respectively, numbered 10,285 and 6,918. Expenditures for current expenses were \$30,657,251 for white and \$12,053,843 for Negro pupils; administration, veteran training, capital outlay, debt service, adult education, etc., consumed an additional \$21,348,881; total, \$64,059,975, an increase of \$5,010,717.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—In the year ending June 30, 1950, federal allocation for needy persons totalled \$10,572,876, to which the state added \$5,004,952. As of June 30 assistance was being given to 42,118 aged, 1,522 needy blind, 24,093 children and 5,401 persons needing general assistance, making a total of 73,128 persons. The state employment trust fund totalled \$48,832,885 on June 30. Payments during the fiscal year then ending (duplicate names not eliminated) went to 62,900 persons and totalled \$12,008,297. Patients in the state hospital for mentally diseased, June 30, 1950, numbered 5,326; in the school for feeble-minded, 1,307; prisoners in the penitentiary, 1,487; in reformatory for white boys, 263; in Negro boys' reformatory, 182; in white girls' reformatory, 107.

**Communications.**—Paved highway mileage, June 30, 1950, was 12,083; total miles under state highway department, 21,036; under county systems, 27,376. State highway department revenue totalled \$42,175,014 included \$10,000,000 from bonds; \$5,239,272 from federal aid; \$21,688,689 from the gasoline tax of \$25.819,348. Railroads measured 3,563 mi. Eastern, Delta, National and Southeastern air lines cross the state.

**Banking and Finance.**—On June 30, 1950, there were 25 national banks plus 29 branches, 103 state banks plus 10 branches with capital account, resources and deposits, respectively, as follows: national, \$23,615,000, \$421,205,000, \$395,241,000; state banks and depositories \$20,493,772, \$253,476,674, \$232,382,422. Resources of the 32 federal building and loan associations totalled \$91,886,120; of the 40 state associations, \$35,545,473. For the year ending June 30, 1950, the state had an operating deficit of \$8,162,774 which consumed the 1949 surplus of \$3,922,660 and caused an increase in the state gasoline tax from 6 cents to 7 cents. The general appropriations bill for the new year totalling \$108,538,717 also increased the tax on cigarettes to 5 cents and on cans of beer to 6 cents. The state debt, June 30, 1950, was \$68,995,598 (\$67,062,000 being for roads). Federal income taxes totalled \$151,136,431 and other federal revenue \$23,780,656. Exports totalled \$59,600,000; imports, \$34,600,000; duties on imports, \$2,522,050.

**Agriculture.**—The chief field and truck crops for the year 1950 were valued at \$284,780,000 or 4% more than in 1949 despite a 6% decrease in crop volume. Harvested acreage was about 400,000 or 9% below 1949.

Table I.—Leading Agricultural Products of South Carolina

	1950	1949	Average 1939-48
Corn, bu. . . . .	33,258,000	31,590,000	25,394,000
Wheat, bu. . . . .	2,184,000	1,930,000	3,185,000
Oats, bu. . . . .	18,984,000	16,484,000	15,572,000
Barley, bu. . . . .	440,000	518,000	472,000
Rye, bu. . . . .	90,000	86,000	165,000
Hay, tons . . . . .	344,000	484,000	451,000
Irish potatoes, bu. . . . .	1,768,000	1,650,000	2,563,000
Sweet potatoes, bu. . . . .	5,671,000	4,800,000	5,318,000
Tobacco, lb. . . . .	150,480,000	147,075,000	120,400,000
Cotton, bales . . . . .	400,000	554,000	738,000
Cottonseed, tons . . . . .	162,000	233,000	297,000
Peanut, lb. . . . .	468,000	2,340,000	3,789,000
Pecans, lb. . . . .	3,000,000	3,200,000	2,465,000
Peanuts, lb. . . . .	15,750,000	14,300,000	18,312,000

**Manufacturing.**—The value of manufacturing for the year ending June 30, 1950, was \$1,708,383,629, against \$1,701,838,552 for the previous year. Employees numbered 172,962, against 173,926 the year before. Total manufacturing capital was \$775,304,036, against \$736,547,207 in the previous year.

Table II.—Products of Principal Industries of South Carolina

Industry	Year ending June 30, 1950	Year ending June 30, 1949
Textiles (including knitting)	\$1,206,433,982	\$1,175,337,135
Lumber products (barrels, boxes, baskets, veneering, paper and pulp, furniture, woodwork)	120,636,711	118,876,202
Electricity	45,090,928	42,594,385
Clothing	50,507,224	62,760,486
Fertilizers	31,107,743	35,921,923

**Mineral Products.**—Mineral products, chiefly stone and clays, especially granite and kaolin, totalled in value \$10,186,446 for the year ending June 30, 1950, against \$9,727,287 the year before. (C. E. Cn.)

**South Dakota.** A north-central state of the United States, admitted as the 40th state on Nov. 2, 1889, South Dakota is popularly known as the "Coyote state." Area: 77,047 sq.mi., of which 511 sq.mi. are water; population (1950 census): 652,740 (an increase of 1.5% since 1940), with about 240,000 listed as urban; the Indian population in 1945 was 26,432. Capital (with preliminary 1950 census figures): Pierre (5,690).



SIGURD ANDERSON, Republican, elected governor of South Dakota, Nov. 7, 1950

Principal cities: Sioux Falls (52,161), Rapid City (25,179), Aberdeen (20,976), Huron (12,713), Watertown (12,662) and Mitchell (12,062).

**History.**—A special session of the legislature was called by the governor on Feb. 6, 1950, to consider proposals for a public power district law and to provide funds for highway construction. Twenty-one measures were enacted during the 11-day session, including provisions for the creation of public power districts by majority vote and an appropriation of \$1,200,000 for matching federal highway funds.

The election on Nov. 7, 1950, revealed a strong Republican trend with the Republican candidate for the U.S. senate polling 63.9% of the votes cast. Congressman Francis Case, who had defeated incumbent Chan Gurney in the May primary, was elected to the United States senate. E. Y. Berry, Republican, was elected to succeed Case, and Congressman Harold O. Lovre, Republican, was re-elected.

State officials (all Republican) elected included: Sigurd Anderson, governor; Rex Terry, lieutenant governor; Ralph A. Dunham, attorney general; Geraldine Ostroot, secretary of state; Theodore Mehlhaf, treasurer; and Harold S. Freeman, superintendent of public instruction (elected on nonpartisan ballot).

**Education.**—The school census, ages 6-20, inclusive, was 159,232 in 1949-50, compared with 156,372 in 1948-49. The enrolment was 88,577 in elementary schools and 29,098 in high schools. Total expenditures were \$25,984,238.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—During the calendar year 1949 the state department of social security distributed \$5,483,256 among 12,006 persons in old-age assistance; \$1,444,489 to 2,014 families as aid to 4,956 dependent children; and \$88,303 for the needs of 211 blind persons. Eight penal and charitable institutions were in operation on a legislative appropriation of \$2,289,699 for the fiscal year 1949-50.

Unemployment benefit payments during 1949 amounted to \$680,739 at an average weekly rate of \$18.07 paid to 4,542 individuals. Readjustment allowances paid to unemployed veterans under the Servicemen's Readjustment act totalled \$863,000.

**Communications.**—The state in 1950 maintained a highway system of 6,050 mi., including 2,908 mi. of bituminous surface, 386 mi. of concrete pavement, 2,559 mi. of gravel surface and 195 mi. of earth grade, at a cost of \$4,417,066. There were 3,967 mi. of railroad in operation in 1950. Telephones in use Jan. 1, 1950, numbered 147,248, of which 40,867 were classified as rural.

**Banking and Finance.**—There were 35 national banks in operation on Dec. 31, 1949, with total assets of \$272,503,000 and total deposits of \$257,933,000. The 134 state banks and trust companies on June 30, 1950, had resources of \$243,267,802 and deposits of \$227,241,342. Eight building and loan associations on June 30, 1950, reported total resources of \$5,632,556.

Total receipts for the state treasury for the fiscal year ending June 30, 1950, were \$87,871,281; disbursements were \$79,367,904. The net bonded indebtedness was \$21,730,993. Federal internal revenue collections for the same year totalled \$56,631,289, of which amount \$47,846,262 was derived from the income tax.

**Agriculture.**—Cash farm income for 1950 was estimated to be somewhat smaller than that of 1949. Production of some crops, including corn, was greater but wheat production was the smallest since 1943.

**Mining.**—The total value of mineral substances produced in 1949 was \$24,085,352. The state ranked first in gold production, valued at \$16,221,500; third in bentonite, valued at \$1,533,228; fourth in feldspar,

Principal Agricultural Products of South Dakota

Crop	1950	1949	Average 1939-48
Corn, bu. . . . .	99,296,000	82,824,000	88,607,000
Wheat, bu. . . . .	33,978,000	34,276,000	39,747,000
Oats, bu. . . . .	87,742,000	67,988,000	83,696,000
Barley, bu. . . . .	18,942,000	14,756,000	33,808,000
Flaxseed, bu. . . . .	4,527,000	4,956,000	3,809,000
Potatoes, bu. . . . .	2,250,000	1,260,000	2,519,000
Hay, all, tons . . . . .	3,405,000	2,873,000	2,794,000



valued at \$511,526; and fourth in mica, valued at \$19,779. The state-owned cement plant produced 698,101 bbl. of cement, valued at \$1,787,060. (H. S. S.)

**Southern Rhodesia:** see RHODESIA, SOUTHERN.

**South Pacific Commission:** see PACIFIC ISLANDS, BRITISH.

**South-West Africa:** see SOUTH AFRICA, THE UNION OF; TRUST TERRITORIES.

**Sovereigns, Presidents and Rulers:** see PRESIDENTS, SOVEREIGNS AND RULERS.

**Soviet Union:** see UNION OF SOVIET SOCIALIST REPUBLICS.

**Soybeans.** The U.S. soybean crop of 1950 was an all-time record of 287,010,000 bu., far above the 230,897,000 bu. produced in 1949 and a vast increase as compared with the 1939-48 average crop of 164,491,000 bu. Harvested acreage in 1950 of 13,291,000 was also a record; 10,156,000 ac. were harvested in 1949. Yields in 1950 were 21.6 bu. per acre. Illinois produced about one-third of the crop, 94,752,000 bu.; Iowa was in second place with 42,262,000 bu. and Indiana followed with 35,002,000 bu.

Average prices received by farmers fluctuated widely during the year. A preliminary estimate on the 1950 crop was \$2.32 per bushel average or \$665,590,000 total, as compared with \$2.16 per bushel and \$499,743,000 total for the 1949 crop. The non-mandatory government support program set a national average support price of \$2.06 per bushel, or 80% of the Sept. 1 parity.

A special investigation by the Commodity Exchange authority of the erratic fluctuations in the prices of soybean futures revealed, among other things, rather heavy trading by Chinese interests. Exports of soybeans and soybean oil were sharply lower in the first nine months of 1950 compared with the same months of 1949.

World soybean production in 1950, estimated at 626,000,000 bu., was also a new record, as compared with 510,170,000 bu. in 1949, and a prewar average of 463,900,000 bu. The Chinese crop was estimated as high as 200,000,000 bu.; and that of Manchuria near 100,000,000 bu. (J. K. R.)

**Spain.** A country of southwestern Europe. Spain is bounded on the north by the Bay of Biscay and France, on the west by the Atlantic and Portugal and on the south and east by the Mediterranean. Area: 194,945 sq.mi., including Balearic (1,936 sq.mi.) and Canary (2,804 sq.mi.) Islands. Pop. (1940 census) 25,877,971; (1949 est.) 28,023,000, including Balearic (1940 census, 407,497) and Canary (680,294) Islands. Language: mainly Spanish (Castilian) but Catalan, Galician and Basque are also spoken. Religion: mainly Roman Catholic. Chief towns (pop., 1947 est. if not otherwise stated): Madrid (cap., 1949 est., 1,440,041); Barcelona (1949 est., 1,500,000); Valencia (562,967); Seville (382,013); Zaragoza or Saragossa (292,965); Málaga (277,582); Murcia (226,702); Bilbao (220,333). Leader (*caudillo*), chief of state and prime minister, Gen. Francisco Franco (*q.v.*).

**History.**—A statement by Dean Acheson, the U.S. secretary of state, announced on Jan. 19, 1950, the readiness of the United States to vote in the general assembly of the United Nations for a resolution which would leave members free to send an ambassador or minister to Spain if they chose. This would in no sense signify approval of the regime: it was designed to resolve an anomalous position. On May 1 Daniel F. Malan said that the Union of South Africa was considering the establishment of diplomatic relations with Spain; and Antonio de Oliveira Salazar urged again, on Aug. 10, the formation of a "front of intelligence" against communism and the revision of the western powers' attitude to Spain. When the general assembly met in September it became certain that the decision of

Dec. 1946 recommending the withdrawal of diplomatic representatives and excluding Spain from the specialized agencies of the United Nations would be rescinded. The motion to this end, presented by a group of Latin-American states, was carried on Nov. 4 by 38 votes to 10 with 12 abstentions (among these Great Britain, France and the Scandinavian countries). Mexico, Uruguay and Guatemala voted against it. Of the 1946 resolution there still remained the general condemnation of the Franco regime and the ban on full Spanish membership in the United Nations. Prior to the vote, there were in Madrid 9 ambassadors and 17 ministers plenipotentiary. In December, Stanton Griffis was named U.S. ambassador to Spain.

The U.N. Food and Agriculture organization admitted Spain to full membership on Nov. 10. The U.S. department of justice had ruled earlier (Oct. 19) that members of the Falange, Spain's only legal party, were debarred from entry into the U.S., as members of a totalitarian group, under the new Internal Security act.

An apparent Spanish reluctance to develop normal trading relations with the United States was referred to in January by Acheson, who noted that Spain had shown no interest in the offer of a new treaty of friendship, commerce and navigation nor in the request for a simplified foreign exchange system whereby Spanish goods might compete in the dollar market. Repeated offers of dollar loans from the Export-Import bank had evoked an extraordinarily tardy response, according to the U.S. *chargé d'affaires*, speaking in Barcelona in May, who added that existing legislation made it appear that United States capital was not attractive to Spain. On Aug. 1 the U.S. senate voted an amendment to the General Appropriation act in favour of granting a \$100,000,000 loan to Spain through the Export-Import bank; a proposal that the money should come instead from Economic Cooperation administration funds was defeated.

Pres. Harry S. Truman expressed opposition, not to the loan as such, but to the method invoked, and refused to regard the provision inserted in the act as a directive, "which would be unconstitutional," but simply as an additional authorization: "Money will be loaned to Spain whenever mutually advantageous arrangements can be made with respect to security, terms of repayment, the purposes for which the money is to be spent and other appropriate factors, and whenever such loans will serve the interest of the U.S. in the conduct of foreign relations." In mid-November President Truman sanctioned a \$62,500,000 credit to Spain, to be spent on industrial equipment and consumer goods.

Orders were placed in England for nearly £3,000,000 worth of electric locomotives for the Spanish national railways (April) and for hydroelectric machinery totalling over £1,300,000 (June).

New exchange rates for foreign tourists and for remittances from abroad to residents in Spain were announced on Aug. 1; the pound rate rose from 70 pesetas to 110.32 pesetas and the dollar rate from 25 pesetas to 39.40 pesetas. In October a new system of state-controlled cheap exchange came into force for essential imports of raw materials or semimanufactured goods. For nonessential goods foreign exchange would be obtainable only through the Madrid free market, at much higher rates. Fiduciary circulation was limited by decree, also in October, to 30,000,000,000 pesetas, this figure showing an increase of 4,500,000,000 pesetas in three years, and it was announced that the provisions of the current budget would remain in force until the end of the next financial year.

Trade agreements were signed with Greece in February, providing for \$2,000,000 worth of goods in each direction and the settlement of claims pending since the Spanish Civil War, and



with western Germany in April, this being a revision intended to double the existing volume of trade to a total of \$99,000,000. The deterioration of trade relations with Argentina, through Spain's inability to fulfil its undertaking to build ships, supply railway and other material and construct a free port at Cadiz, seriously aggravated the difficulties of the economic situation. It culminated in January in the withholding by Argentina of further wheat shipments pending the settlement by Spain of a debt of more than 84,000,000 pesetas (gold); 50,000 tons of wheat were hastily purchased from the U.S. and Canada, and a further 60,000 tons from Australia. In July Spain decided to join the World Wheat board and undertook to purchase 100,000 metric tons of wheat a year. The total wheat needed from abroad in 1950 was estimated at 500,000 tons, as against 350,000 tons imported in 1949.

Speaking in May of the need to increase food production, General Franco said that in many parts of Spain the climate made the breaking-up of large estates impracticable. Irrigation was the key to the problem, and Spanish prosperity depended on the government's success in developing hydraulic power, the production of fertilizers and technical methods of cultivation.

A strike of taxi-cab drivers in Madrid in January, following on others by bank clerks and students, betokened the growing unrest accompanying the general economic hardship. Strikes in Spain were illegal. Rail fares and freight charges were increased in April by 40% and 60% respectively, to allow wage increases of up to 50% for lower-paid railway employees, and taxi fares in Madrid rose again. In view of the extreme gravity of the hydroelectric situation, following persistent drought in the central and eastern areas, Madrid experienced in October the most drastic light and power cuts yet imposed. The industrial use of electric power was restricted to three hours on three days a week.

General Franco and his government again attended, on Feb. 28, a memorial mass at El Escorial to mark the anniversary of King Alfonso XIII's death in 1941, while monarchists attended a rival mass in Madrid organized by the Council of Grandees. Five royalist propagandists had been arrested a week earlier; after trial by court-martial in June, the duchess of Valencia and another were acquitted, but three received prison sentences. Eighteen prisoners, one an ex-civil governor of Madrid under the republic, Antonio Trigo, were charged before a Madrid military court in March with planning an alliance between the banned anarchosyndicalist C.N.T. (*Confederación Nacional del Trabajo*) and more moderate opposition elements; prison sentences were imposed. In September General Franco declared that there were no political prisoners in Spain; the total prison population of 33,357 was lower than under either the monarchy or the republic. (W. C. AN.)

**Education.**—Schools (1947): primary 54,055 (62,116 in 1950), pupils 2,649,315, teachers 55,077; secondary 110, teachers 3,001, students 31,668; commercial 32, teachers 579, pupils 57,694; technical 123, teachers 2,127, students 45,229; training colleges for elementary teachers 53, students 25,928; universities 12, teaching staff 3,079, students 42,597; institutes of higher education 34, teaching staff 570, students 19,242. Illiteracy (1947) 20.8%.

**Finance and Banking.**—Budget: (1949, actual) revenue 16,071,000,000 pesetas, expenditure 16,629,000,000 pesetas; (1950 est.) revenue 17,848,000,000 pesetas, expenditure 17,941,000,000 pesetas. Currency circulation (June 1950) 27,500,000,000 pesetas. Gold reserve (June 1950) U.S. \$61,000,000. Bank deposits (June 1950) 33,800,000,000 pesetas. Monetary unit: peseta with an official exchange rate (Nov. 1950) of 11.22 pesetas to the U.S. dollar.

**Foreign Trade.**—(Gold pesetas, 1949): Imports 1,390,000,000; exports 1,164,000,000. Main sources of imports (1949): Argentina 17%; United Kingdom 15%; the Netherlands 11%; U.S. 10%. Main destinations of exports (1949): United Kingdom 29%; France 11%; U.S. 6%; the Netherlands 4%.

**Transport and Communications.**—Roads (1949) 75,000 mi. Licensed motor vehicles (Dec. 1949): cars 70,000; commercial trucks 83,000. Railways (1949): 10,920 mi.; passenger miles 4,534,000,000; freight net ton-miles 3,438,000,000; freight carried 25,000,000 tons. Shipping (July 1949): merchant vessels over 100 gross tons 1,181; total tonnage 1,200,336. Air transport (1948): km. flown 4,358,670, passengers flown

163,106; cargo carried 471 metric tons; air mail carried 160 metric tons. Telephones (1948): subscribers 537,837. Radio receiving sets (1949) 375,635.

**Agriculture and Fisheries.**—Main crops (metric tons, 1949): wheat 2,580,000; barley 1,460,000; oats 500,000; maize 540,000; rye 460,000; rice, paddy 260,000; sugar, raw value 155,000; potatoes 3,500,000; tobacco (1948) 14,000; oranges and tangerines (1948) 814,000; lemons (1948) 65,000. Production: wine (1948) 15,000,000 hl.; olive oil (1949) 300,000 metric tons. Livestock: cattle (Dec. 1948) 4,000,000; sheep (Dec. 1949) 22,000,000; pigs (July 1946) 4,700,000; horses (1947) 600,000; asses (1947) 800,000; mules (1947) 1,080,000; goats (1947) 6,100,000; chickens (July 1950) 35,000,000. Meat production (1949) 110,000 metric tons. Wool production, greasy basis (1949) 35,000 metric tons. Fisheries: total catch (1948): weight 533,979 tons; value 1,777,000,000 pesetas.

**Industry.**—Fuel and power (1949): coal 10,644,000 metric tons; lignite 1,320,000 metric tons; manufactured gas 256,000,000 cu.m.; electricity 5,040,000,000 kw.hr. Raw materials (metric tons, 1949): iron ore, metal content 1,812,000; pig iron 610,000; steel ingots and castings 720,000; black and blister copper 11,800; lead 27,400; zinc 19,500; manganese ore 17,700; potash ore 913,500. Manufactured goods (metric tons, 1949): cement 1,860,000; cotton yarn 59,500; wool yarn 8,900; rayon filament yarn 6,720; rayon staple yarn 11,900.

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**FILMS OF 1950.**—*La Familia Sanchez* (Encyclopædia Britannica Films Inc.).

**Spanish-American Literature.** During the year 1950 exciting signs of vitality were apparent in all the literary genres. Perhaps the most widely acclaimed novel was Luis Durand's *Frontera*, which won the Atenea prize (Chile) as well as numerous local and national honours. Another outstanding novel was *La sangre hambrienta* by the young Cuban Enrique Labrador Ruiz; his work is darkened, however, by the baroque profusion of its style. Significant, too, was *Milpa, potrero y monte*, by the well-known novelist of the Indians and the Mexican Revolution, Gregorio López y Fuentes. A number of short-story collections appeared: in *Café de angelitos* the Argentine Bernardo Verbitsky exhibited the most varied milieus of Buenos Aires; in *Treinta hombres y sus sombras*, the veteran Arturo Usler-Pietri gave a splendid picture of rural life in his native Venezuela, comparable in theme and brilliant style to *Hombres de maíz* by the Guatemalan Miguel Angel Asturias, a powerful tale in which corn, the symbol of American civilizations, is the allegorical deity and central protagonist. Among newcomers of promise mention may be made of the Colombian Hernando Téllez for his striking tales in *Cenizas para el viento* and of the Chilean Julio Silva Lazo, whose collection *Hombres de Reloncaví*, introduced encomiastically by Mariano Latorre, showed unsurpassed freshness and spontaneity. With the publication of *Cuentos completos de Rubén Darío*, the great master of modernism, Rubén Darío (1867–1916), was discovered as a first-rate storyteller. His verve and rich poetical imagination were writ large over most of the 76 pieces here collected from inaccessible periodicals or published for the first time.

In the realm of poetry the most important event of the year was the publication of Pablo Neruda's masterpiece, his long-awaited *Canto general*. For years Neruda had been weaving a complex tapestry of his idolized America in which prehistoric threads were interwoven with indigenist and contemporary threads into a most exciting pattern of adoration, vituperation, exhortation and tender prayer. A colour illustration by Diego Rivera and another by David Alfaro Siqueiros enhanced and, to a certain extent, high-lighted some of Neruda's leitmotifs. An excerpt from this multifaceted poem appeared in English translation under the title "Summits of Macchu Picchu" in Whit Burnett's anthology *The World's Best*. A poet who was becoming well established throughout Latin America was Antonio de Undurraga, also of Chile. His *Red en el génesis* won him homage in Buenos Aires. His critical study of Carlos Pezoa Velis (1879–1908), the Chilean modernist poet, won him the Essay prize awarded yearly by the Chilean writers association. The Poetry prize of the same association went to Fernando Durán for his poems in *Velámen*, rich in



imagery and disturbing music.

*Aquí yace la espuma* was the strange title of the exquisite collection by Ecuador's foremost poet, Jorge Carrera Andrade. Published in Paris in a de luxe edition, this volume seems to translate in magical language the poet's longing for his beloved America: for her flowers, her fruits, her trees, her stones, her birds. A third edition of *Presagio* made available to an ever-widening public the exquisite works of the Mexican Rafael Cabrera (1884-1943), long out of print. David Martínez' compilation *Poesía argentina 1940-1949* presented an over-all picture of the diverse trends discernible in Argentine poetry: the work of 42 young poets was included. Two belated modernists came to the fore from Guatemala: the Roberto Girón of *El paraíso fingido* and the José Humberto Hernández Cobo of *El resucitado*. The Cuban poet Cintio Vitier came close to fulfilling his lyrical promise in *Substancia*, a poetry of an incredibly calm, pure flow, devoid of bombast and rhetoric. Spanish America lost one of its finest poets when the 46-year-old Xavier Villaurrutia died on Dec. 25, 1950, in his native Mexico City. His plays and novels were shot through with the same poetical genius which made his sonnets and short lyrics so memorable.

Chief among the numerous biographies celebrating the centenary of Gen. José de San Martín were Carlos Obarguren's *San Martín íntimo*, Bernardo González Arrili's *San Martín* and Luis Busaniche's *San Martín vivo*. A remarkable biography by the well-known Venezuelan critic Mariano Picón-Salas was *Pedro Claver, el santo de los esclavos*, who championed the cause of Negro slaves. Picón-Salas' achievement typified rather well a strongly discernible trend toward historical reconstruction; Angel Torres González, the noted journalist of Mexico City's *El Nacional*, in *La tumba de Cuauhtemoc* described vividly the recent discovery of the remains of Cuauhtemoc in the town of Ixcateopan, and then proceeded to weave around this find all the legendary and folkloric material which had come down from oral tradition about the Aztec emperor. In *Nayjama* the Bolivian critic Fernando Díez de Medina evoked with impassioned lyricism the setting of pre-Incan civilizations, those remote, telluric cultures which flourished on the Andean summits long before the days of Manco Capác. Argentina Díaz Lózano, one of Honduras' leading storytellers, dramatized in her historical novel *Mayapan* the relationship between the descendants of the Mayas and the Spaniards during the early 16th century.

The field of biography further produced an excellent work on the 19th-century Mexican romantic poet Manuel Acuña. Its author, Francisco Castillo Nájera, former Mexican ambassador to the United States, succeeded brilliantly in bringing the poet to life; as a poet himself and a physician he understood both Acuña's emotional tensions and the illnesses which led him to suicide at the age of 23.

The range of biographical-critical studies was amazingly broad: there was a rather perceptive Kafka by Mario Lancelotti,

of Buenos Aires; an Einstein by the Colombian Daniel Caicedo; a Dostoievski by the Cuban Pedro Soler Alonso; and the first serious analysis of the life and work of that gifted and totally overlooked Argentine playwright and novelist Roberto Arlt, who died in 1941 at the age of 42: *Roberto Arlt, el torturado*, by the Argentine Raúl Larra. Other significant contributions to literary criticism included *Estudios de literatura hispanoamericana* by the perceptive Cuban critic José Arrom, of Yale university, and various volumes of José Luis Martínez dealing with contemporary Mexican literature.

Among the numerous important studies of Latin-American origins first mention must be made of two major works: a panoramic survey of Ecuador by Leopoldo Benítez in his trenchant *Ecuador: Drama y paradoja*, and the exhaustive *Geografía de México*, in two volumes, by Jorge L. Tamayo. On a more philosophical plane were *Extremos de América* by the Mexican economist and sociologist Daniel Cosío Villegas; *Dos épocas en el pensamiento en Hispanoamérica* by the young Mexican philosopher Leopoldo Zea; and the provocative *Espiritualismo y positivismo en el Uruguay* by A. Ardao.

The National Literary prize of Mexico was awarded to the prolific veteran Mariano Azuela, author of dozens of social novels in realistic vein and well known in the United States for his *Underdogs*, a novel of the Mexican Revolution. The National prize of Chile was won by an author of quite different stamp, José Santos González Vera, who was scarcely known outside Chile, having written but one novelette, *Alhué* (1926), and a few short stories, *Vidas mínimas* (1924).

(A. FLO.)

**Spanish Colonial Empire.** Under this heading are grouped the Spanish possessions in Africa. Their total area is approximately 134,763 sq.mi. and the total population (1949 est.) 1,587,000. Certain essential information on the territories composing the empire is given in the table.

**History.**—Four hundred Moslem pilgrims sailed from Ceuta and Melilla to Mecca in July 1950: they carried with them, as gifts to the Arab league for distribution among refugees from Palestine, quantities of cloth, sandals, preserved fish and pharmaceutical products.

General Francisco Franco and the ministers of home affairs, air, industry and commerce, and public works, paid a four-day visit to Spanish West Africa in October. Sidi Ifni was the first port of call. General Franco stated that Ifni, with a population increasing at the rate of 1,000 a year, would shortly have an abundant water supply and a new fishing port. Medical and school services were being steadily expanded. "I promise you," said Franco to a large assembly of Spaniards and natives, "that the well-being a Spaniard may enjoy in Spain you will enjoy here." A new air service linking Tetuan with Gibraltar was inaugurated in November.

(W. C. AN; X.)

Spanish Colonial Empire						
Country	Area (in sq.mi.)	Population (1949 est.)	Capital and Status	Foreign Trade (all possessions, in gold pesetas)	Transport and Communications roads c. 500 mi. railway 80 mi. shipping (1943) entered 307,379 net registered tons	Budget rev. and exp. (1938) 111,000,000 pesetas (1947) 211,000,000 pesetas
Spanish Morocco . . . . .	17,631	1,172,000	Tetuan; protectorate; High commissioner: Gen. Juan Varela; Khalifa (viceroy of the sultan of Morocco): Sidi Muley Hassan Ben el Mehedi administered as part of Spain	(1946) imp. 150,300,000 exp. 217,400,000 (1947) imp. 526,300,000 exp. 168,200,000 (1948)	—	—
Ceuta, Melilla, Alhucemas, Chafarinas and Peñón de Velez . . . . .	82	164,000*	administered as part of Spain; governor general of Spanish West Africa, N. Rosaleny	imp. 578,400,000 exp. 206,400,000 (1949)*	—	—
Ifni territory . . . . .	741	42,000	Cabo Yubi; colony	imp. 123,000,000 exp. 55,000,000	—	(1943) rev. 22,300,000 pesetas exp. 23,600,000 pesetas
Spanish Sahara: Rio de Oro . . . . .	73,362 }	36,000†	Santa Isabel; colony			
Sekia el Hamra . . . . .	32,047 }					
Spanish Guinea, including Fernando Po, Rio Muni and four small islands . . . . .	10,900	173,000				
*Figures for Ceuta and Melilla only.		†Excluding nomads.				



## Spanish Literature.

Notable among Spanish creative writers in 1950 were the poets Leopoldo Panero, Luis Rosales, Luis Felipe Vivanco, J. L. Cano (*Sonetos de la Bahía*) and Gabriel Celaya (*Deriva*) and the essayist Pedro Rocamora (*El Museo imaginario*). The most important contribution to topography was José Pla's *Mallorca, Menorca e Ibiza*. Two much-read political works, R. Calvo Serer's *España sin problema* and J. M. Doussinague's *España tenía razón, 1939-1945*, have self-explanatory titles. *España musulmana*, the fourth volume of the great *Historia de España* edited by Ramón Menéndez Pidal, was written by E. Lévi-Provençal and translated by E. García Gómez. Two other outstanding historical works were R. Menéndez Pidal's *El Imperio hispánico y los cinco reinos* and J. M. Doussinague's *El Testamento político de Fernando el Católico*.

Several important co-operative enterprises were initiated. The first volume appeared of an encyclopaedic *Historia general de las literaturas hispánicas*, edited by Guillermo Díaz-Plaja, and also the first volume of José Simón Díaz's *Bibliografía de la literatura hispánica*. The first of various prolegomena to the comprehensive historical dictionary of the Spanish language being prepared by the Royal Spanish academy is the *Introducción a la lexicografía moderna*, by its secretary, Julio Casares. The literature of the Tirso de Molina tercentenary (1948) was considerably, if somewhat belatedly, swelled by a collection of critical essays (*Estudios*) published by the Mercedarian review of that title. Six more volumes appeared of the Edición Nacional of the works of Marcelino Menéndez y Pelayo, bringing the total published up to 49.

Individual critical works of merit include Díaz Echarri's *Teorías métricas del Siglo de Oro*; M. Baquero's voluminous study, *El Cuento español en el Siglo XIX*; José Deleito y Piñuela's largely personal and anecdotic *Origen y apogeo del género chico*; and G. Torrente Ballester's *Literatura española contemporánea*. Gregorio Marañón published a critical biography of Santiago Ramón y Cajal; Concha Espina and Antonio Oliver wrote on Antonio Machado. J. M. Blecuá published the first volume of his critical edition of the *Rimas* of the brothers Leonardo de Argensola.

Two noteworthy newly elected academicians were the historian Melchor Fernández Almagro and the literary critic Rafael Lapesa. Carlos Bousoño published a substantial study of Vicente Aleixandre (*La Poesía de Vicente Aleixandre. Imagen. Estilo. Mundo poético*), who was elected to the academy in 1949.

(E. A. P.)

**Special Libraries Association:** see LIBRARIES.

**Spices.** Spices were more costly during 1950. All sources of supply announced advances. Serious political disturbances handicapped production and there was a rise in the cost of ocean freight.

By late August, sales of black pepper were made in India at the highest price of modern times, \$2.90 per pound. This was \$1.50 per pound above the top figure for 1949. There was a lively increase in pepper speculation in London, New York and India. Most of the world production in 1950 went to the western hemisphere since consumers there outbid other buyers for the available supply. Prior to World War II, Indonesia exported 125,000,000 lb. of pepper annually (132,000,000 lb. in 1939). From the same source, exports in 1950 probably did not exceed 9,000,000 lb. Shipments from India during the year were three to four times greater than the combined tonnage from all other regions and prices were controlled by a varying Indian export tax.

The Indian government intensified production and enlarged its revenue by levying a maximum tax on pepper exports.

True cinnamon, available solely from Ceylon, was in good supply at prices well above those of 1949. The largest market continued to be Latin America and southwestern United States. Cassia moved in large volume from China, Indonesia and Indochina. Crops were good, and the political situations in those lands fostered early sales for quick shipment. Heavy arrivals at shipping ports caused prices to drop to levels which stimulated accumulation.

Prices of cloves were high to cover expanding wage scales in Zanzibar, Madagascar and Pemba. Tonnage sufficed for world needs. It was thought that the extra-fragrant Penang and Amboyna cloves, always in small supply, might soon reappear in small quantities.

Production of nutmegs in Celebes, Banda, Siau and near-by islands decreased during the year. Offsetting the shortage of these Indonesian varieties was a larger crop in the British Leeward Islands. The volume of sales expanded despite higher prices, and supply and demand were in balance.

A 13,000,000-lb. crop of *Brassica alba* mustard seed was harvested in the U.S.; about 10,000,000 lb. were imported. Because of its rich flavour, golden colour and assertive strength, mustard from England is preferred despite higher cost and the U.S. takes an annual average of 1,500,000 lb. Little was known of the 1950 plantings of *Brassica juncea* in China which had been extensive in the past. A crop of Chinese *juncea* was grown in Montana. There were neither offerings nor reports from Rumania, Poland, eastern Germany or Hungary, where in former years the combined crops of mustard reached an impressive total. Both *Brassica juncea* and *alba* were sown in Canada, but because of an early frost, the yield was only about 60% of normal.

(C. A. T.)

**Spirits:** see LIQUORS, ALCOHOLIC.

**Spitsbergen:** see NORWAY.

**Sports and Games:** see ANGLING; ARCHERY; AUTOMOBILE RACING; BADMINTON; BASEBALL; BASKETBALL; BILLIARDS; BOBSLEDDING; BOWLING; BOXING; CANASTA; CHESS; CONTRACT BRIDGE; CRICKET; CURLING; CYCLING; FENCING; FOOTBALL; GLIDING; GOLF; GYMNASTICS; HANDBALL; HORSE RACING; HOCKEY, FIELD; HOCKEY, ICE; ICE SKATING; LACROSSE; LAWN BOWLING; MOTOR-BOAT RACING; POLO; ROWING; SHOOTING; SKIING; SOCCER; SOFTBALL; SQUASH RACQUETS; SWIMMING; TABLE TENNIS; TENNIS; TRACK AND FIELD SPORTS; WRESTLING; YACHTING.

**Squash Racquets.** The national amateur championship went to the middle west for the first time when Edward Hahn of Detroit, Mich., defeated Richard Rothschild of New York city 15-4, 15-10 and 17-14 at the University club in New York. A record field of 135 started in quest of the crown that Hunter Lott, Jr., of Philadelphia, Pa., did not defend. The veterans' singles went to George Waring of Boston, Mass., for the third straight year.

In the doubles at St. Louis, Mo., Lott and G. Diehl Mateer, Jr., of Philadelphia won for the second successive season, defeating their fellow townsmen Charles Brinton and Stanley Pearson 17-16, 17-16, 14-17 and 15-7. Lott and Mateer also repeated their triumph of 1949 in the Lockett trophy tourney, halting E. C. Oelsner, Jr., and Don Strachan of New York city 11-15, 15-3, 15-7 and 15-10.

Edward Hahn added the Canadian title to his U.S. one and his brother Joe paired with Doug Sinclair of Montreal, Que., for doubles laurels. Edward Reid of Hartford, Conn., took United States professional honours and Ted Hands of Yale was inter-collegiate champion. The United States retained the Lapham trophy, but U.S. feminine stars lost the famous Wolfe-Noel cup,



bowing to the British, 5-0, at London. Janet Morgan proved the big star by downing Peggy Howe of New Haven, Conn., best of the invaders, 9-0, 9-0 and 9-6.

Betty Howe won the U.S. singles title, which Miss Morgan did not defend, while Mrs. William Rawls and Jane Austin of Philadelphia took doubles honours. Mrs. Ellwood J. Beatty, Jr., another Philadelphian, was the women's veterans' champion.

(T. V. H.)

**Stalin, Joseph Vissarionovich** (1879- ), soviet prime minister, was born on Dec. 21 at Gori, Georgia, in Transcaucasia. He studied for the priesthood and entered the Tiflis Orthodox seminary in 1893, but was later expelled.

He became active in the revolutionary underground in Georgia and, between 1902 and 1912, was arrested and deported five times, but each time escaped. In March 1913 he was deported to the Turukhansk district in northern Siberia, where he remained until Feb. 1917. Returning to St. Petersburg (now Leningrad) he became one of the members of the Politburo of the Communist party. After the Communist *coup d'état* of Nov. 7, 1917, he was appointed people's commissar for nationalities. In 1922 he became general secretary of the central committee of the party. Soon after Nicolai Lenin's death (Jan. 21, 1924), Stalin rose to pre-eminence in the party machine, and by 1937 his position as dictator of soviet Russia was unquestionable, although he did not hold state office until May 6, 1941, when he assumed the post of prime minister. On July 19, 1941, after the German attack, he appointed himself commander in chief and minister of the armed forces, and in March 1943 he assumed the rank of marshal of the Soviet Union.

During World War II Stalin met the leaders of Russia's wartime Allies at Tehran (Nov. 1943), Yalta (Feb. 1945) and Potsdam (Berlin) (July 1945). On March 3, 1947, he resigned as minister of the armed forces, retaining the post of prime minister. From Feb. 9, 1946, when he reviewed soviet war achievements, Stalin made no public speeches and kept himself in the background. On Dec. 21, 1949, his 70th birthday was celebrated throughout the U.S.S.R. and the soviet-dominated states, and 12 months later *Izvestia* was still continuing publication of congratulatory messages. On Feb. 13, 1950, he attended at the Hotel Metropole, Moscow, a banquet given by Mao Tse-tung and this was understood to be the first time Stalin had dined at a public place since 1923. On June 20, 1950, *Pravda* published an article by Stalin "About Marxism and Linguistics" which was followed by four answers to questions in the monthly *Bolshevik* (July and August). (See also UNION OF SOVIET SOCIALIST REPUBLICS.)

**Stamp Collecting:** see PHILATELY.

**Standards, National Bureau of.** Established by act of congress, March 3, 1901, this bureau is the principal agency of the federal government for fundamental research in physics, mathematics, chemistry and engineering. During 1950, it consisted of 24 divisions and offices: 15 scientific divisions (electricity, optics and metrology, heat and power, atomic and radiation physics, chemistry, mechanics, organic and fibrous materials, metallurgy, mineral products, building technology, mathematics, electronics, missile development, ordnance and radio propagation); 3 offices (basic instrumentation, scientific publications and weights and measures); and 6 administrative divisions (fiscal, personnel, supply, shops, plant and services).

The completion and successful operation of SEAC—the National Bureau of Standards Eastern Automatic Computer—represented one of the outstanding developments of the year. De-



PERMANENT STANDARD of neutron radiation intensity developed by the national bureau of standards in 1950; it was a beryllium sphere enclosing a capsule of radium which was estimated, in 1950, to be emitting 1,100,000 neutrons per second

veloped within a period of 20 months, under the sponsorship of the department of the air force, SEAC was the fastest, general-purpose, automatically sequenced electronic computer in operation. Given coded instructions and numerical data, it could rapidly solve important mathematical, computational and statistical problems which could not be undertaken by conventional methods for reasons of time or cost or both. Significant problems in mathematics and chemistry were solved during the year, and a pioneering application to large-scale problems of military management and administration was begun. A second machine, SWAC (National Bureau of Standards Western Automatic Computer), was finished toward the end of the year while several machines were contracted to industry for construction under bureau supervision.

In low-temperature physics, a new and wholly unexpected relationship was discovered between superconductivity—the loss of electrical resistance at very low temperatures—and the constitution of the atomic nucleus. A striking demonstration of the validity of the two-fluid theory of liquid helium II, a form of helium existing near absolute zero, was provided by the development of the Thermal Rayleigh Disk method for investigating the wavelike propagation of heat in this substance. As a result of the increasing need for reliable temperature measurements at both very high and very low temperatures, considerable research was done to develop suitable instruments and methods of calibration.

In mathematics, progress was made on the general problem of finding the eigen values, or characteristic values, of matrices and systems of differential equations. Considerable effort was also expended in seeking methods of solution for the partial differential equations of physics, which describe the phenomena of motion and change in the physical world. Twenty mathematical tables were completed or in progress during the year. The program in statistical engineering was concerned with the application of modern statistical inference to complex engineering experiments and sampling problems and with the analysis of data arising in physical experiments. Attention was given to the theory of small samples such as are used in experimentation in the physical sciences and in engineering testing.

Comprehensive programs of research were carried out to learn more about the earth's upper atmosphere and its effects on the propagation of radio waves. Fourteen radio propagation field



stations, extending over North and South America and the Pacific area, were operated by the bureau either directly or in close association with other agencies. Data thus obtained provided basic material for scientific research and for the application of propagation data to radio communication problems. Radio waves emitted by the sun and stars were studied because they are related to radio propagation and also because they provide a new means for exploration of the universe. A major program was begun during the year for the study of the propagation factors affecting the use of radio for aircraft navigational and traffic control, and an experimental field station was set up for this purpose at Cheyenne mountain, Colo. Continuous broadcasts of standard frequency and time were continued over the bureau's radio station WWV at Beltsville, Md., and over an experimental station, WWVH, at Maui, T.H.

The bureau was engaged in a broad program of fundamental research in atomic and radiation physics to meet the need for new techniques, instruments, measurement methods, scientific and engineering standards and health and protection measures. The omegatron, a new instrument which is basically a miniature cyclotron, was developed for the measurement of atomic masses. An accurate, sensitive technique was worked out for experimentally determining the electric-field distribution and space-charge density within magnetrons. A nonmagnetic radio-frequency mass spectrometer was developed in which a radio-frequency field replaces the usual magnetic field. The new type of mass spectrometer was found ideally suited for use in rockets to determine the composition of the upper atmosphere. The program for the calibration and distribution of standard samples of artificially produced radioactive isotopes continued to grow as the demand for such standards increased in medicine, science and industry. With the installation of a new 50,000,000-v. betatron, work in radiation physics was extended into the realm of extremely high energies. Considerable effort was expended on instrumentation and techniques related to detection of nuclear radiations.

These projects, illustrating the work in a few areas, suggest the nature and scope of the year's work. Similar work was conducted in other fields of the physical sciences while a considerable amount of activity occurred in biophysics and biochemistry. The following developments were typical: a new and simple instrument and method for sectioning organic tissue, important in cancer and other biological research; the effect of altitude on octane number measurement of fuels; the burning velocities and flame temperatures in jet engines; the determination of the absolute viscosity of water; measurement of the absolute viscosity of bulk rubber and rubber solutions; a method for impregnating second-grade sole leathers with rubber, which provides soles more durable and waterproof than the best leather; an instrument for detecting gasoline vapours or other combustible gases; a method for measuring the adhesion of electroplated coatings; the application of silicone rubbers at low temperatures; the growing of thallium bromide-iodide crystals for infra-red transmission; and improved ceramic dielectrics for capacitors and for jet and rocket propulsion.

More than 250,000 tests and calibrations were performed. Typical services of this kind included the sample testing of about 9,000,000 bbl. of cement; the testing and certification of more than 2,000 radium preparations, the life testing of more than 5,000 light bulbs (a sampling of more than 4,000,000 purchased by the government

during the year), the testing of 2,500 samples of microfilm for hypo content, and the sample testing of about 74,000 clinical thermometers.

The results of the bureau's work are available through three monthly periodicals (*Journal of Research*, *Technical News Bulletin*, and *Basic Radio Propagation Predictions*) and a series of nonperiodical publications. An indexed list of publications (*Publications of the National Bureau of Standards*, Circular 460) is available from the superintendent of documents, U.S. government printing office, Washington 25, D.C. (H. Od.)

**Stars:** see ASTRONOMY.

**State, U.S. Department of:** see GOVERNMENT DEPARTMENTS AND BUREAUS.

**State Guard:** see NATIONAL GUARD.

**States Rights:** see LAW.

**Steel:** see IRON AND STEEL.

**Stellar System:** see ASTRONOMY.

**Stockholm Petition:** see ATOMIC ENERGY; SWEDEN.

**U.S. Stocks.**—The U.S. stock market **Stocks and Bonds.** in 1950 was considerably more active and eventful than in 1949. The volume of trading was about double that of the preceding year. A bull market continued for nearly all of the year with only two sharp but temporary dips in June and November, coinciding with serious adverse news from Korea. The market, however, was extraordinarily unresponsive to bad economic news. By Nov. 23, 1950, the industrial price average had risen to the highest level in 20 years (Sept. 18, 1930); rails were at the best peak in 19 years; and the general average had reached a new high since 1933.

For 90 stocks combined, representing the railroad, industrial and public utility groups, the Nov. 1950 average price level stood at 157.4, as compared with 134.0 for January, and with 131.6 and 121.9 for December and January of 1949. Between Dec. 1949 and Nov. 1950, railroad stocks, using Standard and Poor's figures, increased from 41.0 to 51.8, or 26.3%. Industrial stocks during the same period increased from 162.3 to 199.7, or by 23%. Public utility stocks decreased from 81.6 to 79.9, or by only 1.9%, and copper stocks increased from 114.9 to 152.8, or 33.0% (See Table I).

Corporate dividends, with the exception of certain limited groups like leather and leather products, railroad and railroad equipment, rubber and textile stocks, showed a combined increase of 21.1% in total distribution as compared with 1949. As was the case during 1949, nearly all groups of corporations managed to adjust themselves, through price increases and improved productive efficiency, to wage increases won by labour.

The following factors were mentioned frequently as affecting speculative sentiment during 1950: (1) continuing adverse developments in the international situation; (2) unimprovement in the inflation picture, with an ever-ascending price spiral and with further prospects of price increases because of recurring strikes,

Table I.—U.S. Security Market Prices

	Railroads 20 stocks		Industrials 50 stocks		Public Utilities 20 stocks		*Copper 7 stocks		Stocks 90 stocks	
	1950	1949	1950	1949	1950	1949	1950	1949	1950	1949
Jan. . . . .	43.7	43.2	165.0	151.7	83.8	68.6	120.6	128.1	134.0	121.9
Feb. . . . .	43.8	40.2	168.4	145.2	85.2	69.3	120.8	116.7	136.6	117.3
March. . . . .	44.1	39.6	169.6	146.7	86.8	70.5	116.4	111.1	137.8	118.4
April . . . . .	44.4	39.5	175.2	146.1	87.1	71.8	117.1	105.7	141.7	118.3
May . . . . .	44.6	38.8	182.0	144.6	88.0	72.7	127.5	103.3	146.4	117.4
June . . . . .	43.5	35.8	186.1	136.2	86.8	70.3	127.8	98.9	148.8	110.9
July . . . . .	45.0	36.7	172.4	144.9	78.4	72.3	128.4	107.3	138.0	117.2
Aug. . . . .	49.1	38.3	184.0	149.8	78.6	75.6	139.8	109.1	146.4	121.4
Sep. . . . .	51.0	38.6	191.1	151.4	79.5	77.8	143.9	105.4	151.6	123.0
Oct. . . . .	52.1	39.5	199.9	155.6	80.7	79.1	148.4	109.6	157.8	126.2
Nov. . . . .	51.8	39.2	199.7	158.0	79.9	79.8	152.8	113.6	157.4	127.9
Dec. . . . .	56.02	41.0	198.4	162.3	78.24	81.6	161.8	114.9	156.8	131.6

\*1935-39 base period; all other figures use 1926 as a base period.

The above figures are an average for the month based on daily closing prices, except for copper, which are weekly closing prices. By courtesy of Standard and Poor's Trade and Securities, Current Statistics.



Table II.—1950 Price Range of 25 Leading Representative U.S. Common Stocks

Stock	Close 1949	High 1950	Low 1950	Close 1950
Allied Chemical & Dye*	205	603/8	53	59
American Car & Foundry	26	35	22	337/8
American Smelting & Refining	55 1/4	73 3/8	50	73 1/4
American Telephone & Telegraph	146 1/2	161 3/4	146 1/4	151
American Tobacco	74 1/2	76 1/2	62 3/4	64 5/8
Anaconda Copper	28 3/8	40 1/2	27 7/8	40 1/8
Bethlehem Steel	32	49 7/8	30 1/2	48 1/2
Chrysler Corporation	67 1/4	84 1/2	62 1/2	68 3/4
Douglas Aircraft	72 1/2	97	69 1/8	95 1/2
E. I. du Pont de Nemours	61 3/8	85 3/8	60 1/8	84
General Baking	10 3/8	12	9 1/2	10 1/4
General Electric	42 1/8	50 1/2	41 1/8	49 3/4
General Motors†	71 3/8	54 3/4	43 3/8	46 1/4
Goodyear Tire & Rubber	44 3/4	66 1/4	43 3/4	66
Great Northern Ry. (pf.)	41	50 1/4	33	49 1/2
Illinois Central Railroad	36 1/2	62	34 1/4	58 3/8
International Harvester	27 3/4	32 3/8	25 1/8	32 1/4
Montgomery Ward	54 3/8	67 1/4	49 1/8	65
National Dairy Products	39	50	36	49
New York Central Railroad	11 3/4	21 3/8	11 1/2	21 3/8
Pennsylvania Railroad	17 1/8	22 3/4	14 1/2	22 3/8
Standard Oil of Indiana	44 3/4	60 3/8	42 1/8	60 3/8
Standard Oil of New Jersey	66 3/4	92	66	91 3/4
Union Pacific Railroad	84	105	81	105
United States Steel	26 3/8	42 3/8	25 3/4	42 1/8

\*Split up four shares to one.

†Split up two shares to one.

as well as greatly increased taxation prospects; (3) failure to balance the national budget by billions, and the prospect of greatly increased taxation both nationally and locally, as well as a prospective crushing armaments budget; (4) governmental restrictions on mortgage loans and consumer credits and the prospect of further governmental controls along many other lines; (5) strikes at an increasing rate; (6) an unfavourable balance of trade, with imports exceeding exports for the month of August, the first time such an event had happened since 1937.

The plethora of favourable dividends and stock split-ups, announcements of exceptional earnings reports, the expectation of a great expansion in armaments, a general belief in higher prices and the general feeling that no unfair excess-profits tax measure would be enacted in 1950 seemed to overcome the adverse news in speculative sentiment.

On Nov. 1, 1950, the market value of all listed shares on the New York Stock exchange stood at \$80,485,000,000, with an average flat price per share of \$47.01. On Nov. 1, 1949, this market value stood at \$72,631,000,000, with an average flat price per share of \$43.75. An increase in the value per share of approximately 7.4% was thus shown for the year.

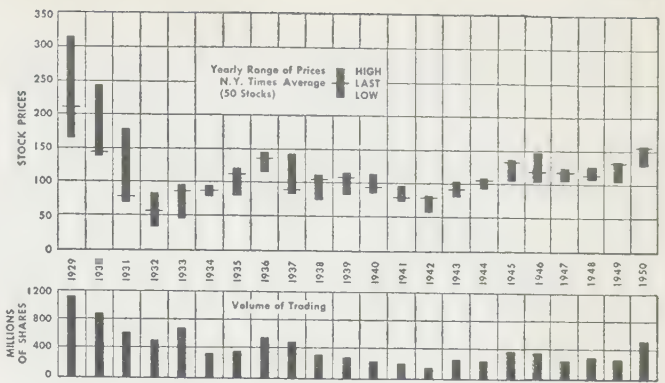
**Number, Volume and Amount of Stocks.**—According to the New York Stock exchange's compilation, stocks listed on that exchange on Nov. 1, 1950, stood at 2,221,000,000 shares, with a total market value of \$80,486,000,000. This value compared with \$72,631,000,000 on Nov. 1, 1949, \$72,185,000,000 on Nov. 1, 1948, \$68,884,000,000 on Nov. 1, 1947, and \$66,115,000,000 on Nov. 1, 1946. Of the 1950 total (Nov. 1) United States stocks aggregated 2,153,000,000 shares, valued at \$78,829,000,000, and stocks of other countries 67,990,000 shares, valued at \$1,656,000,000. The total of shares was distributed over 1,450 separate United States issues and 21 issues of other countries, representing a total of 1,055 issuing corporations.

Total shares traded on the New York Stock exchange during 1950 amounted to 524,799,621 shares, as compared with 272,203,402 shares during 1949, 302,218,965 shares during 1948, 253,624,000 shares during 1947, 363,709,000 shares during 1946, 377,564,000 shares during 1945 and 1,125,000,000 shares during

Table III.—U.S. Bond Prices, 1950

Composite Bonds A1+			
Dollars per \$100			
Month	Average	Month	Average
Jan.	122.7	July	121.5
Feb.	122.7	Aug.	122.1
March	122.7	Sept.	121.7
April	122.5	Oct.	121.1
May	122.1	Nov.	121.1
June	122.0	Dec.	121.1

By courtesy of Standard and Poor's Weekly Corporate Bond Price Indexes.



TRADING IN STOCKS on the New York Stock exchange: yearly range of prices and number of shares sold, exclusive of odd-lot and stopped sales

1929, the largest yearly total on record. The New York curb market had sales during 1950 of 107,810,000 shares, as compared with 66,130,000 during 1949, 75,090,000 during 1948, 72,380,000 during 1947, 137,220,000 shares during 1946, 143,337,000 shares during 1945 and 71,062,000 shares during 1944.

**U.S. Bonds.**—The bond market was remarkably stable during 1950 at an exceedingly high price level. (See Table III.) The slight decline in bonds after June was contrary to the rising trend in the stock market.

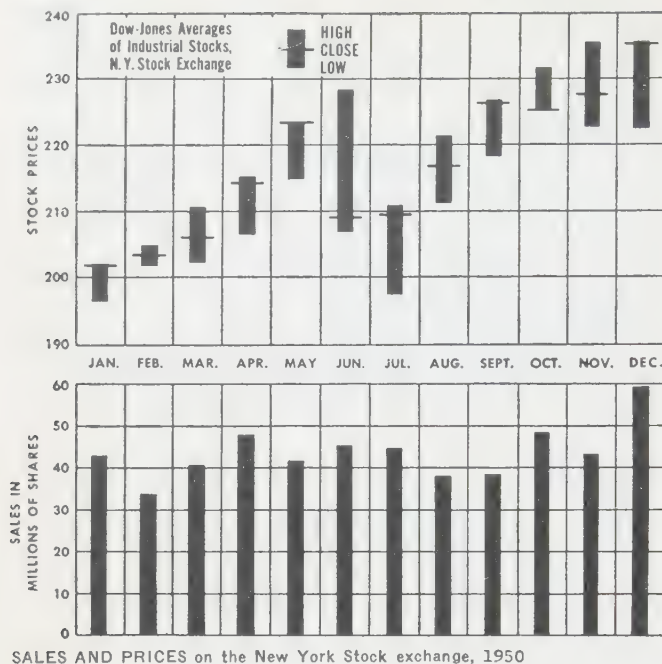
**Number, Volume and Amount of Bonds.**—According to the New York Stock exchange's compilation, the total par value of bonds listed on that exchange at the beginning of Nov. 1950 stood at \$117,441,000,000, with a market value of \$118,417,000,000. This par value compared with \$129,870,000,000 and \$131,226,000,000 for the corresponding period in 1949 and 1948. Of the 1950 total, U.S. corporation bonds (at the beginning of November) amounted to \$17,517,000,000 par value, with a market value of \$17,175,000,000; company bonds of other countries with a par value of \$519,062,000 and a market value of \$433,846,000; U.S. government bonds (inclusive of corporations and subdivisions) with a par value of \$97,816,000,000 and a market value of \$99,627,000,000; and other governments (inclusive of subdivisions) with a par value of \$1,338,000,000 and a market value of \$928,363,000. The total listed bonds of United States corporations were distributed over 919 issues with 377 issuers; of United States government bonds with 65 issues and 3 issuers; and other governments with 181 issues and 49 issuers. The total bonds traded on the New York Stock exchange during 1950 amounted to \$1,878,700,000, as compared with \$817,949,070 during 1949, \$1,013,829,000 during 1948, \$1,076,000,000 during 1947, \$1,364,000,000 during 1946, \$2,262,000,000 during 1945 and \$2,695,000,000 during 1944.

**New York Stock Exchange.**—On Jan. 26 an amendment to the

Table IV.—1950 Price Range of 25 Leading U.S. Domestic Bond Issues

Name	High	Low	Last (Dec. 31)
American Telephone & Telegraph 2 7/8s 86	98	95	96
American Tobacco 3s 62	104 1/2	101 7/8	102 1/4
Atchison, Topeka & Santa Fe 4s 95	121 1/2	119	120
Bethlehem Steel 2 3/4s 70	102 1/8	100 3/8	100 5/8
Chesapeake & Ohio 3 1/2s 96D	103 3/4	100	103 3/4
Chicago, Burlington & Quincy 4s 58	112 3/4	110	111 1/4
Commonwealth Edison 3s 99	105 1/4	103 1/2	104 1/4
Erie 4 1/2s 2015	82 3/4	63	82 3/8
Great Northern Railway 4 1/2s 76D	125	118	122 3/8
Illinois Bell Tel. 2 3/4s 81	103 1/4	100 3/8	101 1/2
Illinois Central 4 3/4s 66	100 1/2	88	100 3/8
Louisville & Nashville 3 3/4s 2003	104 3/4	99	104
National Dairy 2 3/4s 70	103 3/8	100 3/8	102
Northern Pacific 4s 97	112	100 3/4	109
Ohio Edison 3s 74	106 3/8	103 3/4	104 1/4
Pennsylvania Railroad gen 5s 68	112 3/8	102 3/8	110 1/4
Philadelphia Electric 2 3/4s 67	104 3/8	100 1/2	101 3/4
Reading Railroad 3 1/8s 95	96	84 1/2	94
Southern Pacific 4 1/2s 81	102 1/2	92	101 1/4
Southern Railway gen 4s 56	98 1/2	90	98 1/4
Standard Oil of New Jersey 2 3/8s 71	98 3/8	96	96 1/4
Swift & Company 2 7/8s 73	104 1/2	102 3/8	103
Union Pacific 2 1/2s 91	97 1/4	93 1/4	96 1/4
Western Union 5s 60	103	85	102 1/2
Westinghouse Electric cv 2.65s 73	115 1/4	105	108 3/8





SALES AND PRICES on the New York Stock exchange, 1950

constitution increasing the membership of the board of governors of the exchange from 25 to 33 was approved by the membership. On June 15 the board approved the appointment of an advisory committee on public relations consisting of five members. On July 13 announcement was made of the election, as a public governor, of Thomas S. Nichols, chairman of the board and president of Mathieson Chemical corporation. On Aug. 25 the exchange also announced the election of Henry M. Wristom, president of Brown university, Providence, R.I., as a third public governor of the exchange, which brought the board of governors to its full membership of 33. On Aug. 10 the board approved three amendments to the constitution which would permit members of the exchange, while on active duty in the armed forces of the United States or Allied nations, or engaged in public service incident to national defense, to have partners act as floor alternates to share commissions on floor business handled by another member, or to be exempted from payment of dues. These amendments were approved by the membership on Aug. 24.

**Trading Rules and Clearance of Transactions.**—On Aug. 10 the board of governors approved final extension to Dec. 31 of the experimental plan for clearing transactions by mail for out-of-town firms. On Nov. 13 Japanese dollar bonds were restored to dealings; they had been suspended since Dec. 11, 1941.

**Financial Statement.**—According to the condensed statement of income and expenses of the exchange for the nine months ended Sept. 30, the exchange reported operations at a profit of

\$769,348 compared with a net loss of \$325,995 for the same period of 1949. (S. S. H.)

**Great Britain.**—The devaluation of the pound in Sept. 1949 was followed by an unexpectedly speedy improvement in the balance of payments and in the gold and dollar reserves of the sterling area. This in turn prompted a rebirth of confidence in the pound and a flow of foreign funds to London, partly in the belief that the pound, at \$2.80, was now undervalued. Much of these funds sought investment in British government securities, which became a firm market and thus provided a solid foundation for the stock market price structure as a whole.

The prices of British government securities had receded in 1949. In 1950, however, prices were about 1% higher for the year, despite the setback caused by the Korean crisis. British government securities were always highly susceptible to changes of confidence in the pound and proved so again on this occasion. This firm trend assisted the government's own operations.

Perhaps the biggest surprise of the year in the gilt-edged section was the decision of the government to offer holders of £714,000,000 (\$1,999,200,000) of 2½% national war bonds, 1949–51, the opportunity to convert their holdings into 2½% funding loan, 1956–61, at par, with a cash adjustment; at the same time an additional £100,000,000 (\$280,000,000) of 2½% funding, 1956–61, was offered for cash subscription at 99½%. Holders of £505,000,000 (\$1,414,000,000) of 2½% national war bonds accepted the offer. In November notice of redemption was given for the remaining £209,000,000 (\$585,200,000), and at the same time £250,000,000 (\$700,000,000) of 3% funding stock, 1966–68, was offered at par both for public subscription and for conversion of the remaining £209,000,000.

The years 1947, 1948 and 1949 had seen British industrial shares falling at a gradually increasing pace. In 1950, however, this trend was reversed, and there was an improvement of 8% (*Financial Times* index) on the figure for 1949. The relatively small over-all rise in equity prices concealed much greater changes in individual sections of the market. For instance, shares in the shipbuilding industry, which experienced a great recovery in the tonnage of new shipping on order, rose about 60%. Those in the plastics industry, which had had a difficult time in 1949, gained about 30%, with a late spurt at the end of the year. Shares in the motor industry added about 20% in value. Armament shares were, of course, one of the firmest markets. In general, fears of inflation which were stimulated by the increased expenditure on arms, induced a reluctance to sell equities.

Trading experience was good, but the need to retain profits in order to finance stocks at rising prices naturally made for caution in dividend distributions. In the analysis by the *Financial Times* of the results of more than 2,700 industrial companies, net dividends paid on equity capital were shown to have risen from £112,000,000 (\$313,600,000) in 1949 to £116,000,000 (\$324,-

Table V.—Movement of the London Stock Market Indexes in 1950

(Highest and lowest monthly figures)

Month	Government Securities		Price Indexes Industrial Ordinary		Gold mines		Yields % on Consols		Industrial Ordinary		Daily Bargains	
	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
Jan.	105.88	103.85	106.4	103.4	134.80	129.18	3.65	3.50	5.35	5.20	8.893	4.729
Feb.	105.80	104.66	108.2	104.2	138.36	130.26	3.59	3.52	5.31	5.09	8.434	3.787
March	104.71	104.30	105.5	103.9	138.49	130.59	3.65	3.61	5.36	5.26	8.091	4.910
April	105.56	104.64	107.4	105.4	134.56	127.01	3.64	3.60	5.28	5.18	8.166	5.569
May	106.24	105.00	112.8	107.3	128.44	124.71	3.64	3.55	5.19	4.94	7.838	5.806
June	107.28	105.32	115.1	111.9	125.37	113.45	3.64	3.51	4.98	4.84	7.732	5.427
July	106.00	105.15	112.0	110.6	112.41	106.39	3.65	3.58	5.04	4.97	7.215	5.239
Aug.	107.35	105.61	113.9	111.1	114.98	109.58	3.60	3.46	5.02	4.88	7.036	5.027
Sept.	107.75	106.78	118.2	113.3	121.40	110.08	3.53	3.45	4.91	4.70	11.754	5.387
Oct.	109.07	107.80	118.0	116.2	117.06	111.77	3.44	3.36	4.79	4.71	10.762	7.244
Nov.	108.94	106.81	118.2	114.3	114.18	105.05	3.52	3.37	4.89	4.70	11.632	8.232
Dec.	107.18	106.68	116.2	113.2	110.64	104.42	3.54	3.51	4.95	4.87	8.436	4.045

These indexes of prices on the London stock exchange are reproduced by courtesy of the *Financial Times*, London.

Constituents of the indexes are: government securities, 11 British government securities, including short-dated, medium-dated, long-dated and some redeemable only at the option of the government; industrial ordinary, 30 of the leading British industrial equities; gold mines, 30 South and West African and West Australian gold mining shares. The industrial ordinary share yield is based on dividends in the industrial ordinary share index. Daily bargains are those recorded in the stock exchange official list. Base dates when the indexes were 100 are: government securities, 1928; industrial ordinary, July 1, 1935; and gold mines, Oct. 15, 1926.



800,000) in 1950; but as there was proportionately a still larger increase in equity capital and reserves the actual percentage return to holders on capital employed was slightly less. The expansion in dividend payments was, in fact, materially less than the expansion in equity earnings, which at £354,000,000 (\$991,200,000) was to be contrasted with £317,000,000 (\$887,600,000) for 1949. These figures, however, probably obscure the fact that adherence to dividend limitation was less pronounced in the latter half of the year than in the first.

Just as 1950 was a boom year for commodities—many of them produced in the sterling area by British companies—so was it a good year for commodity shares. It would have been better still but that many producers were operating in countries near possible theatres of war, such as the far east. The rise in copper shares was more than 50%, and that in producers of lead and zinc was not far short of 40%. The shares of plantation rubber companies would no doubt have fared better than they did (a rise of 14%) but for the banditry in Malaya. Oil shares showed only a modest improvement for the same reason, namely the proximity of the middle eastern producers to the U.S.S.R. In the light of rising commodity prices (implying higher working costs) and a fixed gold price, the setback in gold mining shares (of about 17%) was intelligible.

(A. L. W. S.)

**Stomach Disorders:** see ALIMENTARY SYSTEM, DISORDERS OF.

**Straits Settlements:** see MALAYA (FEDERATION OF) AND SINGAPORE.

**Strategic Mineral Supplies:** see MUNITIONS OF WAR.

**Strawberries:** see FRUIT.

**Streptomycin:** see CHEMOTHERAPY; MEDICINE; TUBERCULOSIS.

**Strikes.** As shown in Table I, there were 3,606 strikes in the United States in 1949, an increase of almost 200 from the 1948 total of 3,419. These 3,606 strikes involved more than 3,000,000 workers as compared with slightly fewer than 2,000,000 for 1948, and resulted in 50,500,000 idle man-days during the year, nearly 50% more than in the previous year.

Table I.—United States: Number of Strikes Beginning in the Year, Workers Involved and Man-days Lost

Year	Number of strikes	Number workers involved	Man-days idle during year	Per cent of estimated work time
1935-39 (average) . . . . .	2,862	1,130,000	16,900,000	0.27
1946 . . . . .	4,985	4,600,000	116,000,000	1.43
1947 . . . . .	3,693	2,170,000	34,600,000	.41
1948 . . . . .	3,419	1,960,000	34,100,000	.37
1949 . . . . .	3,606	3,030,000	50,500,000	.59
1950 (8 mo.) . . . . .	2,955	1,660,000	28,900,000	.52

Source: United States Bureau of Labor Statistics, *Monthly Labor Review*. 1950 figures are preliminary.

The first eight months of 1950 as compared with the corresponding period of 1949 indicated a greater number of strikes for the whole of 1950. For this period of 1950 there were 2,955 strikes, whereas in 1949 there were 2,625 during this time. Fewer workers were involved in the 330 more strikes of 1950, but an increase of more than 10,000,000 idle man-days were incurred during the period.

Included in these statistics published by the U.S. bureau of labour statistics were all known work stoppages arising out of labour-management disputes that continued for at least one full day or shift and involved six or more workers. The data on man-days idle and workers involved covered all workers made idle in establishments directly involved in a stoppage and not those employees made idle through material or service shortages incurred by such stoppages.

Table II indicates the work stoppages arising from industrial



EMERGENCY MILK DISTRIBUTION in Washington, D.C., during a strike by dairy employees in June 1950. Parents with doctors' certificates were allotted one quart of milk per day for each child

disputes in Great Britain for the first eight months of 1949 and 1950. The greatest number of strikes, in fact the majority of

Table II.—Analysis by Industries of Work Stoppages Arising from Industrial Disputes in Great Britain

Industry	Jan.-Aug. 1950			Jan.-Aug. 1949		
	Number of stoppages beginning in period	Number of workers involved in all stoppages in progress	Aggregate number of working days lost in all stoppages in progress	Number of stoppages beginning in period	Number of workers involved in all stoppages in progress	Aggregate number of working days lost in all stoppages in progress
Agriculture, forestry, fishing . . . . .	3	3,800	43,000	2	*	†
Coal mining . . . . .	603	97,700†	322,000	616	213,500†	661,000
Other mining and quarrying . . . . .	1	*	†	4	100	1,000
Treatment of nonmetallic mineral products . . . . .	3	100	1,000	8	400	1,000
Chemicals and allied trades . . . . .	2	900	6,000	5	500	2,000
Metal manufacture . . . . .	23	6,100	37,000	43	11,100	41,000
Shipbuilding and ship repairing . . . . .	34	9,500	36,000	34	7,100	43,000
Engineering . . . . .	46	12,000	41,000	46	6,800	34,000
Vehicles . . . . .	33	18,400	86,000	30	5,500	41,000
Other metal industries . . . . .	14	1,000	6,000	25	2,200	6,000
Textiles . . . . .	8	700	3,000	24	7,200	43,000
Leather, etc. . . . .	1	100	1,000	2	100	†
Clothing . . . . .	8	700	3,000	11	900	5,000
Food, drink, tobacco . . . . .	6	700	16,000	10	900	2,000
Manufactures of wood and cork . . . . .	18	1,800	15,000	9	1,400	10,000
Paper and printing . . . . .	6	3,700	7,000	5	800	5,000
Other manufacturing industries . . . . .	4	1,200	2,000	11	2,300	16,000
Building and contracting . . . . .	52	12,000	54,000	35	7,900	25,000
Gas, electricity, water . . . . .	2	900	11,000	2	100	†
Transport, etc. . . . .	43	27,200	143,000	59	90,000	523,000
Distributive trades . . . . .	7	6,400	40,000	6	300	1,000
Other services . . . . .	12	1,600	17,000	9	1,100	3,000
Total . . . . .	929	206,500†	890,000	996	360,200†	1,463,000

\*Fewer than 50. † Fewer than 500. ‡Some workers, largely in the coal mining industry, were involved in more than one stoppage and are counted more than once in the totals. For all industries combined, the net total number of workers involved was approximately 180,000 in the 1950 period and 300,000 in the 1949 period.

Source: Ministry of Labour Gazette (London).



industrial disputes, arose in coal mining, with 603 strikes through Aug. 1950 and 616 strikes for the corresponding months of 1949. However, fewer workers were involved and fewer working days were lost in 1950, less than half as many as in 1949 in each instance. Other industries with a relatively large number of strikes were building and contracting, transport, engineering, shipbuilding and ship repairing and vehicles. Although the number of strikes in each of these industries was less than 10% of the number of stoppages in mining for the periods under consideration for each year, the number of working days lost in transportation and allied industries came considerably closer to the large number lost in mining.

Wage disputes were the predominant cause of industrial stoppages in Great Britain for the first eight months of 1950, accounting for 41.6% of the stoppages (Table III). Only 5.7% of all

Table III.—Analysis of Principal Causes of Industrial Disputes in Great Britain: First Eight Months of 1950

Principal causes	Stoppages begun during 1950		Workers directly involved	
	Number	Per cent	Number	Per cent
Wage increase . . . . .	52	5.7	36,200	14.7
Other wage disputes . . . . .	328	35.9	35,000	14.2
All wage disputes . . . . .	380	41.6	71,200	28.9
Hours of labour . . . . .	18	2.0	1,600	0.7
Employment of particular classes or persons . . . . .	133	14.6	31,300	12.7
Other working arrangements . . . . .	332	36.4	40,400	16.4
Trade union principle . . . . .	25	2.8	8,600	3.5
Sympathetic action . . . . .	24	2.6	7,400	3.0
Other . . . . .	1	—	14,400	5.9
Total . . . . .	913		246,100	

Source: Ministry of Labour Gazette (London).

stoppages, however, were for wage increases, the major share being based on other wage issues. Disputes over other working arrangements accounted for 36.4% of all stoppages, and comprised the other large category. Wage disputes involved approximately 75% more workers than did the stoppages based on other working arrangements.

Comparative figures for the first eight months of 1949 and 1950 showed fewer strikes in progress in all but two of the months, January and July, in 1950. Table IV indicates, however,

Table IV.—Relative Frequency and Size of Labour Disputes in Great Britain: First Eight Months of 1950 and Corresponding Months in 1949

Month	Strikes in progress		Number of working people involved		Number of working days lost	
	1950	1949	1950	1949	1950	1949
January . . . . .	131	121	22,900	55,300	65,000	114,000
February . . . . .	124	133	22,100	19,900	91,000	58,000
March . . . . .	178	180	30,500	19,800	127,000	70,000
April . . . . .	132	138	35,500	40,600	159,000	135,000
May . . . . .	132	161	22,300	76,700	51,000	355,000
June . . . . .	146	162	28,700	47,700	95,000	192,000
July . . . . .	91	74	44,200	24,000	250,000	266,000
August . . . . .	99	115	18,000	105,000	52,000	274,000

Source: Ministry of Labour Gazette (London).

that the number of working people involved and the number of working days lost did not necessarily increase (decrease) when the number of stoppages increased (decreased).

Table V.—Number\* and Time Loss in Canadian Labour Disputes

Month	1950†			1949		
	No. of strikes	No. of employees involved	Time loss in working days	No. of strikes	No. of employees involved	Time loss in working days
Jan. . . . .	9	2,456	39,488	10	1,811	9,710
Feb. . . . .	15	3,764	26,300	10	7,245	71,652
March . . . . .	21	5,659	25,118	11	6,601	136,317
April . . . . .	20	2,585	14,640	18	7,851	138,931
May . . . . .	23	3,488	23,874	23	10,532	173,925
June . . . . .	27	2,781	30,152	28	11,511	141,197
July . . . . .	32	6,379	50,750	20	12,592	58,005
Aug. . . . .	19	129,787	1,053,000	20	4,574	36,276

\*These figures relate only to the actual number of strikes and lockouts in existence and the workers involved during the year, not being a summation in each case of the monthly figures. Strikes and lockouts were recorded together and are a cessation of work involving six or more employees and lasting at least one working day.

†1950 figures are preliminary.

Source: Labour Gazette (Ottawa).

In Canada a comparison of the first eight months of 1949 and 1950 shows the number of labour disputes remaining relatively constant (Table V). The number of employees involved and the time loss in working days, however, was less from February through July of 1950 than in the corresponding months of 1949. Only January and August showed an increase over the preceding year's figures and the August increase was primarily the result of the railway dispute which accounted for 125,700 workers being on strike. This dispute was responsible for the second highest time loss for a month in the recorded history of Canadian labour. (See also LABOUR UNIONS; NATIONAL LABOR RELATIONS BOARD; NATIONAL MEDIATION BOARD; UNITED STATES.) (P. TA.)

**Subsidies:** see AGRICULTURE.

**Sudan:** see ANGLO-EGYPTIAN SUDAN; FRENCH UNION; FRENCH WEST AFRICA.

**Sugar.** Production of sugar in 1949-50 in the principal areas supplying the U.S. was 11,140,000 tons, only slightly less than the record crop of 1947-48, and the 1950-51 crop was forecast as 12,139,000 tons, a new record and almost 50% larger than the average of 8,193,000 tons prior to World War II.

Total sugar production in the U.S. proper was estimated for 1950 at about 2,475,000 tons, compared with 2,084,000 tons in 1949. The preliminary estimate of the 1950 crop included 1,950,000 tons of refined beet sugar, a 25% increase over 1949, and 525,000 tons of cane sugar. The 1950 U.S. crop included a sugar-beet crop of 13,383,000 tons, considerably larger than the 10,197,000-ton crop of 1949 and much greater than the 1939-48 average. Acreage harvested rose to 936,000, compared with 687,000 in 1949 and 773,000 average of 1939-48. Early season weather was generally unfavourable, but yields were 14.3 tons per acre, compared with 14.8 tons in 1949 and the 12.8-ton average of 1939-48.

Table I.—U.S. Sugar-Beet Production (in thousands of short tons)

State	1950	1949	Average, 1939-48
California . . . . .	3,777	2,519	2,149
Colorado . . . . .	2,190	1,878	1,849
Idaho . . . . .	1,514	1,067	1,037
Michigan . . . . .	1,030	743	733
Nebraska . . . . .	814	559	740
Montana . . . . .	743	697	836
Utah . . . . .	532	466	538
Wyoming . . . . .	457	406	430
Ohio . . . . .	288	252	269
Other states . . . . .	2,038	1,610	1,357

The 1950 sugar-cane crop of 6,620,000 tons, mostly in Louisiana, to be used for sugar making, was well above the average for the decade (5,467,000 tons) and the 1949 crop of 6,121,000 tons. Yields in tons per acre were high at 21.0 compared with an average for the decade of 19.8. Acreage at 314,700 approximated that of 1949.

Sugar cane for syrup in several southern states was a smaller crop in 1950, principally because acreage was cut to 62,000 from 70,000 the previous year. Production was 10,830,000 gal., against 11,920,000 gal. in 1949.

Table II.—U.S. Sugar-Cane Production (in thousands of short tons)

State	1950	1949	Average, 1939-48
Louisiana . . . . .	5,382	4,994	4,584
Florida . . . . .	1,238	1,127	873

Other minor U.S. sources of sugar, such as honey and maple sugar products, were produced in 1950 in about 5% larger amounts than in 1949. Sorgho syrup at 6,383,000 gal. was slightly larger than the 6,012,000 gal. of 1949, the smallest crop on record. Maple products of the northeast amounted to 1,968,000 gal. of syrup and 262,000 lb. of sugar, against 1,614,000 gal. of syrup





**SUGAR CANE** under floodlights at an experimental plot in Hawaii in 1950. Keeping the plants "awake" by night light was found to increase the sugar yield because the plants no longer produced the seed-bearing tassels after which they normally stop producing sugar and only grow taller

and 292,000 lb. of sugar in 1949. The 1950 honey crop was estimated at 234,153,000 lb., 3% more than in 1949 and the largest since 1939. Honey was included under mandatory price supports in the Agriculture Act of 1949, primarily because of the value of the honey bee in the pollination of many agricultural crops, and the support price for extracted honey was set at 60% of parity or nine cents per pound.

Civilian consumption of refined sugar in 1950, including unusual reserves accumulated during the scare buying, was estimated as high as 100.0 lb. per person, compared with 95.6 lb. in 1949 and an average of 97.0 lb. during the years 1935-39.

The U.S. sugar supply quota for 1950 was initially set at 7,500,000 tons by the U.S. department of agriculture, but later was twice raised, the final total being 8,700,000 tons, of which only about 7,850,000 tons were used. Under the Sugar Act of 1948, the department of agriculture late in 1950 again held public hearings in order to determine the 1951 requirements of consumers in the continental U.S., and the marketing quota for 1951 was set at 8,000,000 tons; of that quota Cuba received

2,902,600 tons, domestic beet growers 1,800,000 tons, domestic cane producers 500,000 tons, Hawaii 1,052,000 tons, Puerto Rico 910,000 tons and the Philippines 782,000 tons.

Domestic sugar prices in early 1950 approximated 1949 levels, but after the start of the Korean war trends were moderately upward with sugar retailing for about ten cents per pound, in excess of eight cents per pound wholesale and Cuban raws near six cents—nearly 50% higher than in 1949.

The world cane and beet sugar crop of 1950-51 was estimated at 35,386,000 short tons (raw value of centrifugal sugar), 10% more than the record crop of 32,055,000 tons of the previous year and 22% more than before World War II. In addition, production of noncentrifugal sugar, mostly in Asia and South America, was estimated at 5,700,000 tons, compared with 6,200,000 tons in 1949-50 and 4,900,000 tons before World War II. Of the centrifugal total, beet sugar accounted for a record 13,499,000 tons, compared with 11,625,000 tons in 1949-50 and a pre-World War II average of 11,027,000 tons. Sugar (centrifugal) from cane was 21,887,000 tons, compared with 20,430,000 tons in 1949-50 and 17,310,000 tons before World War II. Increased production was rather general. The Cuban crop was estimated at 6,300,000 tons, compared with 6,126,000 tons in the previous year and 3,183,000 tons in 1935-39. Formosa showed a substantial decline. The Republic of the Philippines approached the pre-World War II level of production but was expected to fall short by 200,000 tons of being able to meet the possible full quota of exports to the U.S. Somewhat less than one-third of the total crop was expected to move in world trade. (See also **FOOD SUPPLY OF THE WORLD.**)

(J. K. R.)

**Suicide Statistics.** The suicide rate for the United States in 1950 was almost 2% greater than that for 1949, according to a sample of mortality records covering the first eight months of both years. Within this period, each month except May and June showed a higher rate for 1950. For the entire year 1949, it was estimated there were 17,125 deaths by suicide in the United States and that the rate was 11.5 per 100,000 population; the comparable final figures for 1948 were 16,354 deaths and a rate of 11.2 per 100,000. Canada recorded 1,030 deaths from suicide during 1949 and a rate of only 7.8 per 100,000 population. In the same year, England and Wales had 4,750 suicides, the rate being 10.8 per 100,000; the rate for New Zealand (excluding Maoris) was 9.7 per 100,000 in 1949.

About 1.7% of all deaths among white males in the U.S. in 1948 was by suicide; the rate was only 0.7% among white females. The proportions were even smaller among the nonwhites, 0.5% for males and 0.2% for females.

According to a survey of suicide mortality in the post-World War II period among white persons with industrial insurance in the Metropolitan Life Insurance company, about one-third of the suicides among older men were by hanging, another third by firearms and about one-eighth by inhaling poisonous gas. Among women, only one-quarter of the suicides were by hanging, a like proportion by gas and almost one-fifth by poisons.

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**Sulphur.** World production of sulphur increased from 5,380,000 short tons in 1947 to 5,940,000 in 1948, and dropped back to 5,820,000 tons in 1949. This was the first decline since 1943. The United States supplies about 90% of the total, and Italy, with about 3%, is the next largest producer.

**United States.**—The U.S. bureau of mines reported the following data on the industry:



Data on Sulphur Industry in the United States

(In thousands of short tons)

	1944	1945	1946	1947	1948	1949
Production . . . . .	3,604.4	4,203.6	4,322.8	4,974.1	5,453.5	5,314.4
Shipments . . . . .	3,941.4	4,293.3	4,623.6	5,020.7	5,576.4	5,364.0
Exports . . . . .	756.2	1,055.8	1,395.3	1,511.5	1,451.0	1,602.6
Available supply . . .	3,185.2	3,237.5	3,228.3	3,509.2	4,125.4	3,761.4
Consumption . . . . .	3,270	3,316	3,256	3,965	4,144.0	3,920.0
Stocks (producers') . .	4,600	4,484	4,221	3,771.5	3,612.0	3,471.2

Production in 1950 was stepped up to 4,359,446 tons in the first three quarters, and shipments rose to 4,600,790 tons, indicating a possible new record high for the year. (G. A. Ro.)

**Sumatra:** see INDONESIA.

**Support Prices:** see AGRICULTURE.

## Supreme Court of the United States.

The annual term of the court began Oct. 3, 1949, the first Monday in October as provided by statute, and ended June 5, 1950, the earliest adjournment date since 1941.

A special term, a rarity in the court's history, was held Sept. 20, 1950, to afford attorneys attending a meeting of the American Bar association the opportunity of appearing before the court to be admitted to practise; 531 lawyers were admitted at the one-day session as compared with 849 during the entire 1949 term.

The court disposed of 1,308 cases, 126 less than at the 1948 term and there were but 87 signed majority opinions rendered as compared with 114 in the previous term.

The small number of cases decided by one vote, 6, and the number of dissenting opinions, 54, were in striking contrast to the division within the court during preceding terms. At the previous term there were 35 five to four opinions and 90 dissenting opinions.

Resolutions of the bar of the supreme court in memory of Chief Justice Charles Evans Hughes, who died Aug. 27, 1948, were presented to the court May 8, 1950.

**Members of the Court.**—The United States supreme court was composed in 1950 of the following members (dates indicate year appointment was confirmed by the senate): chief justice, Frederick M. Vinson (1946); associate justices, Hugo L. Black (1937), Stanley F. Reed (1938), Felix Frankfurter (1939), William O. Douglas (1939), Robert H. Jackson (1941), Harold H. Burton (1945), Tom C. Clark (1949), and Sherman Minton (1949). (See also LAW.) (H. B. Wy.)

**Surgery.** The maintenance of caloric balance in patients recovering from operations and not able to eat continued to be stressed in 1950. Fluids and sugar (dextrose) had been administered routinely but it was difficult or impossible to maintain satisfactory caloric balance in this way. C. O. Rice, B. Orr and I. Enquist showed that if, in addition to glucose and amino acids (protein building blocks), alcohol is added to the solution given intravenously, an adequate number of calories can be administered. Unless the caloric intake is high, there is a demand upon the patient's own protein, which is undesirable. By the administration of alcohol, glucose and amino acids, however, there is little likelihood of breakdown of the body protein. The alcohol also produces a mild sedative effect, reducing the need for opiates. I. S. Ravdin and H. M. Bars showed that patients with poor liver function can be prepared adequately for operation by giving a high caloric diet preoperatively to protect them against liver failure as a result of injury to the organ by anaesthesia or inadequate oxygen supply. Previously it had been thought inadvisable to permit fat in the diet of these patients; now it became known that if the protein intake is adequate, fat

can be given and in this way the caloric intake can be maintained more readily.

Blood is administered in increasing quantities to patients before, during and following operation. Although blood administration is essential in a patient with anaemia, its pre-operative administration is not without danger, particularly when the heart function is diminished. W. D. Holden *et al.* demonstrated that the administration of large amounts of blood to persons with heart damage can be hazardous, particularly when given rapidly.

W. S. Tillett and associates showed that digestive ferments from streptococci can be obtained which will digest clotted blood and other exudate in patients in whom there are accumulations of pus. The use of the digestive ferments frequently eliminates the need for operative drainage.

In order to decrease the mortality rate in tetanus (lockjaw), O. Creech, J. P. Woodhall and A. Ochsner employed tracheotomy in severe cases. They believed that death in most instances is due to suffocation because of spasm of the muscles of the larynx, and that this can be prevented by maintaining an open airway through a tracheotomy tube. M. T. Jenkins and associates showed that when salt solution is administered too rapidly, particularly in sick individuals, changes in the lung can occur which can produce death. The capillaries of the lung become markedly dilated and the air is excluded from the air sacs.

Many disturbances of the heart were being attacked successfully by surgery in 1950. C. P. Bailey *et al.* treated obstruction of the valve at the outlet of the heart in a number of different ways. They concluded that a dilator introduced through the carotid artery (in the neck) directly into the aorta and through the aortic valve can effectively dilate a stenotic valve. A. Blalock and R. F. Kieffer, Jr., demonstrated that a constriction of the pulmonary valve, which is at the origin of the vessel going from the heart to the lung, can be accomplished by the introduction of a special dilator through the wall of the heart and through the valve. The operation is done usually in patients who are completely incapacitated otherwise; although hazardous, it offers great and at times virtually complete relief of symptoms. J. M. Beal and associates showed that patients suffering from rheumatic heart disease and with auricular fibrillation and subject to detachments of clots from the heart with the development of embolus in the peripheral arteries can be treated successfully by resection of the portion of the heart wall in which clots are located (auricular appendage). A. M. Vineberg and E. H. Niloff transplanted an artery of the chest wall (internal mammary) into the heart muscle to overcome deficient blood supply of the heart muscle resulting from coronary arterial disease. Gordon Murray overcame valvular disease of the heart resulting from rheumatic fever by first relieving the constriction or narrowing of the valve and substituting a new valve which consisted of a vein introduced into the heart cavity which functioned as a valve.

Certain cases of intractable asthma were successfully treated surgically by B. Blades and associates. The nerves supplying the lung are resected in these cases with fairly satisfactory results. Operation was used only in severe cases.

Although it had been commonly thought that ligation of the hepatic artery to the liver usually results in death, C. Tanturi *et al.* showed that if penicillin is given to animals following ligation of the arteries supplying the liver, death does not occur. A mortality rate of 69% resulted when penicillin was not used.

P. W. Gebauer successfully treated tubercular strictures of the trachea (windpipe) and bronchial tubes by surgical removal of the scarred portion and replacement with skin supported by a wire frame. In this way, functioning lung tissue was spared



and rendered functioning again. (See also ANAESTHESIOLOGY; MEDICINE.)

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**FILMS OF 1950.**—*The Bone Bank* (Sturgis-Grant Productions, Inc.). (A. O.)

**Surinam** (DUTCH GUIANA). Lying between French Guiana to the east and British Guiana to the west, Surinam, a Netherlands colony, occupies 54,291 sq.mi. in north-eastern South America. Like its two neighbours, it consists of a sea-level plain about 100 mi. wide, where the bulk of the slightly more than 200,000 inhabitants live, and a table land, sparsely settled and rich in fine timber and mineral resources. The population (1950 est., 192,000) includes about 85,000 indigenous and mixtures of indigenous and European elements, about 20,000 Afro-Americans, 35,000 Javanese and more than 50,000 who were either born in India or descended from persons born there. Hardly 2,000 of the inhabitants were born in Europe. The capital is Paramaribo (pop., 1946 est., 71,000). No other town has 5,000 in population. The official language is Netherlandish, but other languages and dialects are widely used. Governor during 1950: J. Klaasesz.

**History.**—A new constitution was promulgated on Jan. 20, 1950. The responsibility for governing the colony formally passed from the colonial ministry in The Hague to a cabinet of nine members responsible to the legislature. The Dutch government continued to supervise the foreign relations of the colony, and to assure its defense against aggression.

The cabinet initially selected was, by the end of the year, after some readjustments slowly and carefully making its way toward a program for national development. Julius de Miranda, who served as Surinam's first prime minister, resigned on Dec. 28; his successor had not been chosen when the year closed. Like the legislature, the cabinet reflected the variety of racial origins of the population of Surinam, in somewhat the same way as in Trinidad, whose legislature and cabinet had many of the same Asiatic and African elements.

The exports of bauxite and of rice, the two leading products of Surinam, both showed an increase in 1950. The trade balance was in fair equilibrium. Credit conditions remained firm, despite some uneasiness as to the currency and fiscal policies possibly to be evolved in the process of self-government. Several substantial projects of economic development, involving the investment of foreign capital, were under consideration at the end of the year. (See also NETHERLANDS ANTILLES.) (C. ME.)

**Education.**—On Jan. 1, 1949, Surinam had 129 primary schools with 773 teachers and 31,463 pupils. About 15% of the 1950 budget was earmarked for education.

**Finance.**—The monetary unit is the Surinam guilder, valued at \$0.530264 U.S. currency, official rate, in 1950. The 1950 budget estimated government revenue at 19,845,200 guilders and expenditure at 20,544,793 guilders; the deficit of 1,699,593 guilders was to be covered by loans. Actual revenue in 1949 was 25,541,004 guilders. Notes in circulation on Dec. 31, 1949, totalled 11,796,900 guilders. The Surinam bank, the local bank of issue, had deposits of 8,394,095 guilders on Dec. 31, 1949.

**Trade and Communications.**—Exports in 1949 totalled 34,077,650 guilders; imports were 37,812,004 guilders. The chief exports were bauxite (74%), rice (9%), citrus fruit (3%), timber, gold, balata and coffee. Principal customers were the U.S. (75%) and the Netherlands (23%); the chief suppliers were the U.S. (52%), the Netherlands (26%), Trinidad (6%) and the United Kingdom (4%).

Internal transportation is largely by water. International air service was supplied by five air lines in 1950. In 1948 there were 1,505 telephones, 500 mi. of wire and 1,353 motor vehicles.

**Production.**—The major economic activity is the extraction of bauxite, most of which is exported to the U.S. Production figures in 1949 included bauxite, 2,382,715 short tons; gold, 3,793 troy oz.; balata, 61 short tons; sugar, 4,850 tons; rice, 33,050 tons; and coffee, 385 tons. (J. W. Mw.)

**Swains Island:** see SAMOA, AMERICAN.

**Swaziland:** see BRITISH SOUTH AFRICAN PROTECTORATES.

**Sweden.** A democratic monarchy of northern Europe. Area: 173,390 sq.mi.; pop. (Jan. 1, 1950): 6,986,181. Capital: Stockholm (pop. Dec. 31, 1949) 732,281. Other principal cities (pop. Dec. 31, 1949) were Göteborg 349,323; Malmö 189,391; Norrköping 84,228; Hälsingborg 71,263; Örebro 65,630; Uppsala 61,561. Religion: Lutheran Christian. Rulers in 1950: King Gustav V to Oct. 29; thereafter Gustav VI Adolf. Prime minister: Tage Erlander.

**History.**—The death of 92-year-old Gustav V on Oct. 29, 1950, marked the end of an era. For 43 years he had given continuity and dignity to the Swedish monarchy. He was succeeded by his oldest son, who took the name Gustav VI (g.v.). The new king's grandson, four-year-old Carl Gustav, became crown prince, for the king's son, Prince Gustav Adolf, father of the boy, had been killed in an aeroplane crash in 1947. At the impressive funeral of Gustav V on Nov. 9 a large royal family,

GUSTAV VI comforting his grandson, Crown Prince Carl Gustav, just before ceremonies at Stockholm in which Gustav formally succeeded to the Swedish throne on Oct. 30, 1950. The young prince was apparently bewildered by the attendant excitement





neighbouring rulers and an entire nation were in mourning.

The most important elections of the year were those of September for the choice of municipal and provincial councils, which in turn have the duty of choosing each year about one-eighth of the members of the first chamber of the *riksdag* (parliament). The Social Democrats increased their popular vote from 44.4% in 1946 to 49% in 1950. The Liberal party polled 21.6%, a slight drop from 1948, but an increase from 15.6% in 1946. The Conservatives dropped from 14.9% in 1946 to 11.8%, and the Agrarian Union won 12.4%. The Communists continued a steady decline from 11.2% in 1946 to less than 5%, and lost two-thirds of their representation. In the city of Stockholm results were especially noteworthy, slashing the Communist numbers from 17 to 5 in the city council, and thus removing them from all boards in the administration. The Social Democrats elected 44 of the 100 councilmen, but the Liberals and Conservatives together now achieved a majority.

Government officials condemned the Communists, and the labour unions continued their successful drive to oust Communist officials. The government publicly denounced the use of the name "Stockholm" in the so-called peace appeal started by a Communist conference there in the summer.

Serious controversies arose with the Soviet Union itself. In the spring a number of Swedish fishing vessels in the Baltic were captured or chased by soviet warships. Two of them were, according to Swedish estimates, about 20 mi. from the eastern shore of the Baltic. The Swedish government protested strongly; the U.S.S.R. replied that the boats were 10.5 and 11 mi. respectively from shore, and therefore within the 12-mi. limit of restricted soviet waters. Moscow claimed that it had set its limits at 12 mi. in 1927. When Sweden and Denmark insisted that history and international law prescribed a limit of either 3 or 4 mi., the Russians answered with the claim that a nation could set its own limits, and that its boundaries would be 12 mi. from its coasts in the Baltic. Potentially even more threatening was an article in a Russian legal journal claiming that the sound between Sweden and Denmark really closed off the entire Baltic, and made it an inland sea subject to control only by the states bordering thereon.

These events and claims gave added concern with regard to the legal position and guarantees of the Åland Islands (*see* FINLAND.)

Sweden continued to insist on its neutrality, or rather its "alliance-free policy," but world trends made Sweden's alignment with the west more and more obvious. Isolationism was strongly disclaimed, and Sweden took seriously its United Nations obligations. It sent an equipped field hospital to Korea, and during the year joined U.N.E.S.C.O. (the United Nations Educational, Scientific and Cultural organization). Sweden also definitely proposed a United Nations army and studied means whereby Swedes could join such a force. The government still disavowed any intent to join the North Atlantic treaty, but increased appropriations for Sweden's own defenses.

Economically Sweden continued to prosper. In the period 1945-49 Sweden built 32 housing units per 1,000 inhabitants, compared with 19 per 1,000 in the U.S. and 17 per 1,000 in Great Britain. Swedish shipyards in 1949 turned out 81 ships of 475,000 tons dead weight, and at the end of the year had orders for 1,687,000 tons. Sweden's own merchant fleet had climbed to 2,080,000 tons. Foreign trade achieved an almost even balance of exports and imports, and in December the government announced that Sweden would not participate in the Economic Cooperation administration program in 1951 (Sweden had never received gifts but only loans under the Marshall plan).

On Jan. 30 Sweden signed with Norway, Denmark and Great Britain an agreement which facilitated trade and financial ex-

change among the four countries.

A sweeping educational reform was promulgated in the spring, the full realization of which would take at least ten years. It extended the period of required schooling from eight years to nine, the eighth and ninth years being similar in pattern to the junior high school in the United States. The most significant aspect was the gradual abandonment of the varied types of elementary schools in favour of a uniform system for all children. After the first years of identical schooling pupils would branch into practical technical or classical studies. (F. D. S.)

**Education.**—Schools (1949): elementary 26,045 (1945), pupils 589,775, teachers 28,382; secondary 219, pupils 82,862, teachers 4,818 (1948); technical and teachers' training colleges, pupils 11,912, teachers 1,645 (1948); universities 6 and institutions of higher education 11, students 15,650, professors and lecturers 1,423.

**Finance and Banking.**—Budget: (1949-50 actual) revenue 5,074,000,000 kronor, expenditure 4,652,000,000 kronor; (1950-51 est.) revenue 4,998,000,000 kronor, expenditure 4,839,000,000 kronor. National debt (Jan. 1950): 12,055,000,000 kronor. Currency circulation (Sept. 1950): 3,197,000,000 kronor. Gold reserve (Sept. 1950): 448,000,000 kronor. Savings and bank deposits (Sept. 1950): 18,344,000,000 kronor. Monetary unit: krona (pl. kronor) with an exchange rate (Oct. 1950) of 5.18 kronor to the U.S. dollar.

**Foreign Trade.**—(1949) Imports 4,334,000,000 kronor, exports 4,250,000,000 kronor. In weight imports amounted in 1949 to 13,634,000 metric tons and exports to 17,976,000 metric tons.

**Transport and Communications.**—Roads (1950): 90,409 km. Licensed motor vehicles (Jan. 1950): cars and buses 201,468, trucks 79,503. Railways (1949): 16,657 km.; passenger traffic 6,336,000,000 passenger-km.; freight traffic 7,536,000,000 ton-km. Shipping (Jan. 1950): number of merchant vessels 2,199; total tonnage 2,080,000 gross tons. Air transport (1949): kilometres flown 8,849,000; passengers flown 145,845; cargo carried (metric tons) luggage 3,705, freight 2,725, mail 978. Telephone subscribers (1950): 1,591,473. Radio receiving set licences (1950): 2,095,474.

**Agriculture.**—Main crops (metric tons, 1950): wheat 676,000; barley 210,000; oats 806,000; rye 306,000; potatoes 1,745,000. Livestock (June 1950): cattle 2,655,000; sheep 282,000; pigs 1,265,000; horses 440,000; poultry 12,000,000. Fisheries, total catch (1949): weight 179,000 metric tons; value 103,000,000 kronor.

**Industry.**—Industrial establishments (1948): 17,490; persons employed 806,000. Fuel and power (1949): coal consumption 8,706,000 metric tons; electricity 16,104,000,000 kw.hr. Raw materials (metric tons, 1949): iron ore 13,752,000; pig iron 841,000; steel ingots and castings 1,368,000. Manufactured goods (metric tons, 1949): wood pulp 2,886,000; paper 1,072,000; cement 1,698,000.

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**FILMS OF 1950.**—*Scandinavia* (Encyclopædia Britannica Films Inc.); *Sweden Looks Ahead* (March of Time Forum Films).

**Sweet Potatoes:** *see* POTATOES.

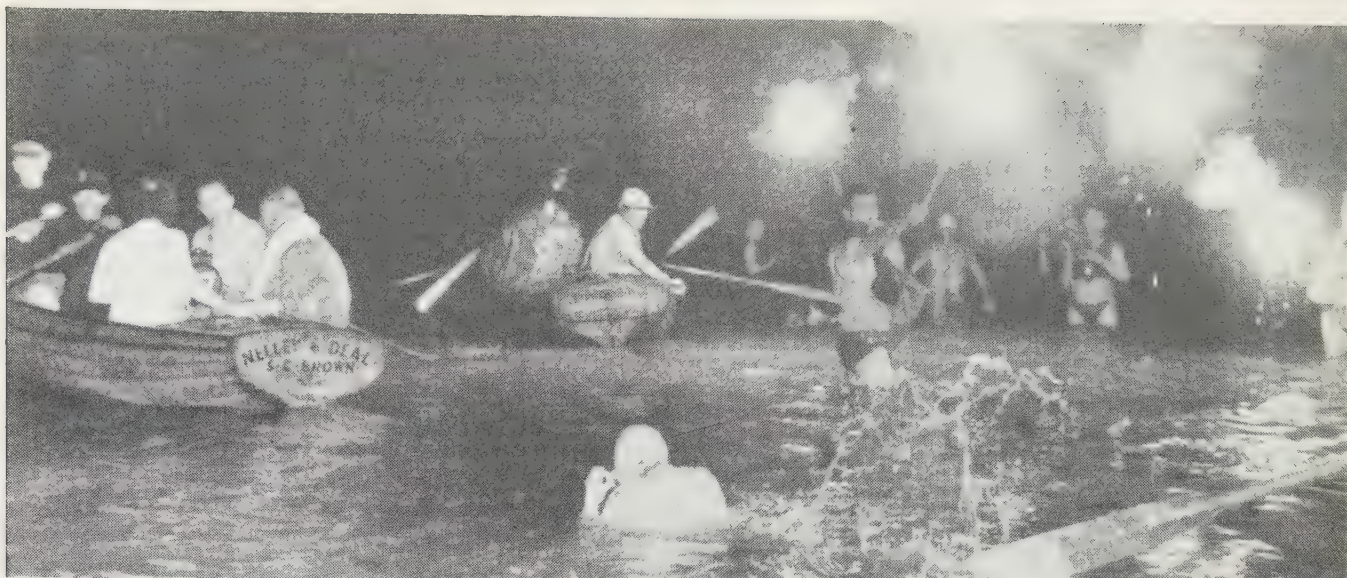
**Swimming.** The upset defeat of Japan by the United States in an intercountry engagement at Tokyo, a bountiful harvest of world records and a history-making race across the English channel headlined swimming in 1950.

In the competition with Japan, United States swimmers won 9 of the 12 events, running up a score of 46 to 17.

Seventeen world standards, 14 by men and 3 by women, were approved and registered. The chief contributor was John B. Marshall, a young Australian, enrolled as a freshman at Yale university. He bettered eight free style marks, dropping the figures for 200 m. to 2 min. 4.6 sec., 220 yd. to 2 min. 5.5 sec., 400 m. to 4 min. 29.5 sec., 440 yd. to 4 min. 31.2 sec., 500 yd. to 5 min. 12 sec., 500 m. to 5 min. 54.3 sec., 880 yd. to 9 min. 37.5 sec. and 1,760 yd. (1 mi.) to 19 min. 49.4 sec. Hironoshin Furuhashi of Japan completed the free style crop by cutting the time for 800 m. to 9 min. 35.5 sec.

In relay swimming a U.S. team made up of W. Farnsworth, L. Munson, J. Blum and R. Reid clipped the record for 800 yd. to 7 min. 48.9 sec. and a Japanese four composed of Furuhashi, Y. Hamaguchi, S. Murayama and S. Hashizume cut that for 800 m. to 8 min. 40.6 sec. At the breast stroke, Leonid Meshkov, of the U.S.S.R., lowered the standard for 100 m. to 1 min. 6.8 sec., while Robert Brawner and Joseph Verdeur, U.S., reduced those for 200 yd. to 2 min. 13.1 sec. and 200 m. to 2 min. 28.3 sec.





BURSTING VERY LIGHTS at Cap Gris Nez, Fr., on Aug. 22, 1950, starting 24 swimming contestants in a race across the English channel. The victor was Hassan Abd-el Rehim of Egypt, who set a record of 10 hr. 53 min.

In the women's field, Gretjen Wielema of the Netherlands shaded the backstroke records for 100 yd. to 1 min. 4.6 sec. and 200 m. to 2 min. 35.3 sec., and Giselle Vallerey of France reduced the record time for 100 m. breast stroke to 1 min. 17.4 sec.

The channel contest was sponsored by a London newspaper and cash prizes were offered. It drew 24 contenders. Favoured by ideal conditions, seven men and two women achieved the gruelling trip from Cap Gris Nez to Dover. Previously, since the course was first covered officially in 1875, only 29 swimmers had made the crossing. Hassan Abd-el Rehim, an Egyptian army officer, was the winner in 10 hr. 53 min., and Roger le Morvan, a French electrician, second in 11 hr. 3 min., both breaking the course record of 11 hr. 5 min. Eileen Fenton of England, sixth, earned the first prize for women in 15 hr. 31 min.

The channel record for women also fell earlier in the summer, Florence Chadwick, U.S., dropping it from 14 hr. 34 min. to 13 hr. 20 min.

FILMS OF 1950.—*Champ or Chump* (Hollywood Film Enterprises). (L. DE B. H.)

**Switzerland.** A republican confederation of 22 cantons in west-central Europe. Switzerland is bounded west by France, north by Germany, east by Austria and Liechtenstein and south by Italy. Area: 15,940 sq.mi. Pop. (1950 census): 4,696,057. Language: German 72.6%; French 20.8%; Italian 5.2%; Romansch 1.1%. Religion: Protestant 57.6%, Roman Catholic 41.1%, Jewish 0.5%. Chief towns (pop., 1946 est.): Berne (cap., 136,700); Zürich (360,500); Basle (170,300); Geneva (137,600); Lausanne (99,300). President of the confederation for 1950: Max Petitpierre; vice-president of the federal council (government): Eduard von Steiger.

**History.**—During 1950 two major preoccupations absorbed the attention of the Swiss, that of regularizing their fiscal system on the one hand and that of building up their military strength to an unprecedented level on the other.

On Dec. 21, 1949, a provisional financial program based upon direct federal taxation had been voted to tide things over for another two years. Early in 1950, however, it was agreed to drop this plan after only one year. In the place of the direct federal taxes which, although introduced as emergency measures, had now been levied for years, it was proposed that 70,000,000 Fr. a year should in future be provided by the cantons to the *Bund* or confederation and that direct taxes should be levied by the confederation only upon corporations. On

March 21, 1950, the two houses of the legislature accepted the government motion in favour of putting this proposal to the people to be voted upon in a referendum on June 4.

During April and May the Social Democratic party, the trade unions and co-operatives and also Gottlieb Duttweiler's independent party (Landesring) campaigned against the cantonal quota plan. In the referendum 486,506 persons and 16 cantons voted against and 267,540 persons and 6 cantons in favour.

In July, therefore, the government proposed a return to the provisional program of Dec. 21, 1949, with certain modifications, to which the chambers added during their autumn sessions. Virtually all foods were to be freed of the sales tax and more low incomes were to escape the so-called *Wehrsteuer*, which was in fact a form of income tax; further, 400,000,000 Fr. were to be put aside for social relief in emergencies. The last point ensured Social Democratic support, and it was decided that this revised plan, to function to the end of 1954, should be offered for popular approval in a referendum on Dec. 3. In view of the increasingly serious international situation the government urged acceptance with unusual emphasis and 516,757 people voted in favour and 227,329 against.

Until the beginning of 1950 the Swiss high command had by no means applied the lessons of World War II to the organization of the Swiss armed forces; during the year, however, it succeeded in convincing the government and the public that it was time that this should be done. The much more specialized training of fewer recruits was decided upon, together with rearmament at a steep rate involving complete motorization and an unprecedented extension of the air force. In October 1,400,000,000 Fr. over five years was voted for these purposes.

Rearmament at home and abroad shaped Switzerland's economic history during the year. In the spring, in view of the ever more strained international situation, the government appealed to the public to lay in domestic supplies. At first the response was relatively slight as prices were still felt to be excessively high, but after the outbreak of war in Korea buying increased and prices rose further. The rise in prices became part of a fresh Swiss boom created by the rearmament of the whole western world. The first signs of unemployment which had appeared in 1949 were obliterated and foreign labour was recalled.

A striking increase in foreign trade was noticeable by August and continued in September and October; while the United States remained Switzerland's most important trade partner, there was a sharp increase of trade with western Germany.

The boom in the second half of 1950 thus had conflicting con-



sequences. On the one hand the increase in foreign trade increased the revenue from customs and thereby eased the federal budget situation. On the other for many people the cost of living became more oppressively high. Prices of milk, sugar and coffee immediately rose.

In foreign policy the Swiss government tried to insist upon the principle of neutrality as severely as ever, but was nevertheless drawn into solidarity with the west. In August it recognized western Germany. On Sept. 19, in Paris, Switzerland adhered to the European Payments union and this was ratified at an extraordinary session of the national assembly (the two chambers combined) on Oct. 26.

On Sept. 14 Joseph Escher, former president of the Catholic Conservative party, was elected unanimously to succeed Enrico Celio (who had resigned in order to become Swiss minister to Rome) as the seventh federal councillor or minister. This meant that the Italian-Swiss were not represented in the federal council for the first time since 1912, the council consisting of five German-speaking and two French-speaking members. On Dec. 14 Eduard von Steiger was elected president of the confederation for 1951 and Karl Kobelt vice-president of the federal council. (E. Wl.)

**Education.**—Schools (1947-48): elementary, pupils 430,720, teachers 13,932; secondary, pupils 75,510, teachers 3,131; universities (1948-49) 7, students 13,195, professors and lecturers 1,360; institutions of higher education 2, students 4,371, teachers 442.

**Finance and Banking.**—Budget: (1949) revenue 1,423,000,000 Fr., expenditure 1,424,000,000 Fr.; (1950 est.) revenue 1,622,000,000 Fr., expenditure 1,466,000,000 Fr. National debt (Dec. 1949 est.): 11,000,000,000 francs. Main sources of imports (1949): U.S. 20%; France 10%; and foreign exchange (Sept. 1950): U.S. \$1,619,000,000. Bank deposits (June 1950): 7,238,000,000 Fr. Monetary unit: franc with an exchange rate of 4.36 Fr. to the U.S. dollar.

**Foreign Trade.**—(1949) Imports 3,792,000,000 francs; exports 3,456,000,000 francs. Main sources of imports (1949): U.S. 20%; France 10%; Germany 9%. Main destinations of exports: U.S. 12%; Belgium-Luxembourg 9%; Germany 9%. Main imports: wheat 5.2%; machines 5.2%; coal 5.1%; fruit and vegetables 5.0%; edible animal products 4.9%. Main exports: machines 22.3%; watches 20.3%; textiles 12.3%; implements and apparatus 6.5%; chemical dyes 6.1%.

**Transport and Communications.**—Roads (1949): 10,250 mi. Licensed motor vehicles (Dec. 1949): cars 123,009; commercial 38,512. Railways (1949): 3,345 mi.; passenger-miles 3,475,000,000; freight net ton-miles 1,066,000,000; freight carried 15,732,000 tons. Shipping (1948): number of merchant vessels 12; total gross tonnage 40,818. Swissair traffic (1949): miles flown 5,350,928; passengers flown 153,812; freight carried 1,733.4 metric tons; air mail carried 603.4 metric tons. Telephones (1949): subscribers 537,614. Radio receiving sets (1949): 986,679.

**Agriculture.**—Main crops (metric tons, 1949): wheat 254,000; barley 65,000; oats 88,000; rye 30,000; sugar, raw value, 27,000; potatoes 793,000; tobacco (1948) 1,700. Livestock (April 1949): cattle 1,478,000; pigs 887,000; sheep 183,000; horses 138,000; goats (April 1948) 187,000; chickens 6,100,000. Meat production (metric tons, 1949): total 164,000, of which beef and veal were 82,000; pork 80,000. Dairy produce (metric tons, 1949): butter 14,500; cheese 49,400; milk 2,409,000.

**Industry.**—Industrial establishments (1949): 11,566; persons employed 496,573. Electricity (1949): 7,764,000,000 kw.hr. Index of industrial activity (1949; 1938=100): building 115; cotton 94; silk 121; embroidery 105; metals 142; watchmaking 131; chemicals 166; foodstuffs 128. Index of manufacturing employment (1949; 1937=100): 127.

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**FILMS OF 1950.**—*Lausanne, Rendezvous of the World* (Films of the Nations, Inc.).

**Symington, William Stuart** (1901— ), U.S. mobilization co-ordinator, was born on June 26 at Amherst, Mass. He studied at Baltimore (Md.) City college, and after serving as a lieutenant in World War I attended Yale university at New Haven, Conn., until 1923. In 1935 he was made president of the Rustless Iron and Steel Co. of Baltimore, and in 1938 he became president of the Emerson Electric Manufacturing Co. in St. Louis, Mo., which during World War II was one of the nation's largest manufacturers of aeroplane armaments.

In 1945 Pres. Harry S. Truman appointed him chairman of the Surplus Property board. When this was later replaced by the Surplus Property administration, Symington was made the administrator. On Jan. 18, 1946, he was named assistant secretary

of war for air, and on Sept. 18, 1947, secretary of the air force. In April 1950 he resigned as air force secretary to become chairman of the National Security Resources board (NSRB), an agency set up under the military unification act of 1947 to co-ordinate military, industrial and civilian mobilization. In September President Truman designated Symington, in his capacity as chairman of the NSRB, to act as co-ordinator of economic mobilization, administering the control powers given the president by the Defense Production act of 1950. Symington repeatedly made public warnings concerning the gravity of international affairs; on Oct. 4, for example, he stated that the nation had "a good chance of losing" a future war unless it built up adequate civilian defense.

**Symphony Orchestras:** see MUSIC.

**Synthetic Products:** see PLASTICS INDUSTRY; RAYON AND OTHER SYNTHETIC FIBRES; RUBBER; STANDARDS, NATIONAL BUREAU OF.

**Syphilis:** see VENEREAL DISEASES.

**Syria.** An independent Arab republic, formerly under French mandate, Syria is bounded by the eastern Mediterranean, Turkey, Iraq, Jordan, Israel and Lebanon. Area: 72,560 sq.mi. Pop.: (1938 census) 2,930,107, including the inhabitants of Hatay, ceded to Turkey in 1939; (1949 est.) 3,407,000. Language: Arabic is the mother tongue of about 86% of the population, but Kurdish, Armenian, Turkish and Circassian are also spoken. Religion (1943 est.): Moslem 85%; Christian 14%; other 1% (Jewish, Yezidi, etc.). Chief towns (pop., 1948 est.): Damascus (cap., 342,000); Aleppo (369,000); Homs (111,000); Hama (82,000); Latakia (42,000). President: Hashem el Atassi; prime ministers in 1950; Khalid el Azam and (from June 4) Nazim el Kodsí.

**History.**—In Jan. 1950 Egypt and Saudi Arabia offered support to the Khalid el Azam cabinet, provided that a republican regime in Syria would be maintained. On June 4 a new cabinet under Nazim el Kodsí took office and on Sept. 6 the constituent assembly published the new constitution to replace that first promulgated by the French mandatory, which had been swept away by the Husni ez-Zaim coup d'état in 1949. The new constitution strengthened the legislature by providing that the president must sign legislation within three days or refer it to a state council constitutionally established. Other provisions were that the president must be a Moslem, that Moslem law was the basis of legislation and that there would be freedom of worship for "all revealed religions." The new chamber of deputies approved the constitution by 105 votes to 6 and Hashem el Atassi Pasha, up till then temporary chief of the state, became president and Nazim el Kodsí reformed his cabinet.

Economically Syria suffered severely during 1950 from the rupture in March of the Lebanese-Syrian customs union; and to relieve the position created by the closing of the Lebanese frontier to Syrian exports, the government published plans for the improvement of port and road facilities at Latakia, as an alternative to the ports of Beirut and Tripoli, the cost to be met from a \$6,000,000 loan from Saudi Arabia. (See also LEBANON.)

In February the government rejected sponsorship by the U.N. Conciliation Commission for Palestine of two "pilot projects" for the drainage of the Ghab marshes and the harnessing of the Orontes river. Instead they announced a comprehensive plan of their own which included, as purely Syrian undertakings, the two "pilot projects" and also schemes for the supply of water for Aleppo from the Euphrates; a Damascus electric supply from the Yarmuk; and a Latakia electric supply from the Sind river. Later in the year a budget of L.S. 43,000,000 was published providing for all five works.



During the year the construction of the Syrian section of the Arabian American Oil company's pipe line from the Persian gulf to Sidon in Lebanon was completed. Agreement for this construction had been reached with the Zaim government; in April the new government accepted an advance payment of \$1,500,000 toward expenses. After the promulgation of the new constitution, however, it was announced that the Zaim concession would have to be ratified by the new chamber of deputies.

Syria was prominent in the deliberations of the Arab league and associated itself with the resolution qualifying Jordan's annexation of Arab Palestine and signed the Arab States Collective Security pact. In August a treaty of friendship with Pakistan was signed in Karachi. In July there was friction with Israel over a clash near the Sea of Galilee between the frontier troops on both sides. (O. M. T.)

**Education.**—(1949) Primary schools 977 (including 373 private schools); secondary schools 35 (including 13 private schools); foreign schools 41; universities 1: institutes of higher education 3.

**Finance and Banking.**—Budget estimates: (1949) balanced at L.S. 130,700,000; (1950 est.) balanced at L.S. 142,800,000. Currency circulation (Aug. 1950) L.S. 233,000,000. Monetary unit: Syrian pound with an exchange rate of L.S. 2.21 to the U.S. dollar.

**Foreign Trade.**—(Syro-Lebanese customs union, 1949): Imports L.S. 516,200,000; exports L.S. 111,100,000.

**Transport and Communications.**—Roads (1946) 3,966 mi. Licensed motor vehicles (Dec. 1949): cars 4,647; trucks 5,521. Railways (1949) 539 mi. Telephones (1948) 6,200. Radio receiving sets (1949) 30,000.

**Agriculture.**—Main crops (metric tons, 1948): wheat 540,000; barley 260,000; maize 30,000; oats 5,000; potatoes 15,000; rice 22,000; broad beans 28,000; hemp fibre 2,200; tobacco (including Lebanon) 5,300. Fruit production (metric tons, 1949): grapes 150,000; olive oil 18,000; oranges and tangerines 3,000; lemons 300. Livestock (Dec. 1947): sheep 3,176,000; goats 1,185,000; cattle 354,000; horses 141,000; donkeys 230,000; mules 47,000; chickens 937,000; turkeys 76,000. Wool production, on greasy basis, (including Lebanon, 1949): 6,000 metric tons.

**Industry.**—Production (1947): cotton yarn 1,500 metric tons; natural and artificial silk textiles 4,800,000 m.; box calf and kidskin leather 29,000 sq.m.; salt 18,800 metric tons; cement 41,400 metric tons; asphalt 14,500 metric tons.

**Syrup, Sorgo and Cane:** see SUGAR.

**Table Tennis.** The 1950 world championships were played at Budapest, Hungary, Jan. 29 to Feb. 6. The Swaythling cup for men's teams was won by Czechoslovakia (Bohumil Vana, Ivan Andreadis and V. Tereba). The Corbillion cup for women's teams was won by Rumania (Angelica Roseanu, S. (Koloszvary) Szasz and S. Slavescu). Other winners: men's singles, Richard Bergmann (England); women's singles, Angelica Roseanu (Rumania); men's doubles, Ferenc Sido, Ferenc Soos (Hungary); women's doubles, Dora Beregi (England), Helen Elliot (Scotland); mixed doubles, Ferenc Sido, Gizi Farkas (Hungary). The U.S. teams were unable to gain permission from their own country to enter Hungary. The 20th U.S. open championship, played at St. Louis, Mo., March 31–April 2, 1950, produced the following winners: men's singles, John Leach (England); women's singles, Reba K. Monness (New York city); men's doubles, John Leach and Jack Carrington (England); women's doubles, Magda Rurac and Mildred Shahian; mixed doubles, Sally G. Prouty (U.S.) and John Leach (England); junior singles, James Tancill (St. Louis); boys' singles, Alphonse Holtman (St. Louis); junior miss singles, Joane Gardner (Columbus, O.); senior singles, Tibor Hazi (Washington, D.C.); senior doubles, Jack Carrington (England) and Bernard Hock (U.S.). (P. W. R.)

**Taft, Robert Alphonso** (1889– ), U.S. senator, was born on Sept. 8 in Cincinnati, O., the son of William Howard Taft, 27th president of the U.S. He graduated from Yale university, New Haven, Conn., in 1910 and Harvard law school, Cambridge, Mass., in 1913. During World War I he served as assistant counsel of the U.S. Food administration and after that war helped organize relief services to

Europe. He served in the Ohio house of representatives (1921–26) and the Ohio senate (1931–32). He was elected to the U.S. senate in 1938 and re-elected in 1944 and 1950. He was a strong contender for the Republican nomination for the presidency in 1940, 1944 and 1948, and his re-election to the senate in 1950, by an overwhelming plurality, again made him a leading contender for the Republican nomination at the 1952 convention.

Taft in 1950 gained the nickname of "Mr. Republican" for his consistent sponsorship of policies opposed to Pres. Harry S. Truman's "Fair Deal" administration. Among Taft's policies were his labour stand, exemplified by the Taft-Hartley labour act; his insistence on caution in international military commitments; his opposition to the administration's compulsory health program; and his advocacy of a reduction in overseas relief and recovery funds. In winning re-election to the U.S. senate, Taft defeated the combined efforts of virtually all major labour organizations and after the election labour spokesmen frankly conceded that they had suffered a major setback, so much had they regarded the contest against him as a test of labour strength nationally.

**Taft-Hartley Act:** see NATIONAL LABOR RELATIONS BOARD; UNITED STATES.

**Tahiti:** see FRENCH UNION.

**Tanganyika:** see BRITISH EAST AFRICA; TRUST TERRITORIES.

**Tangerines:** see FRUIT.

**Tangier.** Tangier has been, since 1912, an international and demilitarized zone of Morocco on the southern shore of the Straits of Gibraltar. Area: 232 sq.mi. Pop.: (1940 Spanish census) 102,306 including 16,500 Europeans, 36,500 native Moslems and 7,000 native Jews; (mid-1949 est.) 150,000 including 30,000 Europeans. Languages: Arabic, French and Spanish. Religion: mainly Moslem. When the one-sided incorporation of Tangier into the Spanish zone of Morocco (Nov. 3, 1940) had been terminated on Oct. 11, 1945, international administration was re-established with a committee of control composed of the resident consuls general of France, Great Britain, the United States, the U.S.S.R., Belgium, the Netherlands, Portugal and Spain. The soviet representative refused to take his seat on the committee as long as Franco Spain was represented. Italy was readmitted to the committee on March 8, 1948. The committee of control appointed a legislative assembly of 26 members (4 French, 4 Spanish, 3 British, 3 U.S., 1 Belgian, 1 Dutch, 1 Portuguese, 3 Jewish and 6 Moslem). Tangier remained under the nominal sovereignty of the sultan of Morocco and his representative (the *mendoub* was Hadj Mohammed el Tazi. Administrator (from Aug. 1948), Jonkheer H. L. F. C. van Vredenburg).

**History.**—The steady expansion of Tangier since 1945, both as a place of political refuge and as a resort for capital, continued during 1950, and there were signs of a land boom. United States preponderance in trade and finance was marked. It was estimated that approximately £30,000,000 in gold was banked in Tangier, and there was much activity in the conversion of sterling accounts into dollars in London and elsewhere in the sterling area. Seventy-three gold ingots, landed surreptitiously from an aircraft near Périgueux, Fr., in October, and believed to be contraband, bore seals marked "Tangier." A trade deficit of £7,000,000 a year compelled renewed attention to the prevalence of smuggling, and in April new measures were announced by the committee of control to prevent abuse of the free port facilities. Ships carrying cargo were warned that all papers must be in order. The step was regarded as the first breach in the policy of *laissez-faire*. (W. C. AN.)

**Tanks:** see MUNITIONS OF WAR.



**Tariffs.** The program initiated by the General Agreement on Tariffs and Trade (G.A.T.T.) and the continuing efforts to broaden its scope and increase its effectiveness supplied during 1950, as it had in each of the three preceding years, the major events of importance in world tariff history.

As a result of the negotiations at Geneva (1947) and at Annecy (1949), 33 countries had become signatories to the general agreement. The agreement had become provisionally effective on the following dates for each of the 23 original contracting parties which negotiated at Geneva:

Australia . . . . .	Jan. 1, 1948
Belgium, the Netherlands and Luxembourg . . . . .	Jan. 1, 1948
Brazil . . . . .	July 31, 1948
Burma . . . . .	July 30, 1948
Canada . . . . .	Jan. 1, 1948
Ceylon . . . . .	July 30, 1948
Chile . . . . .	March 16, 1949
China . . . . .	May 22, 1948
Cuba . . . . .	Jan. 1, 1948
Czechoslovakia . . . . .	April 21, 1948
France . . . . .	Jan. 1, 1948
India . . . . .	July 9, 1948
Lebanon . . . . .	July 30, 1948
New Zealand . . . . .	July 31, 1948
Norway . . . . .	July 11, 1948
Pakistan . . . . .	July 31, 1948
South Africa . . . . .	June 14, 1948
Southern Rhodesia . . . . .	July 12, 1948
Syria . . . . .	July 31, 1948
United Kingdom . . . . .	Jan. 1, 1948
United States . . . . .	Jan. 1, 1948

The Annecy protocol became provisionally effective on the following dates for each of the ten acceding countries which negotiated at Annecy:

Denmark . . . . .	May 28, 1950
Dominican Republic . . . . .	May 19, 1950
Finland . . . . .	May 25, 1950
Greece . . . . .	March 9, 1950
Haiti . . . . .	Jan. 1, 1950
Italy . . . . .	May 30, 1950
Liberia . . . . .	May 20, 1950
Nicaragua . . . . .	May 28, 1950
Sweden . . . . .	April 30, 1950
Uruguay . . . . .	Not yet effective Jan. 1, 1951

Communist control of China ultimately changed that country's relationship to G.A.T.T. Early in 1950 the Communist government signified its intention of reinstating the tariff revisions of 1948, thereby indicating its intention not to observe the Geneva agreement. Shortly thereafter, the Chinese nationalist government clarified the obligations of the contracting parties by notifying them that it would withdraw from the general agreement, effective May 6, 1950. Consequently, in August the United States announced that (after consultation, when requested, with contracting parties claiming an economic interest therein) it would withdraw a substantial number of the tariff concessions initially negotiated with China at Geneva. By the close of the year, however, most of the other contracting parties had failed to take definite action concerning the extent to which they would withdraw concessions originally negotiated with China.

At Annecy the contracting parties had initiated measures looking toward a third set of tariff negotiations, to begin in the fall of 1950. In Feb. 1950, therefore, a fourth session of the contracting parties was held at Geneva to prepare for these negotiations. Torquay, Eng., was selected as the site of the general agreement's third set of tariff negotiations. The conference, which officially opened on Sept. 28, 1950, was attended by the contracting parties and seven countries desiring to accede to the general agreement: Austria, the Federal Republic of Germany, Guatemala, Korea, Peru, the Republic of the Philippines and Turkey. In effect, three types of negotiations were undertaken at Torquay: (1) Those between contracting parties and newly-acceding countries; (2) those between individual pairs of acceding countries; and (3) those between individual pairs of contracting parties. The latter type of negotiation, designed to broaden the scope of agreements previously reached, was, no doubt, the most significant, particularly in view of the fact that it involved a greater number of major trading nations.

As at Geneva and Annecy, simultaneous with a session of the contracting parties (the fifth) at which the Torquay tariff negotiations were conducted, the contracting parties engaged in various discussions relating to the provisions of the general agreement and other issues which had arisen after their last session.

**Revisions by Individual Nations.**—Although no clear line of demarcation exists between the adoption by a country of a new tariff and the comprehensive modification of a schedule already in existence, it is sometimes convenient to make such a distinction. During the year Argentina, China, Colombia, Germany, Italy, Japan, Korea, Iran, Peru and Portugal were reported to have adopted, or to have been in the process of adopting, "new" tariffs. Generally, however, the changes instituted did not involve the complete revision of existing nomenclatures and rate schedules.

*Argentina.*—Near the end of the year Argentina placed in effect a rather comprehensive revision of its customs tariff. Its earlier announced intention of adopting the nomenclature devised by the League of Nations apparently was not carried out. The most important change provided for in the new tariff was a transition to a system of true ad valorem duties to replace the former ostensible ad valorem duties.

*China.*—As stated previously, the Chinese Communist government indicated that it would not be bound by tariff commitments made by the Chinese nationalist government.

*Colombia.*—In July 1950 Colombia announced the results of a revision of its tariff originally undertaken in 1945. It had long been known that Colombia intended to adopt the League of Nations nomenclature as a basis for its tariff classification. When the new tariff was published, spokesmen for the government described it as "courageously protectionist." Compound rates of duty (*i.e.*, simultaneous use of both specific and ad valorem rates) were applied to most commodities.

*Germany.*—During the year the Federal Republic of Germany completed most of the technical work required for its projected new tariff. The proposed revision involved not only the adoption of a completely new nomenclature but also a new schedule of duties. With this revision, western Germany was added to the growing list of countries which had adopted, or contemplated adopting, the League of Nations nomenclature; in this instance Germany employed the Brussels revision of the League classification, as developed by the European customs union study group. The new schedule consisted primarily of ad valorem rates of duty, whereas those in the former German tariff had been predominantly of the specific type. Apparently, the level of the new duties was somewhat lower than that of duties currently imposed by most western European countries; the highest rate was reported to be 35% ad valorem. The projected tariff was submitted to the allied high commission, and later to the Bonn parliament, for review and approval.

*Italy.*—A new Italian tariff became effective in July. The nomenclature employed was that of the League of Nations as revised at Brussels. Rates of duty in the new tariff were predominantly of the ad valorem type. The effective burden of the new schedule of duties became much heavier than that of duties imposed by Italy during most of the years following World War II.

*Japan.*—As was the case with some other countries which adopted new tariff systems, tariff revision in Japan was still in the "projected" state at the close of 1950. For many months a technical committee had been at work preparing a new tariff for review by the legislative and administrative authorities. Early in the year a proposed schedule of duties was published. The nomenclature employed followed closely that of the old tariff. The new schedule, however, made almost exclusive use



of ad valorem rates of duty, whereas the old tariff consisted largely of specific duties.

**Korea.**—The new tariff of Korea, instituted at about the beginning of the year, consisted principally of a revised schedule of duties. Previously, virtually all imports had been subject to a flat rate of 10% ad valorem. The new rates, imposed largely for revenue, ranged from duty-free treatment for many essential raw materials to duties as high as 100% ad valorem for certain luxuries.

**Iran.**—Near the close of the year Iran initiated a revision of its tariff, which, it was expected, would be completed by the middle of 1951. Meanwhile, the government was authorized to make alterations in the tariff schedule for an experimental period of six months.

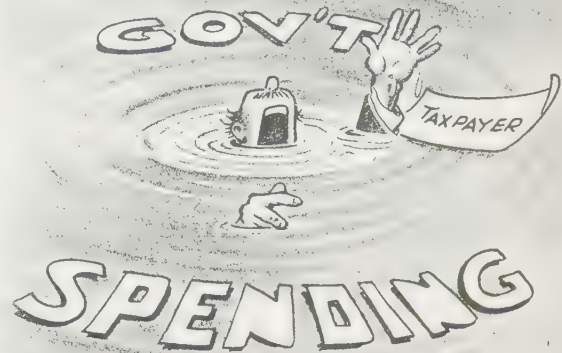
**Portugal.**—In September Portugal instituted the first general revision of its tariff made since 1929. Although numerous refinements in commodity classifications were adopted, the nomenclature employed followed, in general, that of the previous tariff. The new tariff also continued in effect the double-column tariff of the previous schedule of duties, the rates in the minimum column being applied to imports from countries extending to the products of Portugal the most favourable treatment in their own tariffs.

**Minor Changes.**—During the year there were fewer changes of minor, or piecemeal, character in the tariff schedules of individual countries than had occurred in any peacetime year for considerably more than a decade. This might be attributed, in part, to the element of stability provided by the tariff commitments exchanged under G.A.T.T. and, in part, to the fact that revisions of a more general character were somewhat more numerous in 1950 than in most previous years. The minor changes consisted chiefly of two types: (1) revisions of duties involving a more or less comprehensive list of import items, and (2) piecemeal changes either raising or lowering duties on one or a few individual items.

In Latin America both Chile and Ecuador, in effect, increased customs charges more or less commensurate with the depreciated foreign exchange value of their respective currencies. Similarly, in Europe, Austria adjusted its duties to compensate for currency depreciation. Early in the year all duties in Spain were increased some 20% above their previous level. In September Portugal increased its import duties substantially on a wide variety of manufactured goods. In Iraq duties were increased on an extensive list of commodities. (See also EUROPEAN RECOVERY PROGRAM; INTERNATIONAL TRADE.) (D. L.H.)

**Taxation.** With the outbreak of the Korean war on June 25, 1950, shortly after the passage by the U.S. house of representatives of a bill reducing excise taxes and increasing the rate of tax on corporate incomes, the entire fiscal picture took on an entirely new aspect. On July 13, the senate finance committee discontinued hearings on the bill at the request of the treasury. On July 25 Pres. Harry S. Truman recommended elimination of the excise tax reductions contained in the house bill, an increase of the rate of corporation income tax to 45% and increases in individual income tax rates. On Aug. 22 a bill incorporating in substance the president's recommendations was reported out by the senate finance committee and was passed by the senate with minor modifications on Sept. 1. The substantial variations between the senate and house drafts of the bill were ironed out by the conference committee on Sept. 21 and the new law became effective on Sept. 23, 1950.

The 1950 fiscal year of the U.S. government closed on June 30 with a budgetary deficit of \$3,122,000,000. The budget for the 1951 fiscal year, as proposed, anticipated a deficit of \$5,-



"WHIRLPOOL," a 1950 cartoon by Summers of the Buffalo Evening News

133,000,000. After taking into account the prospective increased revenue and the decrease of some forms of expenditures, the secretary of the treasury indicated in December a prospective budgetary deficit of about \$2,000,000,000, but a substantial cash surplus.

It was estimated by the senate finance committee that the increase in revenues from the Revenue act of 1950 during the fiscal year ending June 30, 1951, would be nearly \$3,000,000,000, and for the succeeding year, the first full year of the new law's operations, about \$4,500,000,000.

**U.S. Revenue Act of 1950.**—From a fiscal point of view the most significant features of this legislation were the increases in income tax rates applicable to corporations and individuals, estimated to increase tax receipts by \$1,500,000,000 and \$2,700,000,000, respectively, for a full year's operation.

For the calendar year 1950, corporations were required to pay, under the new law, a normal tax of 23% on all income and a surtax of 19% on income over \$25,000. For the calendar year 1951 and for fiscal years beginning on or after July 1, 1950 these rates were set at 25% for the normal tax and 20% for the surtax. Provision was made for prorating the increased rates in the case of fiscal years beginning before July 1, 1950 and ending after June 30, 1950. Aside from periods when excess profits taxes had been in force, these rates represented all-time highs, comparing with an aggregate rate of 40% for the period 1942-45, 19% for 1939, 11% for 1929 and 1% when the corporation income tax was first instituted in 1913. For the purpose of putting corporations more nearly on a pay-as-you-go basis, the new law increased the proportion of the total tax payment to be made in the first two quarters. Instead of paying the tax on the preceding year's income in four equal instalments on the 15th of March, June, September and December, the new law called for payments of 25% in each of the first two quarters of 1951. In each succeeding year the new law called for a five percentage point increase in the March and



June payments until the fifth year at which time each of these payments would represent 50% of the tax due.

For individuals the increase took a more complicated form. For the year 1949, the basic tax rates followed a schedule enacted in the Revenue act of 1945, but were subject to certain percentage reductions. The 1950 bill eliminated one-quarter of such reductions for the calendar year 1950 and all of such reductions for the calendar year 1951. The new law did not revoke the increased personal exemptions and dependency credits granted in 1948 nor did it eliminate the privilege then accorded to married couples to divide their joint income equally between them on the community property principle. With these exceptions, the Revenue act of 1950 returned personal income tax rates to their all-time peaks reached during World War II.

Tapping a new vein, the 1950 law included in the tax base the income of charitable and other previously exempt organizations from any business regularly carried on by them which was unrelated to the main charitable or other purpose forming their basis for exemption. A substantial segment of the congress took the position that co-operatives, building and loan associations and various so-called mutual organizations, fully as much as charities, were using their exemption to compete unfairly with fully taxable business. Although no legislation on this point was incorporated in the Revenue act of 1950, the chairman of the senate finance committee stated that steps would be taken in the next tax bill to tax these organizations.

**U.S. Excess Profits Tax Act of 1950.**—This legislation, finally passed by congress Jan. 1, 1951, imposed both an excess profits tax and increased the rate of the corporation surtax. For taxable years beginning after June 30, 1950, the rate of surtax was increased from 20%, established by the Revenue act of 1950, to 22%. No change was made in the 25% rate of normal tax established by that act.

The excess profits tax followed in general the pattern of the tax in force during World War II. Before determining the amount of income subject to excess profits tax the taxpayer was permitted to reduce his income by a credit, such credit being, at the taxpayer's election, 85% of the average of the highest three out of four years in the 1946-49 period, or a percentage of invested capital, 12% where invested capital was not more than \$5,000,000, 10% where invested capital was from \$5,000,000 to \$10,000,000, and 8% where invested capital exceeded \$10,000,000. A flat \$25,000 credit was granted where the credit as otherwise computed would have been below that sum. Relief provisions were included in the case of abnormalities during the 1946-49 base period, new and growing corporations and corporations which effected a substantial increase in their capacity for production or operation during the base period. Certain minimum credits, not allowed under the World War II excess profits tax, were allowed railroads, telephone and telegraph services, airlines and public utilities, on the theory that such concerns were subject to governmental rate regulation and hence should be accorded more lenient excess profits tax treatment than nonregulated businesses.

The effective date of the excess profits tax under the act was June 30, 1950, and the basic rate was set at 30%, effective for taxable years beginning on or after July 1, 1950. For the calendar year 1950, the rate was 15% since only half of the year was subject to the tax. Provision was made for proration of the tax in the case of fiscal years beginning before July 1, 1950, and ending after June 30, 1950.

The aggregate normal tax, surtax and excess profits tax was limited by the new law to 62% of income.

**U.S. Social Security Taxes.**—The Social Security act amendments of 1950 represented the first thorough revision of this legislation since its original enactment in 1937. The rate of

old age benefit tax which, except for the new act, would have advanced to 2% on Jan. 1, 1951, was fixed at 1½% each on the employer and the employee for the years 1951 through 1953. Beginning with 1951, the tax was to be figured on the first \$3,600 of wages rather than on the first \$3,000 prior to the amendment. For the first time regularly employed domestic servants and agricultural labourers were covered by the law. Employees of charities were given the option of electing coverage and state governments were permitted to secure coverage for their employees. Self-employed persons, subject to certain exceptions such as members of the professions, were made subject to tax at the rate of 2½% on their self-employment income. The new amendments also provided for substantial additional employee benefits. It was estimated that 10,000,000 additional workers would be covered by the new act and that the average benefit payments would be increased about 77½%.

**U.S. Tax Treaties.**—Activity in the field of international tax treaties continued in 1950. At the beginning of the year income tax conventions with Denmark, France, the Netherlands and Sweden and income and estate tax treaties with Canada, France and the United Kingdom were in effect. At the same time, signed income tax conventions with Belgium, New Zealand, Norway and the Union of South Africa and signed estate tax conventions with Norway and the Union of South Africa awaited ratification. Additional income and estate tax conventions with Ireland and Greece were signed and submitted for ratification but no additional conventions were ratified with the exception of a supplementary convention with Canada.

**U.S. State and Local Taxation.**—The trend of U.S. state tax collections, which had been steadily upward since 1933, was continued through the fiscal year 1950 with total collections for the year reaching a record high of \$9,000,000,000. The 7.4% increase over the prior year's collections resulted primarily from increased rates on existing taxes rather than the imposition of new levies. The largest amounts of increase were provided by sales taxes on motor vehicle fuel and by motor vehicle and operators' licence taxes. The tax burden per capita also rose, along with the increased collections, the state average being \$60.72 compared with \$57.43 for the prior year and \$30.75 for 1937.

General sales and gross receipts taxes continued as the largest source of state tax revenue, producing \$1,679,000,000 or 18.7% of total state tax collections in 1950, despite the fact that such taxes were in effect in only 28 states. This category was up \$70,000,000, or 4.3% in 1950 from the 1949 level. General sales taxes were the largest source of revenue in almost half the states and were the leading source of revenue in all except four of the states in which they were levied. The reason for this popularity, as pointed out in the 1949 report of the Connecticut state tax survey committee, was the practical difficulty of reaching the lowest income groups through an income tax and the need for stability of revenue in the case of state and local governments which, unlike the federal government, could not engage in prolonged deficit financing. The granting of authority to cities, hitherto hard pressed to meet their budgetary requirements from other sources, to levy such taxes was a feature of the 1950 scene; New York, Louisiana and Mississippi liberalized their enabling acts in this particular.

The next ranking source was the sales tax on motor vehicle fuels, which provided \$1,548,000,000. These taxes were levied in all states but were the leading producer of funds in only 16.

Taken together, the general and selective sales and gross receipts taxes yielded \$4,687,000,000, more than one-half (52.3%) of the total collected from all tax sources. The third major tax group was net income tax on individuals and corporations,



which produced \$1,321,000,000. This tax was the leading source of revenue in only six states.

**Canada.**—The minister of finance presented certain budget resolutions dealing with the Income Tax act to the Canadian parliament on March 28, 1950. No changes were proposed in personal income tax rates or exemptions. The minister took occasion to assure parliament that it was not the policy of the government to tax capital gains. While expressing his wish that greater certainty could be introduced in the determination of just what constituted capital gains, he stated that he did not believe that this could be done by legislation.

Legislation implementing these resolutions received royal assent on June 30, 1950. The numerous amendments which were adopted were technical in nature. Of general interest, however, particularly in view of contemporaneous developments in the United States, were more stringent requirements for exemption from income tax in the case of charitable organizations, non-profit corporations and charitable trusts.

On Sept. 7, 1950 the minister of finance presented a new budget. Resolutions called for an additional 5% corporation income tax and an increase in various excise taxes. These amendments received royal assent on Sept. 15. Reintroduction of an excess profits tax was rejected primarily on the ground that at high rates such a tax became an invitation to extravagance and waste in corporate management. (*See also BUDGET, NATIONAL; DEBT, NATIONAL; LAW.*) (J. DE.)

**Tea.** Apparent civilian per capita consumption of tea (all imported) in the United States in 1950 was two-thirds of a pound, 10% more than in 1949, but only 97% of the pre-World War II level. Imports, mostly from India and Ceylon, amounted to 104,537,000 lb. in 1949-50, 17% more than the 89,175,000 lb. of the previous year; the value also increased, from \$43,487,000 to \$50,534,000. Imports for the calendar year 1950 were indicated at a level of about 120,000,000 lb., as compared with 94,900,000 lb. in calendar year 1949; and the largest since 1918.

World tea production in 1950 was preliminarily estimated as larger than the 1949 crop of approximately 1,000,000,000 lb. Preliminary figures indicated that the 1950 crop was larger in north India and Pakistan and slightly lower in south India and Ceylon. Japan produced more.

Tea prices were strong, ranging from 40 to 70 cents per pound. Ceylon in July raised its export tax on tea by 15 cents per pound, with resulting uncertainty as to whether this applied to a large contract with Great Britain which had been only partially shipped. (J. K. R.)

**Technicolor:** *see* MOTION PICTURES.

**Telegraphy.** During the year 1950 telegraph facilities of the United States serving military camps and naval bases were expanded and a large number of direct circuits for operation around the clock were added for the armed forces. The nation's telegraph system had twice its World War II capacity and had vastly increased its efficiency of operations.

**New High-Speed Telegraph System.**—A nationwide system of high-speed message centres was completed in 1950. A big centre placed in operation at Portland, Ore., in November, to serve as the funnel for telegrams to and from four northwestern states, was the 15th and last area centre, completing the network. Through the new system, which was installed as a part of Western Union's \$100,000,000 program of mechanization and other plant improvements, telegrams are typed only at their points of origin and flash through the centres to their destinations without manual retransmission at any point. The program of

mechanization, increasing the efficiency of operation, contributed greatly to a marked improvement in Western Union's financial position.

To interconnect the 15 high-speed message centres and provide direct circuits between them and other cities, about 2,000,000 channel miles of carrier circuits were installed. Carrier systems permit the transmission of as many as 288 telegrams simultaneously over a single pair of wires, or more than 2,000 simultaneously over a microwave radio beam system.

**Radio Beam System.**—The Western Union Telegraph company had in operation, between New York city, Philadelphia, Washington, D.C., and Pittsburgh, the world's first radio beam transmission system, with towers about 30 mi. apart. This system operated without interruption through the most severe storms.

**Facsimile Telegraphy.**—The Desk-Fax, the miniature facsimile telegraph machine which brings telegraph and cable service directly to the user's desk, was in customer use in ten cities. Washington, D.C., and Pittsburgh, the world's first radio beam at the touch of a button, and could eliminate the time formerly required for the pickup and delivery of their telegrams by messengers. Three thousand additional Desk-Fax machines were being manufactured, the first 1,000 of which were to be installed in Washington, D.C., to provide direct connections with the national high-speed telegraph network.

Other types of facsimile equipment were being placed in use in hotels, office buildings, hospitals, universities and other locations. One of them receives and automatically seals the message, ready for delivery.

**Telecar.**—A fleet of Telecars was being placed in city-wide operation in Baltimore, Md., to speed the pickup and delivery of telegrams in residential areas. The Telecar is an automobile equipped with facsimile recording apparatus, similar to the Desk-Fax, which receives telegrams automatically while the car is cruising in its assigned suburban area. While the telegram is being received, the Telecar starts on its way to the address to deliver it. The Telecar also picks up telegrams in its area and transmits them to the main telegraph office.

**The Bank Wire.**—A new nation-wide private telegraph system known as the "Bank Wire" was placed in operation in November and December. It interconnected 188 banks in 54 cities with fast and efficient record communication. The Bank Wire had a potential capacity of more than 3,000,000 telegrams monthly. Each bank in the network had a printing telegraph machine over which messages were transmitted at typing speed to one of the high-speed message centres in the Bank Wire network, which were located at New York, Chicago, San Francisco, Dallas and Atlanta. At these five centres trained operators flashed the bank messages instantaneously and automatically to the banks of destination by the mere push of a button. More than 27,000 mi. of telegraph circuits were utilized in this system.

**Submarine Cable Amplifier.**—The world's first long submarine cable amplifier was inserted in a Western Union transatlantic cable between Penzance, Eng., and Bay Roberts, Nfld., in Oct. 1950, and increased the speed of the cable from 300 to 1,000 letters per minute. The amplifier was inserted in the cable north-east of Bay Roberts where the depth of the ocean is 1,700 ft. The success of the first amplifier led to a decision to install similar equipment on five other transatlantic cables to more than double the capacity of the five cables.

**National Communications Policy.**—The president of the United States, by executive order in Feb. 1950, created a Communications Policy board to make a broad survey and to establish policy in the communications field. The board was expected to make its recommendations to the president early in 1951.

(W. P. MA.)



**Telephone.** On Jan. 1, 1950, the world total of telephones was estimated at approximately 70,300,000. The United States had about 58% of the world's total. Second was the United Kingdom with 5,177,370; and Canada was third with 2,700,000 (see table).

The telephone industry in the United States continued its record-breaking expansion and improvement activities during 1950. Communications requirements of the national defense program received increasing attention from the nation's telephone companies during the last half of the year.

An important defense undertaking was the start of the installation of telephone facilities for an air defense radar network rimming the country. Thousands of miles of private line networks were provided to the military. Local and toll telephone facilities were furnished to military bases and training camps throughout the country, and to civilian defense organizations.

There was a gain of 2,200,000 telephones during the year in the U.S., including approximately 300,000 in rural areas, to bring the total number in service to 42,900,000. Of these 35,300,000 were operated by the Bell system. The remainder were served by the several thousand non-Bell telephone companies, and additional thousands of farmer-owned lines. About 60% of all U.S. families had telephone service. In Evanston, Ill., 99% of the families had telephone service, leading the nation and the world in this respect.

The U.S. per capita telephone development was 27 per 100 persons, while Sweden was second with 23 and Canada third with 20. The world as a whole had 3 telephones per 100 population.

New York city continued to lead the world's cities in the number of telephones, with 2,956,832. This was more than in any country in the world except the United Kingdom. London was second with 1,526,548 telephones, and Chicago third with 1,495,900. Washington, D.C., had more telephones per capita than any other large city (more than 50,000 people), with 59 per 100 persons. San Francisco was second with 55 telephones per 100 people, and Stockholm, Sweden, was third with 47.

The industry set new records in the number of calls handled in the U.S. in 1950. An average of 170,000,000 local and long distance calls per day were completed—an increase of 10,000,000 per day over 1949. About 6,400,000 conversations in 1950 were toll and long distance, a 9% increase over 1949.

**U.S. Plant and Equipment.**—At the end of 1950 the total investment in plant and equipment for the U.S. industry reached \$11,200,000,000. For the Bell system, the total was \$10,100,000,000. The industry's construction and service improvement program in 1950 cost slightly more than \$1,000,000,000.

Shipments by the Western Electric company—manufacturing and supply unit of the Bell system—included 52,000,000,000 conductor feet of exchange cable and enough local central office switching equipment to serve about 2,000,000 new telephones.

The industry continued its program of converting nondial telephones to automatic operation during 1950. The total number of Bell system dial telephones increased to 26,500,000, or 76% of the total in service. Nearly 4,500 new long distance circuits were added to the Bell system network, increasing the total in service to 90,000.

Demand for telephones increased during the second half of the year, reflecting the effect of increased communications requirements growing out of the defense program. The Bell system put in service about 6,000,000 telephones, achieving a net increase of more than 1,900,000. Despite this accomplishment, however, Bell companies still had nearly 800,000 orders on file for new service, and 1,700,000 requests from party-line customers for better grades of service.

**Stockholders.**—The number of stockholders of the American Telephone and Telegraph company—parent company of the Bell

system—reached a new high of more than 980,000. Other large non-Bell companies and their number of stockholders were: General Telephone corporation, 17,500; Telephone Bond and Share Co., 5,500; Rochester Telephone Co., 4,650.

Telephones in Selected Countries of the World, Jan. 1, 1950

Country	Total Telephones Number	Per 100 popu- lation	Automatic (Dial) Number	Per cent of total tels.
<b>North America:</b>				
United States . . . . .	40,709,398	27.1	27,579,158	67.7
Alaska . . . . .	14,618	11.2	4,150	28.4
Canada* . . . . .	2,700,000	19.6	1,530,800	56.7
Cuba . . . . .	113,718	2.1	95,027	83.6
Jamaica . . . . .	12,248	0.9	11,720	95.7
Mexico . . . . .	273,555	1.1	181,096	66.2
Panamá . . . . .	11,800	1.5	0	—
Puerto Rico . . . . .	37,210	1.7	19,473	52.3
Trinidad and Tobago . . . . .	13,546	2.1	8,931	65.9
<b>South America:</b>				
Argentina . . . . .	717,000	4.4	535,000	74.6
Bolivia . . . . .	7,900	0.2	7,450	94.3
Brazil . . . . .	517,000	1.0	390,000	75.4
Chile . . . . .	131,344	2.3	87,607	66.7
Colombia . . . . .	76,729	0.7	36,000	46.9
Ecuador . . . . .	8,791	0.2	1,000	11.4
Paraguay . . . . .	5,200	0.4	4,500	86.5
Peru . . . . .	44,400	0.5	36,025	81.1
Uruguay . . . . .	84,100	3.6	61,548	73.2
Venezuela . . . . .	59,300	1.3	55,442	93.5
<b>Europe:</b>				
Austria . . . . .	371,780	5.3	287,243	77.3
Belgium . . . . .	649,555	7.5	484,364	74.6
Bulgaria . . . . .	57,000	0.8	24,000	42.1
Czechoslovakia . . . . .	380,000	3.1	225,000	59.2
Denmark . . . . .	680,703	15.8	276,512	40.6
Finland . . . . .	313,975	7.7	169,210	53.9
France . . . . .	2,318,673	5.6	1,411,678	60.9
Germany, Eastern, & Berlin . . . . .	300,000	1.4	200,000	66.7
Germany, Western . . . . .	2,112,728	4.4	1,062,012	50.3
Greece . . . . .	75,947	1.0	72,000	94.8
Hungary . . . . .	115,000	1.2	85,000	73.9
Iceland . . . . .	19,600	13.9	12,533	63.9
Ireland . . . . .	73,431	2.5	46,279	63.0
Italy . . . . .	1,118,685	2.4	1,015,105	90.7
Luxembourg . . . . .	21,971	7.6	15,779	71.8
Netherlands . . . . .	692,412	6.9	615,498	88.9
Norway† . . . . .	430,881	13.3	249,122	57.8
Poland . . . . .	225,000	0.9	150,000	66.7
Portugal . . . . .	132,300	1.5	66,376	50.2
Rumania . . . . .	135,000	0.8	100,000	74.1
Spain . . . . .	606,066	2.2	454,400	75.0
Sweden . . . . .	1,593,522	22.8	985,708	61.9
Switzerland . . . . .	845,471	18.2	808,644	95.6
Trieste . . . . .	25,000	6.9	20,000	80.0
U.S.S.R. . . . .	1,500,000	0.7	400,000	26.7
United Kingdom§ . . . . .	5,177,370	10.2	3,650,429	70.5
Yugoslavia . . . . .	80,000	0.5	48,000	60.0
<b>Africa:</b>				
Algeria . . . . .	90,601	1.0	64,088	70.7
Egypt . . . . .	106,000	0.5	70,000	66.0
Morocco . . . . .	58,022	0.5	40,326	69.5
Tunisia . . . . .	23,422	0.7	13,665	58.3
Union of South Africa . . . . .	415,518	3.4	288,976	69.5
<b>Asia:</b>				
Ceylon . . . . .	15,839	0.2	13,549	85.5
China . . . . .	250,000	9	175,000	70.0
Hong Kong† . . . . .	24,729	1.2	24,729	100
India¶ . . . . .	128,911	9	54,000	41.9
Indonesia . . . . .	35,750	9	769	2.2
Iran . . . . .	21,435	0.2	8,625	40.2
Iraq . . . . .	16,249	0.3	11,213	69.0
Israel . . . . .	24,686	2.1	21,371	86.6
Japan§ . . . . .	1,681,279	2.0	563,334	33.5
Korea . . . . .	75,000	0.3	25,000	33.3
Lebanon . . . . .	13,300	1.1	0	—
Malaya . . . . .	20,362	0.4	6,846	33.6
Pakistan . . . . .	17,445	9	8,718	50.0
Philippine Republic . . . . .	15,968	9	12,102	75.8
Singapore . . . . .	15,736	1.6	15,736	100
Turkey . . . . .	58,169	0.3	49,862	85.7
<b>Oceania:</b>				
Australia . . . . .	1,066,385	13.2	651,561	61.1
Hawaii . . . . .	100,062	19.1	93,427	93.4
New Zealand§ . . . . .	348,539	18.2	204,701	58.7

\*Including Newfoundland. †June 30, 1949. ‡Including all Asiatic territory of the U.S.S.R. §March 31, 1950. ||Partly estimated. ¶March 31, 1949. †Less than 0.1.

A. T. & T. stockholders laid the groundwork for additional financing in the Bell system at a special meeting in Nov. 1950. They voted to increase the number of shares of authorized stock from 35,000,000 to 45,000,000 shares. They also authorized the board of directors to issue at its discretion up to \$435,000,000 in convertible debentures, and to offer for sale to Bell system employees a maximum of 3,000,000 shares of stock.

**Rural Expansion.**—Of the 300,000 new rural telephones installed by the U.S. industry during 1950, about 250,000 were in territory served by the Bell Telephone companies. This brought



the total gain in new rural Bell telephones since V-J day to 1,500,000. It was estimated that the total cost of rural telephone expansion in 1950 was \$130,000,000. The Rural Electrification administration, during its first full year in the rural telephone field, granted 61 loan allocations amounting to \$19,000,000. Of these loans, 20 went to co-operative organizations and 41 to telephone companies.

**Television.**—The Bell system continued to expand its network television facilities. Twenty-two new television stations in 17 cities were added to the existing networks, bringing the total number of cities with network television facilities to 42. Approximately 9,000 channel miles of coaxial cable and radio relay circuits were installed during 1950. Both the cable and relay links were capable of transmitting television and radio programs as well as telephone messages. This brought the total channel mileage devoted to television network transmission to 18,000. The longest radio relay system to date was built during 1950 from New York to Omaha, Neb., via Chicago. Consisting of 54 relay stations, the system utilized directional antennas to beam very-high-frequency radio waves from one station to the next. A radio relay route from Omaha to the west coast was scheduled for completion late in 1951.

**Operator Toll Dialing.**—During 1950, equipment was installed to permit operators to dial long distance calls straight through to 400 distant cities and towns without the assistance of other operators. With those cities connected in the previous few years, approximately 1,000 localities could be reached by the toll dialing method. Nearly 35% of the nation's toll traffic was being handled by operator toll dialing at the year's end. In addition, equipment in several areas enabled 3,500,000 customers to dial their own calls directly to nearby cities or communities beyond their local calling area.

**Overseas Calls and Mobile Service.**—Telephone calls with other countries and ships on the high seas via Bell system radio-telephone stations increased about 15% in 1950, to a total of 720,000 messages. At year's end, service via Bell system radio-telephone stations reached telephones in 85 countries or areas.

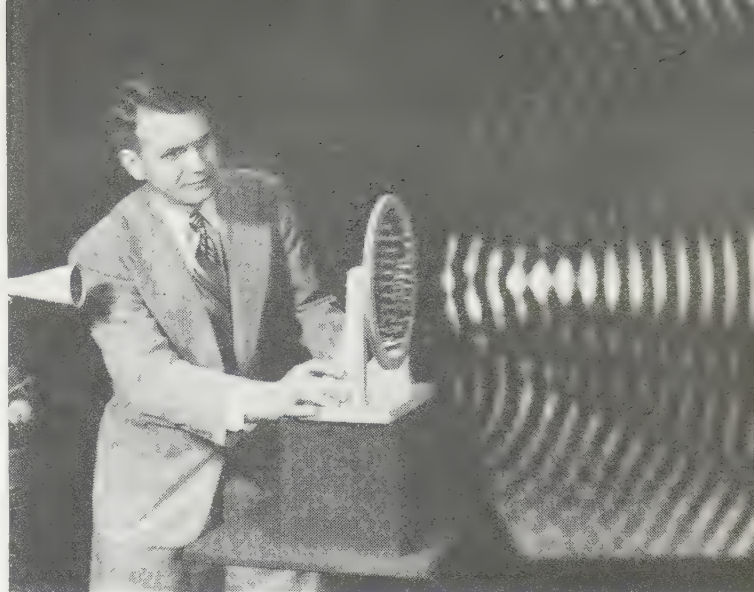
Mobile telephone service by the end of 1950 was available in 141 areas covering about 500 communities. The Bell Telephone companies were providing general mobile service to 9,000 vehicles of all types. These units were placing calls at the rate of about 300,000 per month. In addition to general mobile telephone service, the Bell companies had under contract approximately 4,500 mobile telephones on a private-system basis. These were complete systems for the exclusive use of specific customers, the telephone companies only installing and maintaining the equipment.

**New Developments.**—Among outstanding developments in telephony in 1950 was the installation of two new submarine telephone cables between Key West, Fla., and Havana, Cuba, containing the first underwater electronic amplifiers. The amplifiers boost electrical voice currents weakened by the resistance of long spans of wire.

The parts of these amplifiers, including the electron tubes, were especially designed and manufactured by the Bell Telephone laboratories for stability and long life. They were expected to withstand pressures encountered in depths down to three miles and lie undisturbed on the ocean bottom for many years. Power for the amplifiers is supplied over the cables from shore.

Also in 1950, a new type of carrier equipment called "N-1" was put into commercial service by the Bell system. Carrier apparatus permitted telephone circuits to carry several conversations simultaneously. Designed especially for use over short distances, N-1 permitted four wires in a single cable to transmit 12 conversations at the same time.

(L. A. WI.)



SOUND WAVES photographed by a scanning technique similar to that used in television, as developed at the Bell Telephone laboratories in 1950. The technique was expected to be useful in studying the sound-wave field of telephone receivers and other communications equipment

**Telescopes:** see ASTRONOMY.

**Television.** The action of the Federal Communications commission (*q.v.*) in late 1948 "freezing" the authorization of new television stations while investigating questions of geographical spacing remained in effect throughout 1950. The general television hearing begun in Sept. 1949 had not been completed at the end of 1950. The effort of the commission for the first nine months of the year had been concentrated on the phase of the hearing dealing with colour television systems. Late in the year, following a first report and second report on the colour question, the commission embarked on the allocations phases, including reallocation of the 12 VHF (very-high-frequency) television channels, allocation of UHF (ultra-high-frequency) television bands and the assignment of specific channels to communities on a nation-wide basis. Another allocations issue was introduced by the request of the American Telephone and Telegraph company for the frequencies 470-500 mc. for broad-band multichannel mobile radio-telephony. The year ended with educators making a strong appeal for the assignment of a group of television channels for educational broadcasting.

**Colour Television.**—During the colour phase of the hearing three specific systems were demonstrated: a field-sequential system (CBS) in which the picture is scanned from top to bottom in each of three primary colours in sequence; a line-sequential system (Color Television, Inc.) in which a change in colour occurs at the end of each scanning line; and a dot-sequential system (RCA) in which the colour is changed for each picture element or dot. After the hearing was concluded an additional system, frequency interlace (G.E.), was proposed but not demonstrated.

The commission's first report on colour television established criteria for an approved system and concluded that the field-sequential system proposed by CBS was satisfactory for commercial telecasting in spite of the fact that this system was not "compatible"; *i.e.*, CBS colour signals could not be received in either black-and-white or colour on existing receivers without the use of an adapter. The commission noted that the sale of television receivers was continuing at a high rate and the compatibility issue would become increasingly important the longer a decision was delayed. The first report stated that unless manufacturers would agree to modify future receivers in accordance with proposed "bracket standards," which would permit the reception of field-sequential colour signals as well as



monochrome signals the commission would be compelled to standardize on the field-sequential system in order to prevent obsolescence of the monochrome receivers which were being purchased by the public. Nearly all manufacturers responding to the commission's report expressed the view that the modification of their receivers to accommodate "bracket standards" could not be accomplished in the time specified and would increase the cost of sets unduly. Doubt was expressed, in the light of the incompatibility of the field-sequential system, whether colour programs would be broadcast in sufficient quantity to make the public's additional investment worthwhile.

In its second report the commission reviewed the responses of the manufacturers and in accordance with its first report concluded that it would adopt the CBS field-sequential system as standard for commercial colour telecasting effective Nov. 20, 1950. The commission's first report was adopted unanimously but the second report was approved on a five to two basis.

Court proceedings were instituted by RCA and other radio manufacturers attacking the commission's action. A restraining order was obtained in Chicago preventing the inauguration of commercial colour telecasting. At the end of the year it seemed evident the issue would be submitted to the supreme court for final disposition.

In the meantime CBS gave public demonstrations in New York city and Philadelphia of its field-sequential colour system using disk type receivers. Early in December RCA in Washington demonstrated improvements in its compatible dot-sequential system to radio manufacturers, broadcasters and the press. A direct-view tricolour kinescope or picture tube was used in the RCA demonstrations. The screen in this tube was composed of a total of approximately 600,000 dots of red, green and blue phosphors. These dots were arranged in groups of three and so positioned that the electrons from each of three electron guns always hit the dots of their own colour. The phosphor dot groups were so small and so close together that when illuminated by the electron streams, they presented a continuous, smooth, full-colour picture.

**Receivers.**—Based on actual production figures for the first ten months of 1950, total production of television receivers for the year was estimated at 7,200,000, more than twice the number produced in 1949. Picture tube production increased correspondingly with an estimated total of 7,840,000.

In television receivers the pronounced trend toward larger pictures which began in 1949 continued in 1950, the majority of the receivers produced using 16-in. or larger picture tubes. A tube 30 in. in diameter was announced by the Allen B. Du Mont laboratories. The trend toward lower prices likewise continued in the early part of the year; but in midsummer increases in material and labour costs caused a reversal in this trend, which was accentuated on Nov. 1 by the application of an excise tax which increased the retail prices of receivers by an average of approximately 6%. Restrictions on the use of cobalt and other essential materials made it apparent at the end of the year that the number of television receivers produced in 1951 would be smaller than in 1950.

**Stations and Programs.**—At the end of 1950, 107 stations were operating on a regular schedule in 58 metropolitan areas, an increase of 9 stations for the year.

Revenues showed rapid growth in 1950 with time sales estimated at approximately \$84,000,000 as compared with \$28,000,000 in 1949. Of total time sales in 1950, \$36,000,000 was network, \$18,000,000 national and regional nonnetwork and \$30,000,000 local.

On Oct. 5, 1950, the FCC issued proposed rule-making which would provide that no television station in a one-station community could carry the programs of any one television network for more than two hours in either the afternoon or evening time

segments; no station in a two-station community could carry the programs of any one network for more than three hours within one segment; and no station in a three-station community could carry the programs of any one network for more than four hours within one segment. The segments referred to are the hours 1:00 P.M. to 6:00 P.M. and 6:00 P.M. to 11:00 P.M. Most stations which submitted comments were opposed to the proposal on the basis that it interfered with a licensee's responsibility to select programs and deprived stations of a bargaining position with the networks.

Television network facilities at the end of 1950 extended in the eastern United States from Boston in the north to Jacksonville, Fla., Atlanta, Ga., and Birmingham, Ala., in the south, and to Chicago, Ill., Milwaukee, Wis., Minneapolis, Minn., Omaha, Neb., Kansas City, Mo., and Memphis, Tenn., in a westerly direction; and in the western United States between Los Angeles and San Francisco, Calif., linking in all 51 cities. The coaxial cables had an effective band-width limitation of 2.7 mc., compared with the 4-mc. video band-width required for full utilization of the 6-mc. television channel. The American Telephone and Telegraph company indicated that the cable system would be modified to provide the additional band width. Microwave relay systems providing the desired 4-mc. video band width were in operation between Boston, New York city, Philadelphia and Washington; and New York, Detroit, Chicago, Milwaukee and Omaha.

One of the technical developments which aroused considerable interest was the design and construction on the Empire State building of a multiple antenna system to enable all of the five New York city television stations to broadcast from a single structure.

Sports events, variety shows and dramatic productions continued to maintain their popularity as television programs. In 1950, a survey covering all television station areas showed the most popular network programs on the basis of the number of homes reached to be as follows: "Texaco Star Theatre," "Philco Television Playhouse," "Your Show of Shows," "Comedy Hour," "Toast of the Town," "Fireside Theatre," "Stop the Music," "Godfrey's Talent Scouts," "Kraft Television Theatre," and "Four Star Revue." In international politics the televising of the proceedings of the United Nations aroused much interest. A novel feature of the 1950 political campaign was the question and answer technique used by Gov. Thomas E. Dewey in television broadcasts. In these broadcasts, Dewey answered questions asked by individuals at different pickup points around New York city.

Interest in theatre television increased substantially during the year. Twelve commercial theatre television equipments of the direct projection type were produced by RCA and installed in theatres in Providence, Albany, Binghamton, Brooklyn, Bronx, Queens Village, Chicago and Los Angeles. An installation of intermediate film equipment was made by United Paramount Theaters, Inc. in one of their Detroit theatres. Several theatres on the east coast used television news programs on a daily basis to replace a film newsreel. (See also ADVERTISING; MOTION PICTURES; RADIO.)

(G. L. Bs.)

**Europe.**—The prospect of a shared television service for Europe receded as a result of decisions taken in 1950. A study group was set up in 1948 by the Comité Consultatif des Radio-communications, a European body, to investigate the various characteristics of television transmissions with a view to international standardization; between July 1949 and May 1950, the group, under a Swedish chairman, toured in the U.S., France, the Netherlands and Britain. It was unable to reach agreement. Irreconcilable differences of opinion on the standard (number of lines) that should be adopted existed.

Great Britain, the only European country with a complete television service, believed that its 405-line standard would



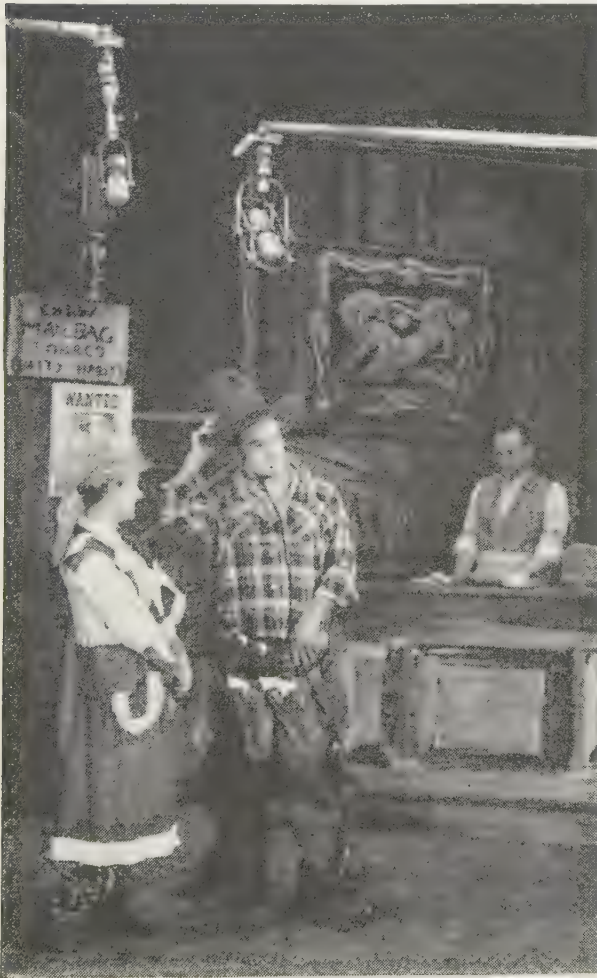


Above: FIRST TELECAST of Eleanor Roosevelt's weekly forum on Feb. 11, 1950. Participating in a discussion of "What To Do With The Hydrogen Bomb" were, left to right: Sen. Brien McMahon, Hans A. Bethe, Mrs. Roosevelt, David E. Lilienthal and J. Robert Oppenheimer

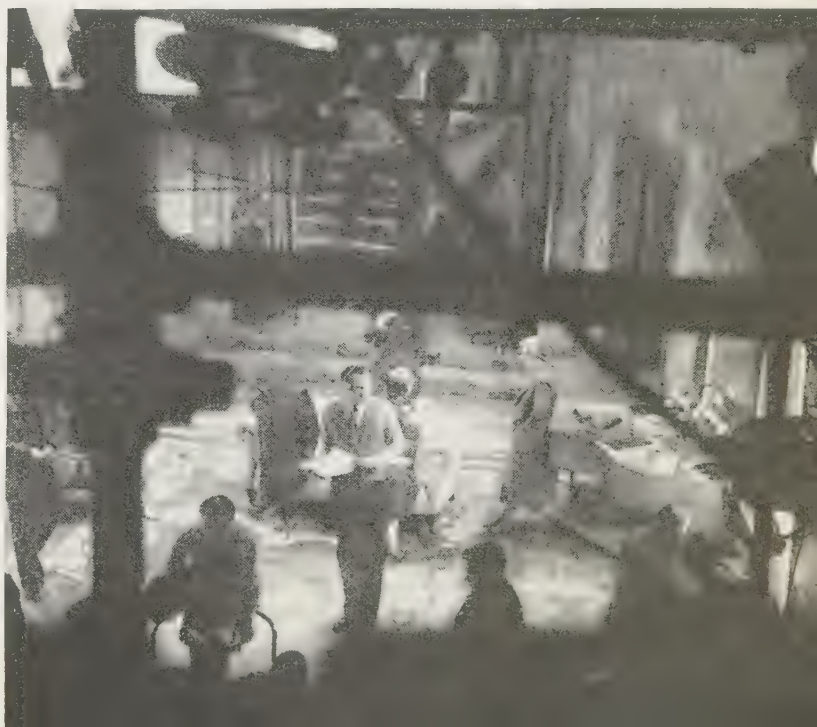


Above: ANSWERING QUESTIONNAIRES during a television survey conducted at the Burdick Junior High School, Stamford, Conn., in 1950. Results showed that the children spent an average of 27 hr. per week watching TV, three-quarters of an hour less than the weekly time spent in school

Below: BEATRICE LILLIE AND BOB HOPE in the *Star-Spangled Revue* during Hope's debut on television in April 1950



Below: BRITISH TELEVISION STAGE during a dress rehearsal for *Corinth House*, a play by Pamela H. Johnson televised in Feb. 1950





amply suffice for many years to come. France would not give up its standard of 819 lines. Seven other European countries, including Italy, declared for 625 lines, although no country had operated a 625-line service except under laboratory conditions. It remained extremely unlikely that any of the seven countries, except possibly the Netherlands, would be in a financial position to operate a public service for years to come.

Progress in Great Britain was considerable. Plans were issued for a television city in southwest London which would be the first of its kind in the world. The construction of the third and fourth high-power transmitters, in Yorkshire and Scotland, proceeded smoothly and both were scheduled to open in 1951. A recording system enabling programs to be photographed off the end of the cathode ray tube for subsequent transmission was successfully brought into use. Elaborate outside broadcasts including one from Calais, on the French coast, and one from an aircraft in flight were the feature of the year's programs which in December included a daily children's hour and a newsreel which was changed three times a week.

France, in spite of a shortage of funds, in April opened a transmitter at Lille, the first outside Paris. Programs still emanated from Paris and were ingenious rather than artistic. A great part of the transmission time was taken up with old French films. Public interest was small and fewer than 20,000 sets were in operation.

Outside Europe and the U.S. the tale was still mostly one of hope deferred and experiments to come. Canada appointed a senior staff under Fergus Mutrie and Aurèle Seguin to supervise the erection of production centres in Toronto and Montreal. Orders were placed for transmitter equipment in the U.S. and for studio equipment in England. Mexico began transmissions which were principally of bull-fights on Sunday afternoons. The U.S.S.R. announced "further extensions" of a service the details of which were not known outside the U.S.S.R. The standard receiver in Moscow and other large cities had a four and one-half-inch screen. A model with a seven-inch screen was shortly to be made available. This compared with the model in Great Britain which had an eight-inch screen.

**Tellurium:** see MINERAL AND METAL PRODUCTION AND PRICES.  
**Temperance League of America:** see SOCIETIES AND ASSOCIATIONS.

**Tennessee.** A south central state, 16th to enter the union, area 41,961 sq.mi., water area about 700 sq.mi. Population (1940): 2,915,841; rural 1,888,635, urban 1,027,206, rural farm 1,271,944; native white 2,395,586, Negro 508,736, foreign born 11,320, other races 199.

The total state population in 1950 was 3,291,718. The population of principal cities in 1950 (preliminary census figures): Nashville (capital) 173,359; Memphis 394,012; Chattanooga 130,333; and Knoxville 124,183.

**History.**—The state commissioners, appointed by Gov. Gordon Browning in 1949 and remaining in office throughout 1950, were: agriculture, Edward Jones; conservation, C. P. Swan; education, James A. Barksdale; finance and taxation, Clarence Evans; highways and public works, Charles F. Wayland; institutions, Houston Brown; public welfare, J. O. McMahan; insurance and banking, M. O. Allen; labour, J. L. Case; public health, R. H. Hutcheson; safety, Sam Neal; employment security, E. K. Wiley. Railroad and public utility commissioners elected by the people were: Hammond Fowler, John Hammer and J. B. Avery. The constitutional officers were: James H. Cummings, secretary of state; W. N. Estes, state treasurer; Cedric Hunt, state comptroller.

Governor Browning was re-elected in Nov. 1950 for another term of two years. Former Republican National Chairman Carroll Reece was again elected to congress from the first district. A proposal was made to elevate Memphis State college to university rank affiliated with the University of Tennessee. A proposed constitutional amendment to prevent diversion of the gasoline tax failed of passage. Governor Browning sent the national guard to patrol a strike of textile workers near Morristown.

The Tennessee Valley authority planned construction of a large steam plant to generate electricity in the Swan Pond area of Roane county.

**Education.**—Enrolment in elementary schools in 1949 was 525,623, an increase of 1.3% over 1948. High school enrolment was 113,307, an increase of 3.5%. Total net enrolment in 4,794 schools was 638,930. There were 4,450 county and 344 city schools, 3,832 white and 962 Negro. The total number of teachers was 22,521.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—In Sept. 1950 the total amount of assistance was \$3,424,275 to 95,464 cases; 67,139 old-age recipients received \$2,083,259; 68,782 dependent children \$1,239,445; and 2,659 blind received \$101,571. The increase in payments over Sept. 1949 was 14.8%.

There were in 1949–50 seven correctional institutions in the state with expenditures of \$1,792,000. A school was maintained for the blind and deaf, three state hospitals for the insane, a home for the feeble-minded and an industrial school.

**Communications.**—Of the 65,153 mi. of public road in 1949, 7,667 mi. were state highways; expenditure for construction of highways was \$54,193,000. There were 3,491 mi. of railroad. As of June 1950 there were 62 civilian airports, of which 29 were commercial, 23 municipal, 1 CAA intermediate and 9 private. There were 433,765 class A and B telephones in Tennessee, 69,416 business and 364,349 residential. Water-borne commerce on the Tennessee river in 1949 amounted to 2,766,845 short tons, Cumberland river 1,351,956 (1948); Mississippi river 17,896,229 (1948), and 2,063,613 (1948) at the port of Memphis.

**Banking and Finance.**—In June 1950 there were 72 national banks and 224 state banks; assets \$1,444,200,000 for national and \$588,942,000 for state banks; deposits \$1,347,751,000 for national banks and \$540,380,000 for state banks. Savings and loan associations numbered 37 with assets of \$132,565,000. Federal associations constituted 36 of these with assets of \$131,895,000.

State revenue collected for the fiscal year 1949–50 was \$162,000,000. Federal and local aid amounted to \$40,506,000; proceeds from bonds sold \$11,150,000. Debt outstanding was \$96,690,000, an increase of \$4,757,000 during the year. Collections increased by \$7,000,000 over 1949, expenditures by \$19,948,000. Of total expenditures of \$223,103,000, \$64,521,000 was for education, highways \$61,275,000, welfare \$33,118,000 and distribution to cities and local governments \$70,389,000 (\$44,494,000 for education).

**Agriculture.**—The gross value of agricultural production in 1949 was \$547,631,000; cash farm income \$437,121,000. Cash income from crops was \$216,894,000, from livestock \$215,067,000 and from government payments \$5,160,000. The value of home consumption was \$110,510,000. The forest area was 12,641,000 ac.

**Manufacturing.**—According to the 1947 census of manufacturing, 3,346 manufacturing plants employed 221,454 persons, wages and salaries being \$473,211,000. Value added by manufacture was \$957,539,000, led by chemical industries \$162,578,000, food \$132,489,000 and textiles \$121,294,000.

Table I.—Leading Agricultural Products of Tennessee

Crop	1950	1949	Average, 1939-48
Corn, bu. . . . .	72,794,000	68,900,000	64,072,000
All hay, tons . . . . .	2,126,000	2,436,000	2,173,000
Cotton, bales . . . . .	400,000	633,000	541,000
Soybeans, bu. . . . .	3,150,000	2,500,000	642,000
Wheat, bu. . . . .	3,375,000	4,350,000	4,729,000
Oats, bu. . . . .	5,975,000	6,350,000	4,504,000
Tobacco, lb. . . . .	133,320,000	136,277,000	123,872,000
Potatoes, bu. . . . .	2,200,000	2,250,000	3,190,000
Sweet potatoes, bu. . . . .	1,900,000	2,205,000	3,280,000

Table II.—Principal Mineral Products of Tennessee

Mineral	Value 1948	Value 1947
Coal . . . . .	\$37,232,433	\$29,840,946
Stone . . . . .	12,932,537	10,617,502
Cement . . . . .	13,667,060	11,017,225
Zinc . . . . .	7,853,384	7,553,304
Sand and gravel . . . . .	4,147,728	3,805,669
Lime . . . . .	1,442,906	1,533,737
Clay (except for cement) . . . . .	2,501,657	2,120,196
Barite . . . . .	275,242	285,853
Phosphate rock . . . . .	8,231,251	7,778,619
Other minerals . . . . .	5,314,802	5,387,949
Total value . . . . .	\$93,599,000	\$79,941,000



**Mineral Production.**—The total value of mineral production in Tennessee for the year 1948 was \$93,599,000, according to the U.S. bureau of mines. (C. E. A.)

**Tennessee Valley Authority.** Emphasis during 1950 by TVA was on the expansion of electric generating capacity to meet both normal growth of load and the requirements of national defense, including large expansions at the Atomic Energy commission plant at Oak Ridge, Tenn. With 218,000 kw. placed in operation during the year, the total installed capacity was 3,090,000 kw. Construction under way and planned was designed to increase the installed capacity of the system to 4,900,000 kw. by 1953.

Construction of Widows Creek steam plant, to have a capacity of 500,000 kw. in four units, was started on Guntersville reservoir in north Alabama. Work was speeded up on construction of the Johnsonville steam plant in west Tennessee, on Kentucky reservoir, and the planned capacity was doubled to include six generating units totalling 675,000 kw. Construction of two new dams, Boone (near the spot where Daniel Boone "cilled a Bar" in 1760) and Fort Patrick Henry was started on the south fork of the Holston river in east Tennessee. Boone dam was to be of concrete, 150 ft. high, providing 100,000 ac.ft. of flood control storage and 75,000 kw. of installed capacity. Fort Patrick Henry dam, 100 ft. high, was to have a capacity of 36,000 kw. Both would benefit from storage in Watauga and South Holston reservoirs. Filling of the latter reservoir started with closure of the dam on the south fork Holston late in 1950.

The 17th and 18th generating units were placed in operation at Wilson dam, filling all the stalls at that structure. Because of upstream regulation of stream-flow by TVA-constructed dams, it became possible to more than double the installed capacity of the Wilson dam and increase its output six times. Two new units at Wheeler dam, 15 mi. above Wilson, completed installations at that project, bringing the total to 259,000 kw.

The integrated system produced 17,500,000,000 kw.hr. in the fiscal year 1950 and TVA power revenues were about \$58,000,000. Net operating revenue of \$27,000,000 equalled a return of 5.75% on the net average power investment. Ninety-five municipal and 50 co-operative systems distributed about 6,500,000,000 kw.hr. to ultimate consumers, with revenues of \$81,500,000 and combined net income of \$14,400,000. They added 110,000 new consumers during the year. Rural electrification advanced to 80% of farms in the area, compared with 3% in 1933. Average residential use of electricity reached 3,100 kw.hr. per customer, compared with the national average of less than 1,800.

TVA flood control operations reduced two crests on the lower Ohio and Mississippi rivers, one by two feet and a second by more than a foot, thus averting the need to use the Bird's Point-New Madrid floodway which would have caused millions of dollars in damage in a 200-sq.mi. area.

Freight traffic on the Tennessee river amounted to 508,000,000 ton-miles, 15 times as much as in 1933, and savings to shippers were estimated at \$6,000,000 in the calendar year 1949.

At the beginning of 1950, investment in recreational facilities—parks, boat docks, boats, etc.—by states, counties and private interests amounted to \$21,000,000 on TVA lake shores, compared with \$16,000,000 in 1948. Success of TVA malaria control operations was indicated in the fact that 4,300 blood films taken in former malaria problem areas along the stream showed no evidence of malaria parasites.

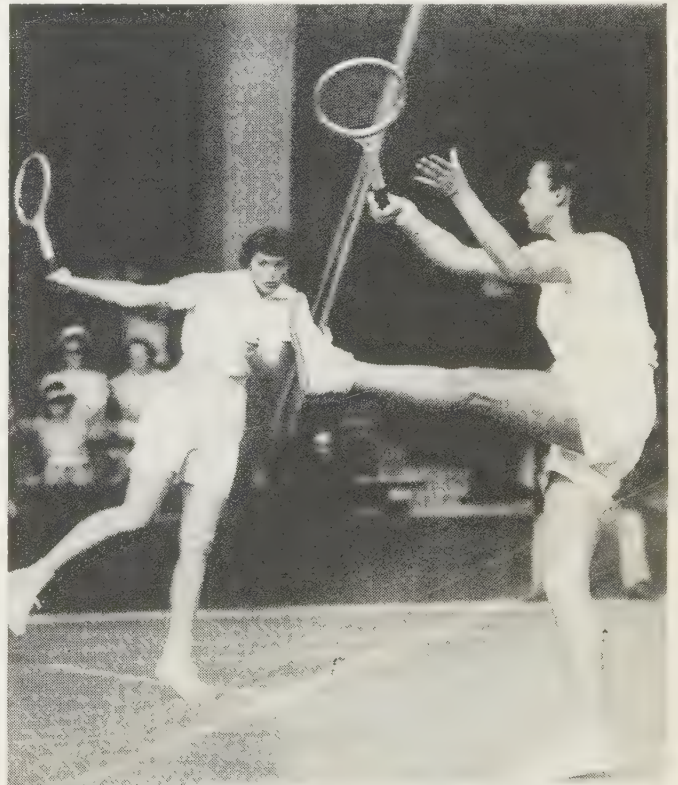
TVA chemical plants, capable of producing either fertilizer materials or munitions as needed, in the fiscal year 1950 produced 136,000 tons of ammonium nitrate, 16,400 tons of calcium metaphosphate, 125,400 tons of concentrated superphosphate and 17,400 tons of fused tricalcium phosphate. The products were used in farm test-demonstrations or sold. TVA discontinued the

production of dicalcium phosphate, undertaken during World War II to help meet a need for mineral supplements for stock feed.

The TVA board of directors consisted of Gordon R. Clapp, chairman, James P. Pope and Harry A. Curtis. (See also DAMS; ELECTRICAL INDUSTRIES; PUBLIC UTILITIES.) (K. R. K.)

**Tennis.** The successful conclusion of Australia's four-year quest of the Davis cup was the outstanding development in lawn tennis in 1950. The year which marked the 50th anniversary of the International Lawn Tennis championship saw 26 nations challenge the U.S. for the famous trophy. Sweden, European zone winner, gave Australia, winner in the American zone, a close fight in the interzone final at the Westchester Country club, Rye, N.Y., when Lennart Berglin scored two victories over the Australian champion Frank Sedgman and the veteran John Bromwich. Australia won, 3-2, to qualify for the challenge round which was played at the stadium of the West Side Tennis club, Forest Hills, N.Y., late in August. When Sedgman beat Thomas P. Brown, Jr., of California and 21-year-old Kenneth McGregor gave Frederick R. (Ted) Schroeder, Jr., another Californian, his first Davis cup defeat, the stage was set for Australia's conquest. The victory was sealed the second day as the Australian doubles team of Sedgman and Bromwich defeated Schroeder and Gardnar Mulloy of Florida in a hard-fought five-set match. The final day Sedgman trounced Schroeder in straight sets, but Brown saved the U.S. from being whitewashed by winning a thrilling uphill battle from McGregor by the score of 9-11, 8-10, 11-9, 6-1, 6-4.

Three of the world's four major championships were won by U.S. players. Sedgman defeated McGregor for the Australian title. J. Edward (Budge) Patty, Californian, won the French championship by beating Jaroslav Drobny (Egypt) in a five-set final and downed Sedgman at Wimbledon to capture the British crown. A sprained ankle kept Patty out of Davis cup competition and the U.S. championships. Arthur Larsen, a left-



GERTRUDE MORAN (right) and Mrs. Pat Todd, partners in the second round of the women's doubles at Wimbledon, Eng., July 1, 1950, during the All-England lawn tennis tournament. The U.S. team won the match 6-3, 6-8, 6-3



hander, also from California, captured the U.S. crown by defeating Herbert Flam, student at the University of California at Los Angeles, 6-3, 4-6, 5-7, 6-4, 6-3. The championship was played as usual at Forest Hills early in September. Larsen also beat Flam again a few weeks later to win the U.S. Hard Court championship played at the Berkeley (Calif.) Tennis club. Flam, nevertheless, had an impressive record in U.S. tournaments, having won the National Intercollegiate singles and doubles (with Eugene Garrett), the U.S. Clay Court singles, crushing Schroeder 6-1, 6-2, 6-2, and (with Larsen) taking the doubles from Schroeder and Tony Trabert of Cincinnati, O. Flam also won two important sectional events, the western and the eastern (grass). Trabert, 19, won the French doubles with William F. Talbot of New York and with Patty conquered Sedgman and McGregor in the quarter-final of the British championships which featured the longest set (31-29) ever played at Wimbledon.

Two important doubles titles went to Australia when the veterans Bromwich and Adrian Quist, many times Australian doubles champions, won at Wimbledon, and Sedgman and Bromwich captured the U.S. championship at the Longwood Cricket club, Brookline, Mass., by defeating Talbot and Mulloy, who had won the title four times.

The women's division again found U.S. players in complete command. The U.S. Wightman cup team of Mrs. Margaret Osborne du Pont, Louise Brough, Doris Hart and Mrs. Patricia Canning Todd overwhelmed their British opponents in seven matches at Wimbledon. On the British team were Mrs. Betty Hilton, Mrs. Jean Walker-Smith, Joan Curry, Jean Quertier and Kay Tuckey. The four major championship titles were distributed among Miss Brough, who won the Australian and Wimbledon crowns, Miss Hart, who won the French title and was runner-up in the Australian, British and U.S. championships, and Mrs. du Pont, who captured her third successive U.S. title. Mrs. du Pont and Miss Brough continued their great record as a doubles team by taking their ninth successive U.S. championship. They also scored their fourth Wimbledon doubles victory.

**FILMS OF 1950.**—*Tennis by Contrast* (Hollywood Film Enterprises, Inc.). (E. S. Br.)

**Texas.** Known as the "Lone Star state" from the single star in the flag of the Texas republic, 1836-45, Texas is a west south central state of the United States. Land area, 263,644 sq.mi.; inland water, 3,695 sq.mi.; total 267,339. Pop. (1950 census), 7,711,194, a gain of 20.2% over the population of 6,414,824 in 1940. Urban population (preliminary), 4,403,791, or 57.1%. Negroes constitute about one-seventh of the population, residing largely in the eastern third. Latin-American population (Mexican and Mexican descent) constitute another one-seventh, residing principally along the southwestern border. Capital: Austin, with 131,964 population in 1950. Other cities ranked by population in 1950 (preliminary census figures): Houston 594,321; Dallas 432,927; San Antonio 406,811; Fort Worth 277,047; El Paso 130,003; Corpus Christi 108,053; Beaumont 93,715; Waco 84,300; Amarillo 73,737; Lubbock 71,390; Wichita Falls 67,709.

**History.**—Events of significance during 1950 were: the U.S. supreme court decision awarding tidelands to the federal government in opposition to Texas' claim based on provisions of the annexation agreement of 1845; the supreme court decision admitting Negroes to the University of Texas, Austin, and other tax-supported higher educational institutions under some conditions. The state elections (actually determined in the Democratic primaries in Texas) returned all incumbents to office except John C. White who replaced J. E. McDonald as commissioner of agriculture and Robert W. Calvert who replaced R. H. Harvey as a supreme court justice. There was no session of the

legislature during 1950.

The principal state officials for the biennium, 1951-52, were: governor, Allan Shivers; lieutenant governor, Ben Ramsey; attorney general, Price Daniel; comptroller of public accounts, Robert S. Calvert; treasurer, Jesse James; state commissioner of education, J. W. Edgar; commissioner of agriculture, John C. White; commissioner of general land office, Bascom Giles. Members of the three-member state railroad commission, also having jurisdiction over oil production and oil and gas pipe lines, were William J. Murray (term ending Jan. 1, 1957), Olin Culberson (Jan. 1, 1953) and Ernest O. Thompson (Jan. 1, 1955).

**Education.**—The first full school year, 1949-50, under the Gilmer-Aikin (school system reform) act, increased average classroom teachers' salaries to \$3,040, supervisors' to \$3,335 and administrators' to \$4,947. During the school year 1950-51, active independent school districts numbered 947, active common school districts 1,565. The decline in number of districts was attended by a compensating increase in the number of teachers and pupils per district and the expansion of bus transportation. The state's apportionment to public schools, 1950-51, was \$80,847,416, or \$52 per student, supplemented by an equalization fund. Local districts contributed a little less than the state. Other data: teachers 49,676; students (age 6-17) 1,589,183; average attendance 1,151,971; high school graduates (1949-50) 50,482. Total expenditures for common school and higher education amounted to \$209,151,257, to which was added approximately \$75,000,000 in local support.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The number on the old-age assistance rolls, Aug. 31, 1950, was 226,208; average monthly payment \$7,612,390; average monthly payment per recipient \$33.65. The number of dependent children aided was 19,306; average monthly payment \$843,866; average monthly payment per recipient \$43.71. The number of needy blind aided was 6,538; average monthly payment \$248,882; average monthly payment per recipient \$38.07.

**Communications.**—The total public road mileage in Texas, Aug. 31, 1950, was 197,717 mi., according to the state highway department, of which 41,998 mi. were in the state system. Paved roads, of all classes, totalled 34,786 mi. in the state and 8,682 mi. in the local system, with an additional 41,000 mi. of gravelled and low-grade bituminous roads principally in the local system. Highway expenditures for the year ended Aug. 31, 1950, were \$202,410,112. Total vehicle registration was 2,306,144 passenger and 271,280 commercial. Railroad mileage (Dec. 31, 1949) was 15,570 mi. of mainline and 6,034 mi. of auxiliary track, according to the railroad commission of Texas; total investment \$862,925,553; number employees 58,436; net freight revenue \$334,068,631; passenger revenue \$22,706,930. The total movement through Texas ports in 1949 was 122,630,943 short tons, including inbound and outbound, foreign and domestic. In the calendar year 1949, there were 2,115 common carrier motor buses in operation, with \$49,726,880 of operating revenue and \$47,321,743 of operating expenses. Commercial motor trucks, numbering 37,291, had operating revenue of \$363,481,284 and operating expenses of \$347,354,219, including all common carriers, specialized and contract carriers. There were 11 air lines serving the state. There were in 1949, 624 airports of all classes and 25,210 licensed pilots. In 1950 there were 1,069 telephone exchanges with approximately 1,579,000 telephones. Radio stations in 1950: AM 170; FM 30; TV 6.

**Banking and Finance.**—The total state revenues, year ended Aug. 31, 1950, were \$556,849,144, according to the comptroller of public accounts. Expenditures were \$527,499,975. The principal expenditures were: education \$209,151,257; public welfare \$132,031,102; highways \$110,986,293; eleemosynary and correctional \$23,560,146. The state's bonded debt was \$4,100,000, consisting entirely of old obligations. The total debt of local civil districts (1948) was \$647,251,632. National banks, June 30, 1950, numbered 440 with \$5,454,118,000 of deposits and \$5,797,407,000 of resources. State banks numbered 446 with \$1,203,244,000 of deposits and \$1,283,139,000 of resources.

**Agriculture.**—Harvested acreage in 1950 was 25,000,000, about 5,000,000 less than in 1949 because of bad weather conditions. The total crop value was \$1,234,416,000, compared with \$1,573,645,000 in 1949.

Number and value of livestock on farms, Jan. 1, 1950 (U.S. department of agriculture): all cattle 8,658,000, valued at \$900,432,000; milk cows only 1,296,000, valued at \$180,144,000; hogs 1,701,000, valued at \$35,381,000; all sheep 6,821,000, valued at \$104,878,000; goats 2,246,000, valued at \$12,802,000; horses 352,000, valued at \$12,320,000; mules 139,000, valued at \$6,672,000; chickens 27,384,000, valued at \$30,396,000; turkeys 755,000, valued at \$3,624,000. Total value \$1,106,506,000.

**Manufacturing.**—The volume of industrial production in 1950 was approximately 10% above the level of 1947, latest census, which showed

Table I.—Leading Agricultural Products of Texas

Crop	1950	1949	Average 1939-48
Cotton lint, bales . . . . .	2,900,000	6,040,000	2,729,000
Cottonseed, tons . . . . .	1,197,000	2,438,000	1,124,000
Wheat, bu. . . . .	22,712,000	100,398,000	56,350,000
Sorghum for grain, bu. . . . .	148,818,000	92,676,000	62,954,000
Corn, bu. . . . .	65,730,000	58,208,000	64,272,000
Rice, 100-lb. bags . . . . .	11,544,000	10,740,000	7,873,000
Sorghum for forage, tons . . . . .	2,271,000	2,145,000	3,804,000
Peanuts, lb. . . . .	330,750,000	333,450,000	283,952,000
Hay, tons . . . . .	1,281,000	1,348,000	1,426,000
Oats, bu. . . . .	27,027,000	34,020,000	31,195,000
Tomatoes, bu. . . . .	4,543,000	5,245,000	...
Sweet potatoes, bu. . . . .	5,130,000	5,775,000	5,119,000
Grapefruit, boxes . . . . .	12,000,000	6,400,000	18,187,000
Onions, 50-lb. sacks . . . . .	4,483,000	3,644,000	...
Oranges, boxes . . . . .	3,500,000	1,760,000	3,676,000



\$1,727,464,000 of value added to manufactured products and 242,014 wage earners with \$558,420,000 wages. Petroleum refining, food products, chemicals and general machinery were the leading manufacturing lines.

**Minerals.**—The total value of mineral production in 1950 was estimated at \$2,700,000,000, based on production and price trends of petroleum, natural gas and allied products, which contributed 91% of the total value.

Table II.—Principal Mineral Products of Texas

Mineral	Production		Value, 1948
	1948	1947	
Oil, bbl. . . . .	903,318,000	819,427,000	\$2,326,209,000
Natural gasoline, thousand gal. . . .	1,861,164	1,646,227	170,306,000
Natural gas, million cu. ft. . . . .	2,289,923	1,932,857	103,505,000
Liquefied petroleum gases, gal. . . .	1,123,225,000	973,703,000	50,433,000
Sulphur, long tons . . . . .	3,973,201	3,965,825	71,500,000
*Carbon black, lb. . . . .	903,384,000	895,773,003	58,021,000
Cement, portland, bbl. . . . .	13,786,846	12,349,219	30,352,972
Sand and gravel, commercial tons . .	13,560,001	11,641,867	12,383,756

\*Listed as both mineral and manufactured product by U.S. government.

Petroleum production, 1950, was estimated (preliminary) at 825,000,-000 bbl., as compared with 743,900,000 in 1949 and a peak of 903,-318,000 in 1948. (S. McG.)

**Textile Industry.** Under the pressure of military demand, use of textile fibres increased steadily during 1950 with every prospect of continued expansion during the years immediately ahead.

Cotton consumption in the U.S. was approximately 25% higher in 1950 than in the previous year. Wool consumption in 1950 was up by about 30%. Silk deliveries for domestic consumption were slightly more than double those of the comparable period in 1949. Shipments of synthetic fibres were also 30% higher than in 1949.

The U.S. textile industry reinvested a record amount of capital in its mills during 1950. Of the estimated total of \$565,000,-000, about one-third was spent by synthetic-fibre-using mills and a slightly smaller amount by cotton mills. A sharp increase also characterized the total amount reinvested in dyeing and finishing. Woollen and worsted mills spent the least of all the industry branches on expansion or improvement. On the other hand, those mills utilizing primarily synthetic fibres committed the most money to expansion and improvement in 1950.

United States shorn wool production during the calendar year 1950 was estimated to total 218,000,000 lb., greasy basis, representing a small increase over the 217,000,000 lb. clipped in 1949, and being in fact the first increase recorded since 1941.

World production of raw wool during the 1950-51 season was estimated by the United States department of agriculture at 4,000,000,000 lb., representing an increase of 3½% over the output during the previous season, and being the highest level since the five seasons 1939-40 to 1943-44 inclusive.

In synthetics, imports of rayon staple expanded sharply in 1950 as compared with 1949. Textile weavers and knitters in many countries, hard pressed for sufficient supplies of textile fibres, protested the continued export of rayon staple, particularly to the United States. They maintained, for example, that the consumption of rayon staple in their own fabricating mills would save the expenditure of dollars for raw cotton and also would permit the production of lower-priced fabrics through blending rayon with the natural fibres. (D. G. Wo.)

**Great Britain.**—The British textile industry suffered in 1950 from shortages in the basic raw materials including cotton, wool, silk, rayon, flax, jute and the range of the more recent man-made fibres. Prices, high production costs and insufficient skilled labour were also disturbing; and inequalities in the levels of consumption in the different parts of the world were more pronounced than at any time since World War II. Shortage of sterling in certain countries, coupled with shortages of U.S. dollars and of Swiss and Belgian francs, affected production in some of the supplying countries and at the same time prevented a substantial volume of demand from becoming internationally effective.

World demand for wool was phenomenal: total consumption

was approximately 25% higher than production. Output by the wool industry, however, increased progressively, and the deliveries of worsted yarn in September totalled 19,610,000 lb. compared with 16,890,000 lb. in the same period in 1949. Woven wool fabrics amounted to 39,030,000 sq.yd. (compared with 35,380,000), woven blankets to 2,580,000 (compared with 1,670,000). The United Kingdom produced 26,730,000 lb. of merino and crossbred tops in Sept. 1950 (compared with 23,-290,000 in Sept. 1949).

Board of trade statistics for the cotton industry showed that production of single cotton yarns in Sept. 1950 was 16,210,000 lb. (compared with 15,810,000 in Sept. 1949). Waste yarns, alarmingly short at 1,880,000 lb. in Sept. 1949, increased to 1,970,000 lb. in 1950. Production of doubled yarns also increased (5,180,000 lb. compared with 4,820,000). Similar increases were noted in cotton cloth at 40,200,000 linear yards (compared with 38,300,000) and rayon and mixture cloths at 13,500,000 (compared with 12,900,000). In finished manufactures, exports claimed priority, but rising prices operated in favour of overseas competitors, particularly where quality was a secondary consideration. The total export value of filament rayon yarns, rayon staple and fabrics, ribbons, lace, etc., made from rayon was £3,900,000 in September, compared with £3,060,-000 in the previous year.

An outstanding introduction was a continuous machine for dyeing fabrics with the aid of molten metal. A new double-deck heavy-package uptwister featured flexible type spindles fitted with extra heavy roller-bearing inserts. There was an increasing use of new metal alloys and of plastics in warp beams, bobbins, etc. Other developments included electrical loom pilot-switches, tungsten carbide and ceramic thread-guides, yarn-tension meters, variable-speed drives, fluorescent lighting, liquid-flow indicators, machines for measuring lengths of fibres, yarns and fabrics and an instrument for measuring and recording irregularities in textile laps and slivers.

**Europe.**—European countries were badly affected by inadequate supplies of raw materials, but production and exports of yarns and piece-goods steadily expanded. Restrictions on the natural fibres were met to some extent by an increase in man-made fibres. Germany developed some new drop-box looms and a shuttleless loom claiming greatly increased speeds. A French circular loom attracted considerable attention, as did a Belgian automatic loom in which nickel-molybdenum acicular cast iron for the picking shafts and components was said to have virtually eliminated breakages in service. Swiss technical engineers further investigated their high-speed precision-built specialties. Details were also announced of Czech developments, including an automatic weft winder, a high-speed beam warper with magazine creel, two types of automatic looms, a heavy cotton loom and a pirn-changing attachment for looms, in addition to dob-bies and jacquards.

**British Commonwealth.**—The Pakistan government planned to set up more cotton mills and encouraged the erection of jute mills. A company was formed to erect three of the latter at Marayanganj, with 1,000 looms each. In Australia woollen cloth output increased by approximately 125% over pre-World War II figures, and textile industries were employing 35% more operatives than in 1939. Cotton, wool and rayon manufacturing steadily expanded, and some interesting new solvents, soaps and other detergents used in scouring wool, etc., were announced. (See also COTTON; LINEN AND FLAX; RAYON AND OTHER SYNTHETIC FIBRES; WOOL.) (A. DR.)

**Thailand** (SIAM). A kingdom of southeastern Asia, Thailand is bounded west and northwest by Burma, north-east and east by French Indochina and south by Malaya. Area





(excluding the territories taken from Indochina in 1941-46): 198,272 sq.mi. Pop. (1937 census) 14,464,105; (1947 census) 17,317,742; (1949 est.) 17,987,000. The 1937 census revealed only 524,062 Chinese (3.6%), but it included as Siamese the Chinese born in Thailand, whose number already in 1929 was 113,050. Language: Thai (Siamese) 75%; Chinese 20%; Indian and Malayan 5%. Religion (1947 est.): Buddhist 95%, Moslem 4%. Chief towns (1947 census): Bangkok (cap., 884,197); Khonkaen (590,664); Chiang Mai (534,628); Chiang Rai (481,621). Ruler, King Phumiphon Adundet (Rama IX) (*q.v.*); prime minister, Marshal Luang Pibul Songgram.

**History.**—The administration led by Marshal Pibul remained in office during 1950, with only slight changes. The political scene was relatively calm and the country suffered none of the violent disturbances such as occurred in Feb. 1949. There was some excitement on Jan. 27 when it was known that Lt. Gen. Kach Songgram, one of the leaders of the extreme militarist section of the army, had been arrested with 14 other officers. It was generally believed that the arrests were designed to prevent a military *coup d'état*. General Kach was deported to Hong Kong.

King Phumiphon arrived in Bangkok from Switzerland on March 24. On April 28 he was married to the daughter of the Siamese ambassador in London, and on May 5 his coronation took place. He left Thailand again for Switzerland on June 5. The trial of three men accused of complicity in the death of King Ananda Mahidol on June 9, 1947, continued throughout the year and still did not reach its conclusion. It could not be said that the evidence given shed any real light on this mysterious tragedy.

In the field of foreign relations, on Feb. 28 the Thai government extended recognition to the Bao Dai regime in Việt-Nam, though this step, which appeared to commit Thailand to the anti-Communist camp in the "cold war," was not taken without a cabinet crisis and was followed by the resignation of Nai Pote Sarasin from the office of foreign minister, not because of any sympathy on his part for the Communist cause in Indochina but, it appeared, because of his dislike of French policy; he was succeeded by Nai Worokarn Bancha. Later, in July, the government gave approval to the action of the United Nations in regard to Korea and undertook to send a military force of 4,000 men to assist in the defense of South Korea against the Communist attack.

Thailand continued to co-operate with the Malayan authorities in taking precautions for the peace of the southern border, and also sought co-operation with the United States. In April the government agreed to give aid in military equipment to the extent of \$10,000,000; on Sept. 19 an economic and technical co-operation agreement with the United States was signed, and this was followed by the arrival of experts to advise in matters of railways, harbours, minerals, public health, etc.; in the same month, a U.S. military mission visited the country. The government obtained assistance also from the International Bank for Reconstruction and Development, which on Oct. 30 announced the issue to Thailand of loans totalling \$25,400,000 for the rehabilitation of railways, port development, irrigation and drainage and inland water communications. (B. R. P.)

**Education.**—Schools (1948): government 440, pupils 63,581; local public and municipal 18,670, pupils 2,081,414, teachers 62,028; private 1,501, pupils 167,629; universities 5, students 10,494.

**Finance and Banking.**—Budget: (1949-50 est.) revenue 1,254,800,000 baht, expenditure 1,577,700,000 baht; (1950-51 est.) revenue 1,596,700,000 baht, expenditure 2,052,100,000 baht. Currency circulation (Dec. 1949) 2,365,000,000 baht. Bank deposits (Dec. 1949) 1,000,000,000 baht. Monetary unit: baht or tical with an exchange rate (Nov. 1950) 12.55 bahts to the U.S. dollar.

KING PHUMIPHON ADUNDET (RAMA IX), of Thailand in a royal procession through Bangkok after assuming the throne on May 5, 1950



**Foreign Trade.**—(1949) imports 2,297,000,000 baht; exports 2,809,000,000 baht. Main sources of imports: Hong Kong 12.8%; Japan 10.3%; Malaya and Singapore 8.7%; United Kingdom 7.8%. Main destinations of exports: Malaya and Singapore 31.0%; India 10.3%; Hong Kong 9.5%; Indonesia 7.3%.

**Transport and Communications.**—Roads (1948) 3,578 mi. Licensed motor vehicles (Dec. 1949): cars 6,600; trucks 4,800. Railways (1949): 2,033 mi.; passenger-miles (1948) 812,000,000; freight net ton-miles (1948) 187,000,000; freight net ton-miles (1948) 187,000,000. Air transport (1949): miles flown 1,212,000; passenger-miles 11,767,000; cargo ton-miles 174,000; mail ton-miles 32,000. Telephones (Bangkok, 1948) 5,586. Radio receiving sets (1949) 36,000.

**Agriculture and Fisheries.**—Main crops (metric tons, 1949): rice 5,630,000; maize 10,000; cotton 6,000; tobacco 10,000. Livestock: cattle (1949) 5,000,000; pigs (1947) 2,000,000; horses (1948) 230,000; buffaloes (1948) 5,500,000. Fisheries: total catch (1949) 195,800 metric tons.

**Industry.**—Raw materials (metric tons, 1949): rubber (net exports) 95,730; tin in concentrates 7,941. Cement production (1949) 127,000 metric tons.

**Theatre.** The U.S. theatre during 1950 was once again a fabulous invalid, racked with a variety of ailments and recovering spasmodically and miraculously to the amazement of the sceptical. Its maladies were many, while the diagnosticians—both among the producers and the critics—offered countless cure-alls.

Production costs rose alarmingly, reaching new heights; and many a moderately successful play found it virtually impossible to survive the strong competition for housing space. The promised plan to alleviate the chronic theatre shortage by constructing several new playhouses in New York city was abandoned when the federal government—after the outbreak of war in Korea—imposed wartime building restrictions. Another optimistic drive to reduce or eliminate entirely the luxury tax on theatre tickets met a similar fate with the coming of the new war. Motion picture, radio and television interests made further inroads into the property of the legitimate theatre by leasing additional playhouses in Manhattan.

There were few new plays of estimable stature by native dramatists, and during the autumn the U.S. theatre came to lean heavily on imports from England. Even the musical comedy stage (long a characteristic stand-by of the American theatre)—though prolific—yielded nothing to compare with such inspired efforts of previous years as *Oklahoma!*, *Carousel*, *Brigadoon* or *South Pacific*.

The Drama Critics' circle—in lieu of anything better—selected *The Member of the Wedding* by Carson McCullers as the best play of the year. This was Miss McCuller's dramatization of her own novel of a lonely childhood in the southlands. As dramatic writing it was ineffectual, but there were helpful performances by Julie Harris as the unhappy adolescent, by Ethel Waters as her Negro nurse and by Brandon De Wilde as her little brother. *Come Back, Little Sheba*—written by William Inge, a former dramatic critic from St. Louis, and produced by the Theatre guild—appeared to be a play of considerable promise. In his telling of a rather banal tale (the decline of a drunkard unable to accept his intolerable home-life), Inge displayed his talent for both dialogue and characterization, and his play was admirably acted by Sidney Blackmer and Shirley Booth.

T. S. Eliot's *The Cocktail Party* achieved a greater success in New York than it did in London. A strange mixture of advanced poetry, psychiatry and obscure religious philosophy, it was dramatically little more than a sophisticated rewriting of *The Passing of the Third Floor Back*. Brilliantly acted by Alec Guinness as the mysterious psychoanalyst who knows all of life's secrets and by an all-British company, it found responsive audiences and ran through the entire year.

Two established U.S. playwrights—Clifford Odets and Samson Raphaelson—returned from Hollywood with new plays. The Odets play—one of his best—*The Country Girl*, a realistic picture of backstage life and the career of a drunken actor, was



SCENE from Gian-Carlo Menotti's *The Consul* which opened in New York city in March 1950, and received the Donaldson and New York Drama Critics' Circle awards as the best musical play of the season and the 1950 Pulitzer prize for music

further distinguished by the performances of Paul Kelly as the fading Thespian and Uta Hagen as his long-suffering wife. *Hilda Crane* by Samson Raphaelson concerned a career woman whose turbulent life ends in suicide. Jessica Tandy, the original Blanche Du Bois of *A Streetcar Named Desire*, played the similar leading role with moving power.

On the lighter side were Wolcott Gibbs' comedy of daily life at a Fire Island summer resort, *Season in the Sun*, a diverting piece of foolery; Louis Verneuil's *Affairs of State* which dealt with love affairs in Washington, D.C.; Rex Harrison and Lilli Palmer in John van Druten's *Bell, Book and Candle*, a comedy of a publisher's encounter with a witch; and *The Happy Time* by Samuel Taylor, a homespun comedy-farce of French-Canadian family life in the 1920s.



In *The Wisteria Trees*, Joshua Logan attempted to rearrange Chekov's *The Cherry Orchard* for Helen Hayes by transplanting the Russian countryside household to Louisiana, but met with only moderate success despite the excellent acting of Miss Hayes. Maurice Valency's adaptation of Jean Giraudoux's *Intermezzo* (retitled *The Enchanted*) was a quick failure, while William Archibald's *The Innocents* (based on Henry James' "The Turn of the Screw") lingered for several months.

After September the English invasion commenced. Dame Edith Evans' performance in James Bridie's *Daphne Laureola* won critical praise but not public support. Flora Robson in a psychological drama, *Black Chiffon*, apparently pleased the majority. Aldous Huxley's own dramatization of *The Gioconda Smile* survived only six weeks, and *The Day After Tomorrow*, a typical Frederick Lonsdale drawing-room comedy, was withdrawn almost immediately.

John Gielgud and Pamela Brown brought Christopher Fry's fine poetic comedy of witchcraft in 15th-century England—*The Lady's Not for Burning*—to Broadway and introduced an important new British playwright to U.S. audiences. Some weeks later Fry's adaptation of Jean Anouilh's *Ring Round the Moon*, a charade with music, again proved Fry's wit and skill as a dramatist.

Statistics of the Theatre in New York City

	1950	1949
Productions . . . . .	99	84
Musical comedies . . . . .	28	29
Plays . . . . .	71	55
Premières . . . . .	47	46
Successful productions . . . . .	20	14
Performers employed . . . . .	1,873	1,821
Tickets sold . . . . .	9,200,000	8,500,000
Approximate cost of production . . . . .	\$4,100,000	\$3,800,000
Number of shows booked for other cities . . . . .	68	72

Among the revivals that prospered were Sir James Barrie's *Peter Pan* with Jean Arthur as the boy who never grew up and with Boris Karloff as Captain Hook; Maurice Evans and Dennis King in George Bernard Shaw's *The Devil's Disciple*; Estelle Winwood in another Shaw play, *Mrs. Warren's Profession*; Katharine Hepburn in *As You Like It*; and Cyril Ritchard in Sir John Vanbrugh's rowdy Restoration comedy, *The Relapse*. *Death of a Salesman*, *Mister Roberts*, *Gentlemen Prefer Blondes*, *South Pacific* and *Kiss Me, Kate*—all the fruit of other seasons—continued their engagements through 1950.

Gian-Carlo Menotti's *The Consul*, though actually a grand opera, was offered as a "dramatic musical" on Broadway. A desperate tragedy of lives destroyed by fascism, it towered above the usual theatre fare both dramatically and musically and was superbly sung by Patricia Neways and Marie Powers. There were many musical comedies, the majority deficient in both music and comedy. Among the more popular were Ethel Merman in Irving Berlin's *Call Me Madame*, a burlesque of an American lady ambassador's adventures in foreign court circles; *Tickets, Please* with the Hartmans; *Pardon Our French* with Ole Olson and Chic Johnson; *Michael Todd's Peep Show* and *Guys and Dolls*, based on some Damon Runyon stories.

The Arena theatre—substituting a central platform for a proscenium—gave a series of revivals including *The Show-Off*, *Julius Caesar*, *The Medium* and *Arms and the Man*, while the American National Theatre and Academy commenced its long-planned program with Judith Anderson in *Tower Beyond Tragedy* by Robinson Jeffers.

(T. Q. C.)

**Canada.**—Dominion drama festival awards were won at the festival held in Calgary in May: Lord Bessborough trophy (highest honour) to the Toronto Belmont group theatre for Clifford Odets' *Awake and Sing*; Sir Barry Jackson trophy (best Canadian play) to the Ottawa drama league for *Rumpelstiltskin* as dramatized by Marion Taylor; Henry Osborne trophy (best male role) to William Walker, Nella Jeffries trophy (best fe-

male role) to Jeanne Morphy, both in Noel Coward's *Present Laughter*.

Summer theatre developments included the following: Nova Scotia players toured 50 maritime centres; the open-air playhouse of Montreal specialized in Shakespeare; in Ontario international players of Kingston, Midland players of Allanbury, the summer theatre of Peterborough, and the straw hat and barnstormers of Muskoka Lakes, were active; the provincial players of Alberta toured 28 centres; Vancouver's theatre under the stars presented its 11th season; the Canadian repertory theatre in Ottawa pioneered by giving Canadian and North American premières of American and British plays. (C. Cy.)

**Great Britain.**—A red-letter day in Britain's theatrical calendar of 1950 was Nov. 14 when the Old Vic company came home to its theatre in Waterloo road, London, after an exile of 11 years.

At Stratford-on-Avon there was also an event of significance, the appearance of John Gielgud at the head of the company. In the days before World War II when Gielgud stood alone at the head of Britain's classical actors the idea that he should remove his talents to the depths of Warwickshire would have seemed unthinkable both in Stratford and in London. The fact that he, Peggy Ashcroft, Godfrey Tearle and Diana Wynward, together with other players of like standing, were regular members of the company in 1950 was the exact measure of the change which had come both to public taste and the confidence of the Shakespeare Memorial theatre in itself.

In the West End the year lacked something of the distinction of its predecessor. In general, managements seem to find it difficult to obtain workmanlike plays, and as a result there was a number of dead failures. This was the more disappointing because the year opened in a manner to suggest that something very different was in store. Between Jan. 18 and Jan. 26 three plays by Christopher Fry were produced and acclaimed. These were *Venus Observed*, *The Boy with a Cart*, and *Ring Round the Moon*. Fry had had a fair success in 1949 with his first full-length play, *The Lady's Not for Burning*, and his emergence as a popular as well as a distinguished author spoke as well for the public's taste as for his talent. On May 3 the arrival of T. S. Eliot's *The Cocktail Party*, and its immediate success, added to the impression that 1950 was to be a year of sustained brilliance. Essentially, however, *The Cocktail Party* belonged to 1949 and nothing of similar quality arrived to keep up the standard.

The established dramatists on the whole wrote much below their best. Exceptions to this rule were Emlyn Williams with *Accolade* and Benn Levy with *Return to Tyassi*; while Frederick Lonsdale, breaking a silence of some years with *The Way Things Go*, adapted his style to the changed times with much ingenuity. Three plays which had been successful in New York were taken to London. *Mister Roberts* by Thomas Heggen and Joshua Logan drew great crowds. Sidney Kingsley's *Detective Story* was less fortunate and soon failed, and *Carousel* inherited something of the popularity of the triumphant *Oklahoma*!

For the Edinburgh festival of 1950 the Scottish dramatists James Bridie and Eric Linklater were invited to supply a play each. Bridie responded with *The Queen's Comedy* based on an incident in Homer's *Iliad* but expressed in terms of modern warfare with the gods of Olympus at their ancient games of interference and undue influence. Linklater's contribution was *The Atom Doctor*, a well worked out story of a charlatan and his dupes in an Edinburgh setting.

(W. A. DN.)

FILMS OF 1950.—*On Stage* (National Film Board of Canada).

**Therapy:** see CHEMOTHERAPY; MEDICAL REHABILITATION OF THE DISABLED; PSYCHIATRY.

**Throat:** see EAR, NOSE AND THROAT, DISEASES OF.



**Tibet.** A country of central Asia, lying north and northeast of the Himalayas, Tibet is mainly a high tableland. Nominally a Chinese dependency, it had been in practice independent, and was the only country in the world entirely under ecclesiastical control. Area: *c.* 469,294 sq.mi. Population (1948 est.): *c.* 3,000,000, one-fifth of the male population being monks. Capital: Lhasa. Language: Tibetan. Religion: Buddhist. Ruler, Ling-Erh-La-Mu-Fan-Kha (formerly Lhamo Dhondup), the 14th dalai lama, born June 6, 1935, and enthroned Feb. 13, 1940.

**History.**—From the beginning of 1950 the Tibetan authorities became aware of the frequency with which the Chinese Communist government was asserting its suzerainty over Tibet and of its intention to "liberate Tibet by force."

In Aug. 1950 Jawaharlal Nehru (*q.v.*), prime minister of India, stated that the Indian ambassador in Peking had informally pointed out to the Chinese government the desirability of settling the Tibetan question peacefully. In October the ministry of external affairs at Delhi, India, stated that the Tibetan government had asked India's help in settling the dispute arising from the Chinese invasion. Meanwhile the Indian government had forcefully pointed out to the Chinese government its deep regret that the Chinese should have decided to seek a solution of the Tibetan question by force. Peking replied that no foreign interference would be tolerated as Tibet was a domestic Chinese problem.

Conflicting information regarding the progress of the Chinese troops continued to come in, but it appeared that they had not gone much beyond Chamdo in eastern Tibet.

On Nov. 17 the Tibetans took the important step of investing with full powers the 15-year-old dalai lama. This investment came as a surprise, for usually the dalai lama does not come of age until he reaches 18 years. The decision was obviously intended to brace the Tibetan people for resistance to the Chinese, as the news that the dalai lama had assumed full powers would be heartening to so devout a nation. The Chinese government was believed to be endeavouring to put in the 13-year-old panchen lama as a substitute for the dalai lama at the head of Tibet.

This would not be acceptable to the Tibetans as a whole. The panchen lama was admittedly the reincarnation of the highest spiritual authority in Tibet, and he had a minor temporal responsibility for the province in which his monastery was situated at Shigatse. But the dalai lama not only had spiritual functions of great importance and second only to those of the panchen lama, but he had been possessed of the temporal power ever since the 17th century. It should be admitted that there was frequently a certain amount of friction between the two grand lamas and their followers, but broadly the pre-eminence of the dalai lama in secular matters was unquestionable, and as the present dalai lama was fully invested and was two years older than the panchen lama he was expected to be in a good position to refute Chinese pretensions.

Tibet appealed to the United Nations. India, in a further note to the Chinese government on Oct. 31, made it clear that India had no political or territorial ambitions in Tibet and sought no privileged position for itself or nationals in that country. After discussing the legitimate Tibetan claims to autonomy within the framework of Chinese suzerainty the Indian note pointed out that there was no allegation of provocation on the part of the Tibetans, hence there was no justification for the military operations against them.

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**FILMS OF 1950.**—*Inside Tibet* (Association Films, Inc.). (E. Hd.)

**Timber:** see FORESTS; LUMBER.

**Timor:** see PORTUGUESE COLONIAL EMPIRE.

**Tin.** World tin production was stepped up by 6% in 1949, increases in Malaya and Thailand more than offsetting a 9% loss in Bolivia, and smaller losses in China and Indonesia. The 1949 total was the largest since 1941. Outputs of the major producers are shown in Table I, as reported by the U.S. bureau of mines.

Table I.—World Production of Tin

	(In thousands of short tons)						
	1943	1944	1945	1946	1947	1948	1949
Australia . . . . .	2.9	2.9	2.6	2.4	2.7	2.1	2.2
Belgian Congo . . . . .	19.6	19.4	19.1	15.8	16.7	15.3	13.5
Bolivia . . . . .	46.5	43.5	47.6	42.1	37.3	41.3	38.2
China . . . . .	8.4	3.7	1.7	2.8	4.3	5.4	4.7 <sup>2</sup>
Malaya . . . . .	29.1	10.4	3.5	9.4	30.3	50.2	61.5
Indonesia . . . . .	19.8	7.6	1.2	7.2	17.3	32.2	32.4
Nigeria . . . . .	14.4	14.0	12.6	1.5	10.2	17.3	2.2
Thailand . . . . .	6.5	3.7	2.0	1.2	1.5	4.7	8.7
Others . . . . .	12.6	7.8	7.2	6.1	6.8	7.0	7.3
Total . . . . .	159.8	113.0	97.4	88.6	128.2	171.1	181.1

**United States.**—The more important data of the industry in the United States are summarized in Table II.

Table II.—Data of the Tin Industry in the United States

	(In thousands of short tons)						
	1943	1944	1945	1946	1947	1948	1949
Imports, total . . . .	41.0	54.8	47.0	60.1	59.7	97.1	100.3
In concentrates . .	27.5	39.8	37.5	42.7	31.8	42.0	42.9
Metal . . . . .	13.5	14.9	9.5	17.4	27.9	55.1	67.4
Smelter output . . .	24.1	34.6	45.3	48.7	37.6	41.6	40.4
Secondary recovery .	37.9	32.6	39.3	31.0	30.0	30.1	24.9
Consumption, total .	90.0	100.8	93.6	90.6	98.7	101.7	81.0
Primary . . . . .	51.8	66.3	62.3	61.2	66.3	67.0	52.8
Secondary . . . .	38.2	34.5	31.3	29.5	32.4	34.6	28.2
Stocks, industry . .	27.9	23.7	17.7	19.3	23.5	16.6	25.4

Smelting operations were at a somewhat lower rate in 1950, the total output through October being 29,035 tons, as compared with the 1949 total of 40,379 tons. (See also CANNING INDUSTRY; MINERAL AND METAL PRODUCTION AND PRICES.)

(G. A. Ro.)

**Tires:** see RUBBER.

**Titanium:** see CHEMISTRY; MINERAL AND METAL PRODUCTION AND PRICES.

**Tito** (JOSIP BROZOVICH OR BROZ) (1892— ), Yugoslav prime minister, was born on May 25 at Kumrovec, Croatia. He served in the Austro-Hungarian army in World War I and in 1915 was captured by the Russians. A prisoner of war until 1917, he joined the Red army and fought with it against anti-Communist Russian armies. In 1920 he was sent by the Comintern to Yugoslavia to organize the Communist party there. From 1928 to 1934 he served a term of imprisonment for conspiracy, and in 1937 he became secretary-general of the Yugoslav Communist party. After the Germans overran Yugoslavia in 1941, Tito organized a leftist guerrilla group which effectively harried the axis occupation forces. In the first months of 1945 all Yugoslavia was liberated and on March 7, 1945, Tito, who in the meantime had appointed himself marshal, became prime minister and commander in chief. On June 28, 1948, the Cominform published a statement denouncing Tito for his "hateful policy in relation to the U.S.S.R." But from a correspondence between Belgrade and Moscow published later it was possible to learn that the real core of Tito's heresy was his brand of Yugoslav patriotism. "Even though we love the U.S.S.R. we cannot love our own country less," wrote Tito to Stalin on April 13, 1948. As the propaganda campaign of all Communist-controlled countries against Tito continued during 1949 to increase in violence, the Yugoslav leader was forced to make many public replies. On May 31, 1950, he proclaimed that Yugoslavia was the only neutral country in the contemporary world. On Oct. 29, at Zagreb, he paid tribute to the U.S. government, which was helping Yugoslavia in its food crisis without imposing any political obligations. (See also YUGOSLAVIA.)



**Tobacco.** The U.S. tobacco crop of 1950 was estimated at 2,035,915,000 lb., compared with 1,972,359,000 lb. in 1949, a 10-year average of 1,777,945,000 lb. and an all-time record crop in 1946 of 2,332,000,000 lb. Record yields per acre of 1,277 lb. were slightly higher than the previous record 1,274 lb. of 1948. The acreage harvested in 1950 of 1,594,000 was lower than the 1,631,000 ac. of 1949 and the 1,650,000 ac. average of the decade.

Class I flue-cured types of tobacco, produced mainly in coastal plain areas south of Maryland and the chief tobacco used in cigarettes and for the export trade, were estimated at 1,255,790,000 lb. in 1950, 13% larger than the 1,114,508,000 lb. in 1949, compared with a ten-year average of 1,020,200,000 lb. The harvested acreage of 954,500 was larger than the 935,400 ac. in 1949, but less than the 1939-48 average. Yields per acre were the highest on record, 1,316 lb., compared with 1,191 lb. in 1949 and an average of 1,048 lb. for 1939-48. North Carolina was the leading state. Exports of these types were 447,000,000 lb. in 1949-50, or about 15% greater than the previous year; anticipated exports in 1950-51 were at a favourable though slightly lower level. Domestic use in 1949-50 was at a record level and was expected to hold near that level in 1950-51. Carry-over of the flue-cured type on July 1, 1950, was 1,484,000,000 lb., 3½% less than a year before, with carry-over on July 1, 1951, forecast at 1,510,000,000 lb. The 1950 crop at early sales brought an average price of about 55 cents per pound, a new record high.

Class II fire-cured types, produced mostly in Kentucky and Tennessee, in 1950 yielded only 57,690,000 lb., a record low compared with 72,073,000 lb. in 1949 and 80,430,000 lb. average for the previous decade. Acreage, under quota, was sharply reduced to the lowest on record, 53,100 ac., compared with 60,400 ac. in 1949 and 81,450 average for 1939-48. Yields declined to 1,086 lb. per acre, compared with 1,193 lb. in 1949; the ten-year average was 997 lb. Carry-over of 165,000,000 lb. was the largest since 1944, and the supplies of this type, a considerable part of which are used in making snuff and chewing tobacco, were fully ample to meet domestic use and prospective exports. Exports in the year prior to Oct. 1 were 29,000,000 lb., one-third less than in 1948-49 and less than one-half the pre-World War II average.

The burley-type tobacco crop of 1950 amounted to only 499,266,000 lb., compared with 560,129,000 lb. in 1949 and 471,393,000 lb., average for 1939-48. Yields were less than the record 1,396 lb. of 1948, but at 1,232 lb. (1,235 in 1949) were larger than the 1,104 lb. average for 1939-48. The harvested acreage of 405,300 was down sharply compared with either the 453,400 ac. of 1949 or the decade average of 422,720 ac. Carry-over stocks on Oct. 1 were estimated at 1,000,000,000 lb., a new record, exceeding the 1949 record of 974,000,000 lb. Exports declined slightly. Early auctions indicated a price several cents per pound higher than the average of 45 cents per pound received for the 1949 crop.

The southern Maryland tobacco (type 32) crop of 1950 totalled 40,000,000 lb., compared with 41,250,000 lb. in 1949, and 32,121,000 lb. average of 1939-48. The per acre yield in 1950 was 800 lb., below the 825 lb. of 1949 but about 762 lb. average of 1939-48. Carry-over stocks of 58,000,000 lb. were somewhat

higher than in 1949; exports lagged. The 1950 sales of the 1949 crop gave an average price of 48.5 cents per pound, compared with a wartime peak of 57 cents; government price supports were set at 48.6 cents per pound on the 1950 crop, 16% higher than on the 1949 crop.

The 1950 crop of dark air-cured type tobacco was 30,569,000 lb., well below the 35,941,000 lb. of 1949 and the 39,347,000 lb. for the preceding decade (average). The per acre yield of 1,054 lb. was comparable with 1,120 lb. in 1949 and an average for the decade of 1,032 lb. Carry-over stock of 80,000,000 lb. was a record. The support price on the 1950 crop was 30.5 cents per pound.

Cigar types of tobacco in 1950 were produced in an amount of 152,450,000 lb., compared with 148,258,000 lb. in 1949 and an average for the decade 1939-48 of 134,292,000 lb.

The total U.S. cigarette output in 1950 was about 395,000,000,000, a new record; 384,980,000,000 were manufactured in 1949. Cigar consumption of about 5,600,000,000 in 1950 was approximately the same in the previous year; those below eight cents in price were increasingly emphasized. Cigarette exports in 1950 dropped sharply to 14,000,000,000, as compared with 19,547,000,000 in 1949 and the record level of 25,179,000,000 attained in 1948.

The world's tobacco harvest during the year July 1950 through June 1951 was forecast at 7,220,000,000 lb., 2% more than the revised estimate of 1949-50 production of 7,100,000,000 lb. and compared with the prewar average (1935-39) output of 6,597,000,000 lb.

(J. K. R.)

**Tobago:** see TRINIDAD AND TOBAGO.

**Tobin, Maurice Joseph** (1901- ), U.S. secretary of labour, was born in Roxbury, Mass., on May 22. He worked for the New England Telephone and Telegraph company for a number of years, served in the Massachusetts legislature, 1927-28, was mayor of Boston, 1937-44, and governor of Massachusetts, 1944-46. In 1948 Pres. Harry S. Truman appointed him secretary of labour. In 1949 and early 1950 Tobin led in campaigns to repeal the Taft-Hartley labour law, to raise unemployment benefits and institute larger retirement benefits for labour. When a clothing union official, alarmed at unemployment, advocated in May 1950, a 35-hr. week, Tobin called the idea impractical "at present." Later Tobin was called upon to supervise the supply of labour for U.S. remobilization, and on Sept. 29 he set up an office of defense manpower to develop "plans, policies and programs" for assuring adequate labour supplies to war plants.

**Togoland:** see BRITISH WEST AFRICA; FRENCH WEST AFRICA; TRUST TERRITORIES.

**Tongan Island Protectorate:** see PACIFIC ISLANDS, BRITISH.

**Tongking:** see INDOCHINA.

**Tornadoes:** see DISASTERS.

**Toronto.** By Jan. 1950 the population of the capital of Ontario had declined 7,000 from the Jan. 1949 figure, largely because of the movement to the surrounding suburbs; the total population of the area was 1,021,007. The provincial government pressed hard for unification of the 12 suburbs and Toronto proper into one municipal unit, and set up a committee to examine the idea with a possibility of unification by Jan. 1, 1951. Toronto proper endorsed the scheme, but some of the surrounding municipalities continued to oppose it.

Municipal elections were held in Jan. and Dec. 1950. Under the former law, elections were on Jan. 1, at which two plebi-

U. S. Tobacco Production by Leading States

(In thousands of lbs.)

State	1950	1949	Average 1939-48	State	1950	1949	Average 1939-48
North Carolina . . .	873,150	747,032	709,014	Maryland . . .	40,000	41,250	32,121
Kentucky . . .	364,450	438,245	386,325	Wisconsin . . .	31,986	30,846	33,252
Virginia . . .	165,220	136,972	132,659	Connecticut . . .	27,509	26,568	23,527
South Carolina . . .	150,480	147,075	120,400	Ohio . . .	26,430	29,140	24,559
Tennessee . . .	133,320	136,277	123,872	Florida . . .	22,700	25,063	19,157
Georgia . . .	101,545	115,670	88,728	Massachusetts . . .	13,225	13,735	9,981
Pennsylvania . . .	61,415	58,709	51,164	Indiana . . .	12,860	13,328	11,436



scites were held: commercial sports were legalized on Sundays (excepting Easter Sunday, and Christmas when on Sunday), and the traditional Jan. 1 voting day was changed to the first Monday of December. At the December election, a record of 47.49% of the voters turned out.

The city council voted in 1950 to rescind the licence of any business which discriminated against a customer because of colour or creed. Concrete pouring on the subway began in March, two months ahead of schedule. The provincial department of planning and development recommended spending \$180,000,000 on civic improvements, of which the Toronto city planning board selected \$28,000,000 of capital expenditures for 1951, including major street widenings and extensions.

(C. Cy.)

**Tourist Travel.** By 1950, close to 70,000,000 Americans were contributing annually to the gross national vacation expenditure, estimated at between \$7,000,000,000 and \$12,000,000,000. The travel upsurge of the post-World War II years had been accounted for in large measure by the spread of the 40 hr. work week with annual vacation leave and a steadily rising standard of living. In addition, private passenger cars, of which there were approximately 40,000,000 in the United States in 1950, had become an important factor in long-distance travel. Between 80% and 90% of all vacation travel is by means of the automobile.

Regions under jurisdiction of the national park service comprised the major U.S. travel objectives in 1950. For the 12 mo. ending Sept. 30, these areas were visited by a total of 32,782,238 persons, an all-time record, exceeding the previous high, set in 1949, by 11%. Four parks were visited by more than 1,000,000 persons each: Great Smoky Mountains National park in North Carolina-Tennessee (1,598,886), Shenandoah National park in Virginia (1,147,542), Rocky Mountain National park in Colorado (1,118,630) and Platt National park in Oklahoma (1,059,220). Shenandoah and Rocky Mountain National parks topped 1,000,000 for the first time.

Other travel objectives, administered by the national park service, which topped the 1,000,000-visitor mark were: Lincoln memorial, Washington, D.C., (1,917,157), Lake Mead National Recreational area in Arizona-Nevada (1,612,045) and Blue Ridge parkway in Virginia-North Carolina (1,596,221). Significantly, historic shrines such as the Lincoln memorial and Civil War battlefields appeared to draw as many visitors as the spectacular scenic regions. A total of 96.3% of all visitors to the national parks travelled in private automobiles.

Other important vacation areas were the state parks and national forests, which were expected to surpass their all-time records in visitor volumes set in 1949 of 107,000,000 and 26,000,000 respectively.

The three leading tourist states in 1950 continued to be Florida, which was visited by about 5,000,000 persons who spent a total of \$900,000,000; California, with about 4,800,000 visitors spending an estimated \$880,000,000; and Michigan, with 7,000,000 persons who spent more than \$560,000,000.

Among other states that considered vacation travel one of their three major industries were Arizona, Colorado, Kentucky, Minnesota, Montana, New Hampshire, New Mexico, North Carolina, South Dakota, Virginia, Vermont, Washington, Wisconsin and Wyoming. Advertising budgets of state agencies alone totalled in the neighbourhood of \$5,000,000, with one-third of them spending at least \$100,000 each.

About 50% of all vacation trips were taken during the summer months, 25% in autumn, 13% in spring and 12% in winter. The average motoring vacationist travelled 928 mi. per trip; in aggregate, motorists spent \$970,000,000 for gasoline, oil and

automobile accessories in the course of recreational travels.

Percentages of vacation trips by means other than automobile were estimated to be: rail pullman, 5%; rail coach, 13%; bus, 11%; air, 3.5%; ship and boat (except overseas), 3%; ship overseas, .2% (the total exceeds 100% since many trips used more than one method).

Canada in 1950, as in preceding years, was the major foreign objective of U.S. travellers, with tourist volume increasing over the record year of 1949. That year travellers from other countries spent a total of \$286,000,000 in Canada. Of this amount, \$268,000,000 originated in the United States and the greater part of the remainder of \$18,000,000 came from the United Kingdom. Of the total number of 3,815,855 U.S. tourist travellers, slightly more than 2,500,000 arrived by automobile; 551,309 by rail; 334,680 by bus; 300,243 by boat; and 128,836 by plane.

States from which the greatest volume of Canada-bound travel originated were New York, Michigan, Washington, Ohio and Maine. By far the most popular province was Ontario.

Travelling farther north, motorists in quest of adventure drove over the Alaska highway to visit Alaska in record numbers. During the summer tourist season a total of 4,813 automobiles carrying 12,439 persons made the 2,350-mi. trip from the U.S. border to Fairbanks.

Approximately 220,000 Americans visited Mexico, two-thirds by automobile. The major gateway was Laredo, Tex., through which 120,000 tourists in 40,000 automobiles crossed the border. The most important tourist development in Mexico was the opening of the new Central highway, the longest link of the Pan-American Highway system in a single country, extending 2,176 mi. from Ciudad Juárez (across the Rio Grande from El Paso, Tex.) to the village of El Ocotil, at the Guatemalan frontier. Below Mexico, however, the Pan-American highway was still far short of completion, and tourist travel was impractical, if not impossible.

South America, still to reach its full potential of tourist travel from the United States, made forward strides in 1950, principally through the action of six countries—Argentina, Bolivia, Chile, Ecuador, Uruguay and Venezuela—in waiving the visa requirement for U.S. citizens. Winter cruises comprised a large volume of the South American trade and the greatest number of ships in any single post-World War II year were due to travel to southern waters during the 1950-51 winter season.

Hawaii, served by three air lines and a steamship line, entertained 50,000 visitors, an increase of almost 5,000 over 1949. The tourist industry was outranked as a revenue earner only by sugar and pineapples.

In western Europe, perhaps more than any other section of the world, tourist travel was regarded as a major industry and source of dollars. The Economic Cooperation Administration and department of commerce acted jointly to encourage nations participating in the Marshall plan to adopt an aggressive program of travel promotion aimed at the American travel market.

With Holy Year in Rome as the major attraction, western Europe succeeded in drawing approximately 400,000 visitors from the United States. While the majority made their journeys during the summer months, the season was extended from mid-April until mid-October, largely through the means of reduced hotel rates, an extensive program of planned events and the air lines' inducement of fare reductions up to 25%. Approximately two-thirds of all transatlantic traffic was aboard steamships, the rest on air liners. The expenditure by Americans in the western European countries was estimated at \$220,000,000.

The majority of Americans in Europe visited both France and Italy; other countries in order of popularity were England, Switzerland, Holland, Belgium, Sweden, Denmark and Norway.



Approximately 50,000 Americans toured Europe by automobile. A total of 3,000 cars was shipped abroad from the U.S.; many others were rented for use on arrival. In Europe, as in the U.S., an average of three passengers travelled in each car. (See also AMERICAN CITIZENS ABROAD; NATIONAL PARKS AND MONUMENTS.)

(R. U. E. S.)

**Town and Regional Planning.** The 20th Congress of the International Federation for Housing and Town Planning was held Aug. 27–Sept. 2, 1950 in Amsterdam, the Netherlands, its headquarters.

The Netherlands Royal commission issued a report containing proposed housing and planning bills. The German Association for Housing and Town Planning, with headquarters at Frankfurt-am-Main, met in Berlin-Charlottenburg on May 6 and 7. In Yugoslavia a number of large towns and industrial centres were under construction; at Sarajevo wide avenues were laid out to replace narrow, winding streets. In Belgium the principal effort was to replace destroyed buildings and provide habitations for the people. In Rome, It., huge blocks of houses, 7 to 18 stories tall, were setting a pattern of high density occupation. In the outskirts, blocks of three-story flats were built to house refugees while they were being trained as building operatives. Warsaw, Pol., was building some of the residential units of its monumental plan. The city of Oslo, Nor., established a City Planning department and issued a general plan.

In Great Britain, the plan prepared for the city of London was being incorporated into a development plan for the county of London. It was planned under the New Towns act to provide for about 250,000 inhabitants of London in new towns. Eight locations had been named and reports issued for most of them.

In Canada the Conference of the Community Planning association met in Ottawa, where a master plan for the capital city had been prepared. Reports were given on planning in Canadian cities. In March, the American Institute of Planners and the Canadian Institute of Professional Town Planners met at Niagara Falls, Ont.

In the United States, the American Planning and Civic association met in Washington, D.C., in May 1950, and the American Society of Planning Officials met in Los Angeles in August. During the year most of the larger cities were engaged in revising plans to meet new conditions. The 1950 census provided accurate population counts. Philadelphia amended its zoning ordinance to eliminate mixed uses of land and provide better facilities in industrial districts. The greatest stimulant to planning in the smaller cities came from the regulations requiring comprehensive plans as a preliminary to federal loans and grants from the Housing and Home Finance agency for urban redevelopment programs. U.S. cities continued to be preoccupied with traffic congestion. In November the Chamber of Commerce of the U.S. called a Businessmen's Conference on Urban Problems in which traffic, offstreet parking and urban redevelopment were discussed. In addition to many neighbourhood shopping centres two regional centres had been established, Northgate near Seattle, Wash., and Crenshaw in Los Angeles, Calif. A report from the country club district of Kansas City, Mo., described nine shopping centres designed to serve more than 100,000 residents. (See also HOUSING.)

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*Detroit Region* (1950); City of Milwaukee, *Roads to a Better Milwaukee* (1950); City of Los Angeles, *The First Hundred Years* (1950); Oakland City Planning Commn., *The Transit Problem in the East Bay Region* (1950); Tacoma City Planning Commn., *Streets* (1950); Toledo-Lucas Co. Planning Commns., *Expressways* (1950); Toledo Commn. of Publicity and Efficiency, *Pattern for Parking* (1950); Civic Advisory Council of Toronto, *Report on Citizens Organizations* (1950); Greater Winnipeg Met. Planning Commn., *Summary of Recommendations for Comprehensive Plan* (1950).

**FILMS OF 1950.**—*Plan for Living* (Australian News and Information Bureau; *What is a City* (Bailey Films Inc.). (H. Js.)

**Track and Field Sports.** One of the outstanding track and field men of the year 1950 was the 200-lb. Jim Fuchs, who represented Yale university and the New York Athletic club. Fuchs again went unbeaten in the shot-put to run his victory string through 72 consecutive meets.

The Eli giant, who made a sweep of the five national Amateur Athletic union, National Collegiate Athletic association and Intercollegiate A.A.A. titles, continued to improve on the world record, his best toss of 58 ft. 10½ in. being made in Sweden in August after he had hurled the sphere 58 ft. 5½ in. at Los Angeles, Calif., in April. In addition to his 16-lb. shot marks, Fuchs set U.S. records of 67 ft. 1 in. with the 12-lb. shot and 80 ft. 2¼ in. with the 8-lb. ball.

Dick Attlesley of the University of Southern California and the Los Angeles Athletic club had an undefeated year in the high hurdles. Early in 1950 he bettered Harrison Dillard's world mark when he was clocked in 13.5 sec. for the 120-yd. event and later he surpassed Spec Towns's 110-m. record in annexing the national A.A.U. outdoor crown in 13.6 sec.

Bob Mathias, Olympic decathlon champion, scored 8,042 points to keep his national title and in so doing eclipsed Glenn Morris' world standard of 7,900 points set in 1936 at the Olympic games in Berlin.

Don Gehrmann of Wisconsin captured the "longest race in history" and went undefeated in the mile run. At the meeting of A.A.U. officials in December, Gehrmann finally was declared winner of the Wanamaker mile of the previous Jan. 28. Gehrmann and Fred Wilt had run a blanket finish in that famous event in Madison Square Garden. Gehrmann's 4 min. 9.3 sec. in that indoor classic was his best mile of 1950. Wilt turned in the fastest 5,000-m. time ever for an American when he did 14 min. 26.8 sec. overseas after capturing the A.A.U. championship.

Mal Whitfield of the U.S. air force proved the top half-miler for the third straight year and equalled the world mark of 1 min. 49.2 sec. held by Syd Wooderson of Great Britain. Adolph Weinacker and Henry Laskau of New York city dominated the A.A.U. walking events, Weinacker taking national honours at 15, 20, 25, 30, 35 and 40 m. Laskau walked an indoor mile in the best time ever recorded in winning A.A.U. laurels in 6 min. 19.2 sec. Sam Felton erased what was believed to be the oldest championship record in amateur books when he threw the hammer 187 ft. 7¼ in.

Arthur Bragg and Bob Tyler of Morgan State college, Baltimore, Md., won the 100- and 200-m. dashes, respectively, in the A.A.U. outdoor games. Andy Stanfield of Seton Hall college, South Orange, N.J., the 60-yd. champion indoors and dominant speedster of 1949, hurt a leg in the outdoor campaign, but not until he had annexed the Intercollegiate A.A.A. 100-yd. crown to add to the 60-yd. title captured indoors. Bob Boyd of Loyola University of Los Angeles was the N.C.A.A. 100-yd. winner with Charles Parker of Texas taking the 220.

The Olympic club of Los Angeles was the A.A.U. team winner outdoors while the New York Athletic club triumphed indoors. Southern California carried off N.C.A.A. laurels, Yale took the Intercollegiate A.A.A. outdoor title and Michigan State the indoor honours. Other major team champions follow: Yale, Heptagonal league indoors and out; Manhattan college, Metropolitan





JIM FUCHS of Yale university setting an unofficial world shot-put record of 58 ft. 5½ in. during a collegiate track meet in Los Angeles, Calif., on April 29, 1950

intercollegiate indoors and out and Metropolitan A.A.U. indoors; New York Athletic club, Metropolitan A.A.U. outdoors; Indiana, Western conference outdoors; Ohio State, Western conference indoors. Tuskegee institute took five individual titles and the 400-m. relay crown as it kept its national A.A.U. women's outdoor laurels. Stella Walsh, veteran from Cleveland, O., was pentathlon queen. Nancy Phillips of the German-American Athletic club of New York city again was outstanding in indoor competition, capturing titles in the standing broad jump and 50-yd. hurdles in the A.A.U. games. The Police Athletic league of New York took team honours.

(T. V. H.)

#### Outstanding U.S. Track and Field Performances (Outdoor), 1950

##### 100 Yd.

9.4 sec.—Stanfield, Seton Hall  
9.5—Boyd, Loyola; Fell, Oregon; Peters, Indiana; Anderson, California; Henthorne, Oregon; Bienz, Tulane; Caffey, La Grange (Ill.) High School; Thresher, Mercersburg; Carter, Payne; Bragg, Morgan State; La Beach, unattached; Parker, Texas

##### 220 Yd.

20.4 sec.—Stanfield, Seton Hall  
20.5—La Beach, unattached; Carter, Payne  
20.6—Bienz, Tulane

##### 440 Yd.

46.9 sec.—Parker, Occidental; Cox, Rice  
47.0—McKenley, Grant Street Boys club; Whitfield, U.S.A.F.

##### 880 Yd.

1 min. 50.7 sec.—Gehrmann, Wisconsin  
1:51.1—Barnes, Occidental  
1:51.2—Brown, Morgan State

##### One Mile

4 min. 7.7 sec.—Newcomb, Southern California  
4:10.2—Gehrmann, Wisconsin  
4:10.3—Wade, Yale

##### Two Mile

9 min. 1.5 sec.—Wilt, New York Athletic club  
9:01.9—McEwen, Michigan  
9:02.0—McMillan, Los Angeles Athletic club

##### 120-Yd. High Hurdles

13.5 sec.—Attlesley, Southern California  
13.9—Fleming, Notre Dame  
14.1—Smith, Michigan

##### 220-Yd. Low Hurdles

22.9 sec.—Albans, North Carolina  
23.0—Hall, Texas A. and M.; Fleming, Notre Dame; Hoover, Michigan

##### Pole Vault

14 ft. 11½ in.—Richards, Illinois Athletic club  
14:5—Carroll, Oklahoma

##### High Jump

6 ft. 8½ in.—Walters, Texas  
6:8¼—Severns, Kansas State; Razzetto, San Diego State

##### Broad Jump

25 ft. 9 in.—Holland, Northwestern  
25:7¼—Biffle, Denver  
25:2½—Bryan, Stanford

##### Shot-Put

58 ft. 5½ in.—Fuchs, Yale  
57:4½—Chandler, Stanford

##### Discus

177 ft. 11½ in.—Gordien, Olympic club  
176:2—Frank, Yale

##### Javelin

233 ft. 4½ in.—Held, Stanford  
229:11¼—Roseme, California

##### Hammer Throw

187 ft. 7¾ in.—Felton, New York Athletic club  
179:2—Dillon, New York Athletic club

##### One-Mile Relay

3 min. 10.1 sec.—Occidental  
3:12.7—Oklahoma A. and M.  
3:13.6—Morgan State

**Trade Agreements:** see INTERNATIONAL TRADE; TARIFFS.

**Trade Commission, Federal:** see FEDERAL TRADE COMMISSION.

**Trade Unions:** see LABOUR UNIONS.

**Traffic Accidents:** see ACCIDENT PREVENTION; DISASTERS.

**Trans-Jordan:** see JORDAN.

**Transportation:** see AVIATION, CIVIL; ELECTRIC TRANSPORTATION; MOTOR TRANSPORTATION; RAILROADS.

**Trap-shooting:** see SHOOTING.

**Travel:** see TOURIST TRAVEL.

**Treason:** see FEDERAL BUREAU OF INVESTIGATION.

**Treasury, U.S. Department of:** see GOVERNMENT DEPARTMENTS AND BUREAUS.

**Trieste, The Free Territory of.** A small state at the northern end of the Adriatic sea, between Italy and Yugoslavia, demilitarized and neutral, Trieste's integrity and independence were assured from Sept. 15, 1947, by the Security council of the United Nations. Total area: 293 sq.mi. Total pop. (mid-1949 est.): 381,000. Military governors under provisional regime: zone A, British-U.S. (area, 96 sq.mi.; pop., 299,000), Maj. Gen. Terence S. Airey (British); zone B, Yugoslav (area, 197 sq.mi.; pop. 60,000), Col. Mirko Lenac.

**History.**—On March 4, 1950, the Yugoslav government followed the step it had taken in the previous July with regard to the currency by the abolition of the customs barrier between Yugoslavia and the Yugoslav-occupied zone B of the free territory of Trieste. The election of 202 local government representatives in zone B was announced to take place on April 16. Already on Feb. 25 the Yugoslav foreign minister, Edvard Kardelj, had made a strong speech at Maribor, implying that his government would never abandon its claims to the whole Trieste territory; and the Italians feared that after the elections the political would follow the economic annexation of zone B.

When the results of the election were announced it was stated that 86.77% of the eligible voters had voted: of these 88.36% had voted for the government-supported Titoist Popular front party.

On April 20 the U.S.S.R. addressed a note to the three western powers complaining that they had prevented the implementation of the Italian peace treaty with regard to Trieste. They replied on June 16, again putting forward their proposal of March 1948 for the return of Trieste to Italy. On July 8 the U.S.S.R. repeated its complaints, calling for the appointment of a governor of the free territory, the withdrawal of the Anglo-American forces and the "liquidation" of their "illegal naval base" at Trieste. (See ITALY).

(E. WI.)

**Economy and Finance.**—Budget (1948-49): revenue 12,800,000,000 lire, ordinary expenditure 13,800,000,000 lire, extraordinary expenditure 16,300,000,000 lire. During the first two years of the ERP (April 1948-March 1950) Trieste received aid totalling \$23,900,000.

**Trinidad and Tobago.** This British colony consists of two islands off the South American continent north of the Orinoco river delta. Area: 1,980 sq.mi. Population: (1946 census) 557,970 (27,208 on Tobago); (mid-1949 est.) 604,000 (30,000 on Tobago), including 214,200 East Indians. Chief towns (pop. 1948 est.): Port of Spain (capital 100,251); San Fernando (31,161). Governor, Major General Sir Hubert Rance.

**History.**—A new constitution became effective on Oct. 20, 1950. A general election was held on Sept. 18 on an adult franchise. The governor might appoint members of the executive council to be ministers, and all in the new council were assigned ministerial posts. Elected members in the executive council were responsible to the legislative council, by whom they might be re-







**History.**—For the whole trusteeship system the year 1950 was one of consolidation and constructive progress. A steadier evolution of the Trusteeship council and smoother working became possible by reason of the absence of the U.S.S.R. Since taking its seat the U.S.S.R. had tended to use its influence on the council for propaganda attacks on the so-called imperialist powers and their alleged exploitation of nonself-governing peoples. By 1950 full trusteeship machinery was available and in use, so that the whole area entrusted to the United Nations could be kept under continuous observation. Moreover, by the end of the year the Trusteeship council had completed visiting missions to all trust territories and was in possession of a series of reports written by men fully alive to the actual conditions of peoples and territories, together with the comments of the administering authorities on them.

Reports thus were available from missions (1949) to the two Togolands and the two Cameroons, and from visiting missions (1950) on Australia's administration of Nauru and New Guinea, on Western Samoa under New Zealand's administration and, for the first time, on a strategic trust territory, on the Pacific islands under U.S. administration, (the Trusteeship council reporting here to the Security council, instead of to the general assembly).

The main business of the Trusteeship council at its sixth session, which ended at Geneva on April 4, and the seventh session, which opened at Lake Success on June 1, was a thorough examination of the annual reports of the administering authorities. In its examination of these reports the council singled out a wide field of administrative action for approval. For example, it praised progress made in constitutional reforms, in raising the standard of living and in the expansion of medical services in Tanganyika; the leper settlement work in British Togoland; the improved health administration and increase of native representation in French Togoland; and the advances made in all fields in the Pacific islands in spite of their scattered geography and the short period of actual administration. At the same time further efforts were urged in many directions.

On the whole the council's recommendations showed a constructive and helpful spirit and more awareness than on earlier occasions of the actual conditions which administering authorities had to face. These recommendations emphasized the urgent need for expanding medical services, more education (the subject of a special study by the council), better training of teachers, more schools, more technical education for natives and measures for better nutrition, where United Nations technical organizations could give great assistance. Among economic and financial recommendations were the exploitation of former enemy land in Tanganyika to remedy the grave shortage of native lands; migration measures in Ruanda-Urundi to meet the threats of soil erosion and famine; the possibilities, in British Cameroons linked with Nigeria in an administrative union (these unions were being specially studied by the council), of using more of the profits from the Cameroon Development corporation for native welfare and, for a similar purpose, more of the profits from the production of gold in New Guinea. A social recommendation of interest dealt with the abolition of corporal punishment.

The council had the task of dealing with a record number of petitions, many of them presented to the visiting missions. To improve machinery for handling petitions the council appointed an *ad hoc* committee at each session to do the groundwork in their examination. More than 100 were dealt with at the sixth session; still more at the seventh. Two of the most notable came from the Ewe tribe, which is divided among French and British Togoland and the Gold Coast colony, and from the Bakweri tribe (for land restitution) in British Cameroons. The council gave a hearing to Sylvanus Olympio, president of the all-Ewe

conference, at the sixth session and took careful note of the progress made by a joint committee of the French and British administrations to provide a fair solution. After long discussion at the sixth and seventh sessions it was resolved to wait until the actual wishes of the Ewe tribe itself were clarified: a division of opinion appeared to exist as to whether an independent state or an autonomous state in a larger federation was to be desired. In dealing with the Bakweri petition the council emphasized the need of demonstrating clearly to the natives exactly how the plantation lands originally alienated by the Germans were now being worked for the benefit of the inhabitants as a whole.

During 1950 Italian Somaliland came into the trusteeship system making the 11th trust territory. On April 1 Italy took over the administration for a period of ten years. To assist Italy an advisory council of three was set up, the terms of reference being settled in the trusteeship agreement forwarded to the fifth general assembly.

Most questions of international control were closely related to the trusteeship system. Thus the problem of an international regime for Jerusalem, in default of any genuine willingness to co-operate on the part of the Israel and the Jordan governments, was referred to the Trusteeship council, which proceeded to draft a statute and forwarded it, together with its own report, to the fifth assembly.

A further step was taken on July 11, when the International Court of Justice at The Hague handed in an advisory opinion containing the answers to three questions in the matter of the Union of South Africa's retention of its mandate for South-West Africa on which no effective agreement could be reached either in the Trusteeship council or at the general assembly. These answers were: South-West Africa continued to be a territory under mandate (unanimous); the Union of South Africa was not competent to modify this international status without the consent of the United Nations (unanimous); and the provisions of chapter xii, articles 75 and 77, of the charter were permissive, the consent of the parties concerned being required, but the normal course indicated by the charter would end in a trusteeship agreement (majority). (See also FRENCH WEST AFRICA; INTERNATIONAL LAW; SOMALILAND, ITALIAN; UNITED NATIONS.)

FILMS OF 1950.—*Pacific*, *The* (Encyclopædia Britannica Films Inc.). (M. FE.; X.)

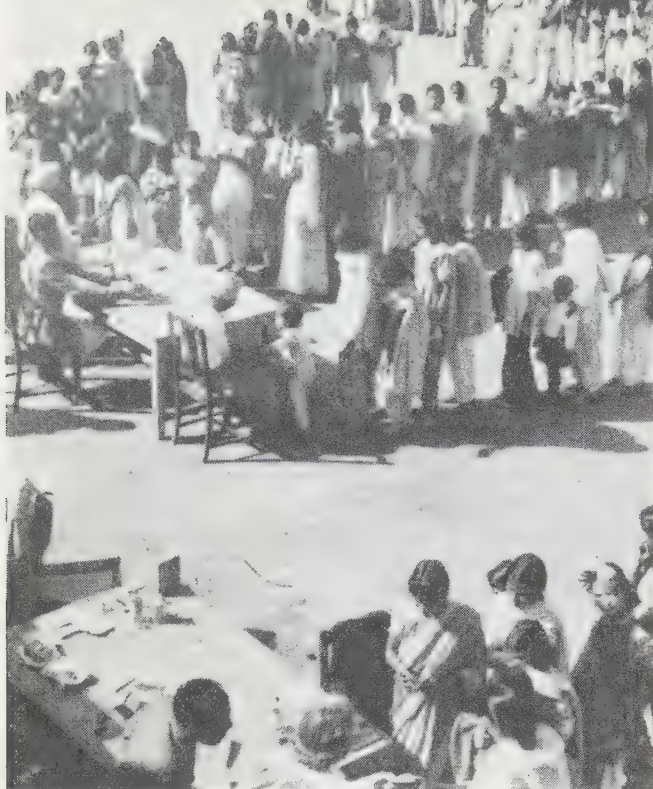
**Trust Territory of the Pacific Islands:** see MARSHALL, CAROLINE AND MARIANA ISLANDS.

**Tuberculosis.** The division of tuberculosis of the United States public health service made more than 2,000,000 photofluorograms in 1950, of which 1,800,000 were done in community-wide surveys in Boston, Mass.; Denver, Colo.; Los Angeles, Calif.; Salt Lake City, Utah; and San Diego, Calif. It was estimated that 25,000,000 people in the United States had X-ray inspections of their chests.

During the first quarter of 1950, in a case-finding program among veterans, 200,000 X-ray film inspections were made of the chests of employees and patients. The incidence of new cases found among veterans hospitalized for other causes was 0.7%. Of those examined in outpatient departments the incidence was 0.6%, and among the personnel it was 0.1%. Among 79,393 midshipmen and navy recruits of the U.S., 9.7% reacted to tuberculin.

C. Cameron of Edinburgh, Scot., stated that in England about 80% of the population had been infected with tubercle bacilli by the age of 20 years. The number of known cases in Scotland was 40,000 whereas only 4,000 were isolated in hospitals. Northern Ireland tuberculosis authorities reported that 50% of the population had been infected with tubercle bacilli, and that more





MASS TUBERCULOSIS-TESTING on the campus of Victoria Girls college in Patiala, India, supervised by a World Health organization team in 1950. Those showing unfavourable reactions were inoculated with BCG, an anti-tuberculin serum which India had begun producing itself

than 10,000 persons were known to have clinical tuberculosis. There were 800 on the sanatorium waiting list. In England and Wales, 400 persons died per week. For lack of nursing personnel, 4,000 hospital and sanatorium beds were closed.

**Mortality.**—Reported mortality rates varied throughout the world. In the Union of South Africa the annual rate was 750 per 100,000 population among Europeans, 800 among Asiatics, 4,500 among the coloured and 8,000 among urban natives. In Japan the rate decreased from 280 in 1945 to 181 in 1948; Iceland, from 200 in 1930 to 34 in 1949; Denmark, from about 200 in 1900 to 19 in 1949. In the United States the rate continued to decrease, from slightly less than 200 in 1900 to 26.1 in 1949; it was estimated at well below 25 in 1950. There were ten states with rates of 16 or below, the lowest about 9.

The effect of World War II on tuberculosis in Europe was reported to have varied in different places. In Denmark and Switzerland the mortality was little or not at all increased. In Norway and Sweden the rates decreased. In England, Wales, Belgium and Ireland there was a preliminary rise and then a slight fall. In Scotland there was a rise during World War II which continued. In Poland, Germany, Italy and the Netherlands there was a steady rise throughout the war, but a sharp drop occurred later. In France there was increased mortality at first, but by 1945 it was the same as in 1938 and continued thereafter to decrease.

**Treatment.**—Hospitalization to control contagion and administer well-established procedures remained the best method of managing persons with clinical tuberculosis. In England the long waiting list for institutional treatment was the most pressing problem. Because of the shortage of beds the minister of health recommended that regional hospital boards arrange for admission of tuberculous patients to suitable general and isolation hospitals not required as essential epidemic reserves.

In the United States one state began to close sanatoriums for lack of patients, while in others there were waiting lists of patients for sanatorium beds. R. E. Teague said that 500 were

waiting for sanatorium admission in Philadelphia, Pa. R. F. Mitchell and J. R. Knudson, Trudeau, N.Y., reported a group of 289 patients with uncomplicated, active, minimal pulmonary tuberculosis treated by modified bed rest, which consisted of 21 hours in bed or on a lounge each day for about two months and abstaining from work for at least a year after the disease appeared well controlled. Seven to 18 years following such treatment, 79% of their patients were well and working.

A number of drugs, including aureomycin, chloromycetin, terramycin, mycomycin, diomycin, neomycin and tibione were studied, but none gained much prominence because of toxicity, ineffectiveness or insufficient trial. Streptomycin continued to be the most effective drug; in combination with PAS (para-aminosalicylic acid) it was regarded by many as the most useful medication. When these drugs were used together, the resistance which tubercle bacilli develop to streptomycin was definitely delayed and therefore medication could be given over a longer time. These drugs only suppress the disease, but in some situations this is adequate for the body's defense mechanism to control completely the lesions in such parts as the larynx, trachea and bronchi. They were also helpful in acute, rapidly progressive and widely disseminated tuberculosis such as miliary disease and meningitis. In chronic tuberculosis of the lungs, the suppressive effect of these drugs was usually found to be only temporary and therefore had to be supplemented by other treatment of more lasting benefit. These drugs were helpful only as a part of a long-term plan for control of the disease when properly timed in relation to other methods of treatment such as surgical procedures. J. H. Lehmann, Göteborg, Swed., and others used para-aminosalicylic acid alone.

D. M. Spain and N. Molomot, New York city, found that animals which received cortisone had more extensive, more widely distributed and less well-localized tuberculous lesions than those which received saline solution, streptomycin or cortisone combined with streptomycin. Until further data were available, there was no place for cortisone in the treatment of tuberculosis in human beings.

In June 1950 a U.S. public health law extended the period of presumptive service connection for tuberculous veterans in the United States from one to three or four years. To accommodate this added load, 4 hospitals were added, making a total of 18 for tuberculous veterans. Services were also opened in general hospitals. There were 14,276 beds available for tuberculous veterans in 1950, and 2,072 in non-Veterans' administration hospitals at federal expense. The medical staff of the Veterans' administration tuberculosis service had been quadrupled since the end of World War II, and treatment administered to veterans was of the highest quality. L. V. Schneider, Veterans' administration, Washington, D.C., stated that 50,000 World War II veterans were receiving disability compensation and pensions for tuberculosis.

**Immunization.**—Large numbers of children in various parts of the world received BCG (Bacillus-Calmette Guérin) administered by teams sponsored by the Danish Red Cross and directed by Johannes Holm. The American Trudeau society continued to recommend BCG for nonreactors to tuberculin who might be exposed to tuberculosis, such as professional students and laboratory personnel. On July 12 the Research foundation of the University of Illinois was licensed by the public health service for manufacture, exportation, importation and sale of BCG.

The U.S. bureau of Indian affairs announced that it would complete the administration of BCG to approximately 32,390 children enrolled in Indian schools. The Minnesota department of health reported that among 12,528 Indians in that state the tuberculosis mortality rate was 529.2 in 1937, when 64 died, but was only 71.8 (9 deaths) in 1949. This was accomplished



without BCG and was superior to results among Indians in areas where BCG was used.

Agnes R. MacGregor, Scotland, re-emphasized that the tuberculin reaction is purely for hypersensitivity which operates to produce reinfection and an acute destructive type of lesion and this may cause extension of the disease.

T. Gedde-Dahl, Oslo, Nor., mentioned the difficulties of statistical investigations in the effectiveness of mass administration of BCG. He said the decrease of erythema nodosum and pleurisy during 1946, 1947 and 1948 might be the result of the mass vaccination with BCG in 1947 and 1948. However, he thought, it was most likely caused by other factors reducing the risk of tuberculous infection in those years. L. B. Dickey, San Francisco, said that all favourable results reported from BCG vaccination could be surpassed by the use of accepted methods of tuberculosis control without BCG. He did not believe its harmlessness had been proved. Culminating events occurred when R. Dubos, New York city, found that BCG caused progressive and killing disease of the lungs of mice on deficient diets, and A. J. Vorwald *et al.*, Saranac Lake, N.Y., produced progressive and fatal tuberculosis by administering BCG to silicotic guinea pigs. These occurrences dampened the enthusiasm for the administration of BCG to people.

The American College of Chest Physicians regarded BCG as an experiment and passed a resolution against its use except in limited but well-controlled studies. Experiments on BCG were continued by the division of tuberculosis, U.S. public health service, involving approximately 268,000 persons in Georgia, Puerto Rico and the Virgin Islands.

R. W. Sarber *et al.* killed a virulent human strain of tubercle bacilli and BCG by ultra-violet light. These had essentially the same effect on guinea pigs as live BCG.

**Organizations.**—The International Union against Tuberculosis was held in Copenhagen, Den., Sept. 5-8, 1950. Manoel de Abreu was elected president of the 1952 session, scheduled to be held in Rio de Janeiro, Braz. The first International Congress on Diseases of the Chest, sponsored by the American College of Chest Physicians, held in Rome, It., Sept. 17-22, was attended by approximately 500 physicians from 40 nations.

A large volume of medical research was in progress through support from the National Tuberculosis association. Various projects included basic laboratory studies and clinical investigations. The sale of Christmas seals in 1949 by the National Tuberculosis association amounted to \$20,226,794.15.

The American Trudeau society and the American College of Chest Physicians offered several special courses for physicians in various parts of the country. (See also X-RAY AND RADIOLOGY.)

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**Tungsten:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Tunisia.** A French protectorate in North Africa, Tunisia is situated between Algeria (west) and Tripolitania (east). Area: 48,332 sq.mi. Pop.: (1946 census) 3,230,952; (1949 est.) 3,387,000. Arabs and Berbers constitute 87.6% of the population; they are Moslem and speak Arabic. Chief towns (1946 census): Tunis (cap., 364,593); Sfax (54,637); Bizerta (39,327); Sousse (36,566). Ruler: Bey Sidi Mohammed el-Amin; prime ministers in 1950: Mohammed Kaak and (from Aug. 17) Mohammed Shenik; French residents general in 1950: Jean Mons and (from May 31) Marcellin Marie Louis Périllier.

**History.**—Politically, 1950 was the most important year since

the inception of the protectorate. A new resident general was entrusted with the task of negotiating measures by which direct administration, contrary to the spirit of the protectorate of 1881, would be brought to an end. On Aug. 17 the bey gave his approval to a Tunisian ministry led by Mohammed Shenik in which the Tunisians participated in equal strength with the French. An official communiqué announced that the cabinet was to negotiate on behalf of the bey "the constitutional modifications which must bring Tunisia by successive stages to internal autonomy." On Oct. 7 the resident announced "a pause in politics," and on Nov. 18 troops fired on striking agricultural workers at Enfidaville, killing 7 and wounding 50. The Tunisians interpreted these two attitudes as a return to the politics of force. When the gravity of the situation was made known in Paris, a commission, under the chairmanship of the minister of foreign affairs, issued on Dec. 5 a plan for the reorganization of the government and public office. But the nationalists regarded the proposed reforms as a subterfuge since they indirectly restored the prerogatives of the secretary-general of the residency, who in fact controlled the premier, and the bey refused to agree to the proposed reforms.

**Finance.**—Budget (1949-50 est.): ordinary, revenue 16,342,900,000 fr., expenditure 16,339,600,000 fr.; extraordinary (investments) balanced at 12,923,300,000 fr. Monetary unit: Tunisian franc=metropolitan franc. In 1950 the exchange rate was 350 M. fr.=U.S. \$1.

**Foreign Trade.**—(1949) Imports 40,298,900,000 fr.; exports 27,237,100,000 fr.

**Transport and Communications.**—Railways (1949): 2,174 km. Roads (1949): 8,704 km. Motor vehicles licensed (March 1949): cars 11,062 commercial 6,485. Ships entered (1949) 2,765; cargo carried (metric tons): unloaded 829,500; loaded 3,483,700. Air transport (1949): aircraft landed 6,486; passengers flown 69,783; freight carried 2,436 metric tons; mail 176.

**Agriculture.**—Main crops (metric tons, 1949): wheat 540,000, barley 400,000, olive oil 95,000, dates 37,000, citrus fruit 37,300, wine 885,000 hl. Livestock (1948): cattle 341,000; sheep 1,588,000; goats 1,083,000; pigs 42,000; horses 72,000; asses 109,000; mules 47,000; camels 177,000.

**Industry.**—Essentially an agricultural country, Tunisia in 1949 recorded production amounting to 50,000,000,000 fr. compared with 20,000,000,000 fr. in 1947 and 34,000,000,000 fr. in 1948. The balance of trade continued seriously adverse.

**Mineral Production.**—(Metric tons, 1949): phosphate rock 1,441,900; iron ore 678,600; lignite 57,800; lead ore 39,100. (C. A. J.)

**Tunnels.** Tunnelling throughout the world in 1950 was confined largely to prosecution and completion of

INTERIOR of the Brooklyn-Battery tunnel, opened on May 25, 1950, and connecting lower Manhattan with Brooklyn in New York city





projects delayed by World War II. Few wholly new projects were started.

**United States.**—After numerous delays occasioned by World War II and repeated strikes, the twin-tube Brooklyn-Battery tunnel in New York city was opened to traffic in the summer of 1950. These tubes, 9,117 ft. long, were the longest vehicular tunnels in the United States.

On the Delaware river water-supply system for New York city, the 6-mi. Neversink tunnel neared the finish of excavation and was almost ready for concrete lining. Work on the 25-mi. Downsview tunnel on the same project was stepped up by completion of a construction shaft to open up two more headings in addition to those already under way from the two portals. Several small tunnels were completed on the Colorado-Big Thompson irrigation project in Colorado, and the 1.7-mi. Rattlesnake Tunnel was started on this same project. Driving started on the 6½-mi. Tecolote water tunnel in California. Boston, Mass., completed its 5½-mi. city water tunnel. Baltimore, Md., continued work on its 10-mi. Liberty road-Patapsco tunnel. Driving was resumed on the 6-mi. Duchesne tunnel in Utah.

Chicago had nearly completed its west side 7½-mi. interceptor sewer tunnel. At Portland, Ore., a difficult 3-mi. sewer tunnel was finished, as were also two short interceptors on the East bay in the San Francisco, Calif., region. At Philadelphia, Pa., a 2-mi. sewer tunnel was completed, and driving started on three more interceptors aggregating 7 mi. in length.

In California the big Feather river tunnels, 4 mi. and 6½ mi. long, were completed. Los Angeles continued driving its three tunnels, 9½ mi. total length, for power plants on the Owens valley project. Driving 12 power tunnels at Fort Randall dam and 8 more at Garrison dam, both on the Missouri river, was spectacular because of the size of bore, 26 ft. to 31 ft. diameter, and material encountered. At Fort Randall power saws cut the tunnels out of chalk; at Garrison a blocky shale made tunneling hazardous.

**Latin America.**—In Puerto Rico, progress continued on the four Caonillas reservoir tunnels, the Yauco-Locho tunnel and the Prieto-Locho tunnel, all for hydroelectric development. Work was under way on two highway tunnels in Chile, the ¾-mi. Zapata and the 1-mi. Chacabuco tunnel. Four hydroelectric tunnels were under construction in Brazil: Santa Cecilia, 2 mi.; Vigaria, ½ mi.; Sá Carvalho, 2 mi.; and San Antonio river, 1 mi. In Peru, Empresas Electricas Asociadas e Hidrandina was still at work on its 8-mi. hydroelectric tunnel, 6 mi. of which was 10 ft. in diameter, and 2 mi. of which was 18 ft. in diameter, for water storage for peak electric loads. Eight small irrigation water-supply tunnels, from 0.8 mi. to 3.7 mi. each, were under way.

**Europe.**—Work continued on 13 hydroelectric tunnels on eight projects in Italy, and was started on several others on a series of planned projects that would require 248 mi. of tunnel. Driving continued on the Acquedotto Romano del Peschiera water-supply tunnels, the largest of which was 49 mi. Several railroad tunnels were also under construction.

In Scotland the largest tunnel in Britain, the Clunie 1.7-mi. hydroelectric tunnel, 22 ft. in diameter, was completed. Ten other hydroelectric tunnels were nearly finished in Scotland. Work continued on the 10-mi. Bowland forest water-supply tunnel for Manchester, and was started on two other bores for the same project, Haslingden and Walmersley, totalling 11½ mi.

Eleven hydroelectric tunnels were finished in Switzerland or nearly completed during 1950, and work started on the Maggai valley project that required 45 mi. of tunnels. The four-lane Croix-Rousse highway tunnel, 1¼ mi. long, at Lyon, Fr. was opened to traffic. Nine hydroelectric tunnels up to 46½ ft. in diameter and up to 21 mi. long were under way in Sweden. Six

hydroelectric tunnels were under construction in Norway.

**Other Countries.**—Five railroad tunnels neared completion in Australia. The Kiewa hydroelectric tunnel, 1.6 mi. long, was half finished. Treuallyn, a 2-mi. power tunnel, was started. Work started on the 5½-mi. Rimutaka narrow-gauge railroad tunnel in New Zealand, and three hydroelectric tunnels were under way in India. Progress continued on the 8-mi. Hex river single-track railway tunnel in Cape Western, U. of S.A. (H. W. R.N.)

**Turbojets and Turboprops:** see JET PROPULSION.

**Turkey.** A republic in the southeastern Balkans and Asia Minor, Turkey is bounded on the west by the Aegean sea, on the northwest by Greece and Bulgaria, on the north by the Black sea, on the northeast by the U.S.S.R., on the east by Iran and on the south by Iraq, Syria and the Mediterranean. Area: 296,185 sq.mi. (including 9,256 sq.mi. in Europe). Pop.: (1950 census, preliminary returns) 20,902,628. Language (1935 census): Turkish 86.8%, Kurdish 9.3%. Religion: Moslem 97.7%. Chief towns (1950 census): Ankara (cap. 286,592); Istanbul (1,000,092); Izmir (23,508); Adana (118,000); Bursa (100,007). Presidents of the republic in 1950: Ismet İnönü and (from May 22) Celâl Bayar (*q.v.*); prime ministers in 1950: Şemsettin Günaltay and (from May 22) Adnan Menderes.

**History.**—The year 1950 was an eventful one for Turkey. The general election on May 14 resulted in a landslide in favour of the young Democratic party. The Democrats won 408 seats in a house of 487. The National party had one seat, there were a few independents and the remainder represented what was left of the old Republican People's party. Celâl (pronounced Jelal) Bayar was elected president of the republic; the new prime minister was Adnan Menderes, a landowner educated at the American college in Izmir; the foreign minister was now Fuat Köprülü, a historian of European repute, who was expelled from the Republican party five years before for writing an article attacking single-party government. The other ministers were specialists. Thus the old benevolent oligarchy gave place to a real democratic government.

The program of the new government might be summed up as long-range fiscal reform, with efforts to balance the budget and reduce the cost of living, the denationalization of the great state industries and a more generous attitude towards the working classes and non-Moslem citizens. The size of the government majority was so great that absolute cohesion was not to be expected and there were changes in the composition of the cabinet before the close of the year. There were 18 parties in Turkey, but few were serious. The new Socialist party was authorized to function on July 20. It claimed to be a guide to socialism in Turkey, with the keynote of equality and stability in international relations and the struggle for world peace. This party was encouraged by serious writers as the best insurance against an extremist left. Its organ *Gerçek* (Truth) was attacked by Moscow radio. It repudiated any foreign influence. There was also a Democratic Labour party, not Marxist, to support small artisans and peasants. All these parties were united against communism.

There was also a small group who called themselves the Friends of Peace, led by a woman, who protested against the dispatch of troops to Korea. It was discovered that they took directives from Moscow, and they were prosecuted. A large group of deputies signed a petition to make Communist leaders liable to the death penalty.

Turkey's stability in its foreign relations remained unaffected by the change of government, which had the effect of increasing its prestige abroad. Turkey was elected to the U.N. Security council and took an active part in the debates of the Council



of Europe. It was the first state to announce its decision to dispatch a brigade to support the army of the United Nations in Korea. Disembarked at Pusan in the second half of October, the Turks gave an excellent account of themselves in the fighting.

Turkey's disappointment at not being accepted in the North Atlantic treaty was largely compensated by the invitation to be associated with the planning work of the North Atlantic treaty organization with regard to the defense of the Mediterranean.

With Greece its relations remained very friendly, as with the Arab states, which looked to Turkey with respect. In a speech at the opening of the grand national assembly in October, President Bayar stated that relations with the U.S.S.R. were correct. With Bulgaria there were serious difficulties. The attempt by that country to expel 250,000 Turks, survivors of the former status of Bulgaria as an Ottoman province, led to serious tension. Many thousand expellees were admitted, embarrassing the Turkish government with problems of settlement. The attempt by Bulgaria to compel Turkey to accept non-Turkish subjects without visas was prevented by the closing of the frontier.

The biggest step in denationalization was the sale to a group of Turkish capitalists of the great cotton mills at Adana, being one of the components of the vast string of state enterprises administered by the Sümer bank. The price was £T450,000.

The International Bank for Reconstruction accorded Turkey a credit of \$12,500,000 for the improvement of the ports of Istanbul, Izmit, Samsun, Zonguldak and Iskenderun. In November the director of the U.S. Economic Cooperation administration announced that he had been authorized to spend £T126,000,000 from the counterpart fund for the promotion of agriculture and industry. Foreign exchange to the value of \$40,000,000 was allocated under the European Recovery program for the first year's expenditure upon the new 80,000-kw. power station on the river Sakarya.

But the immediate problem was to overcome heavy deficits in the budget, which was rendered difficult by the legacy of previous governments. With this was interlocked the endeavour to bring down the high cost of living. Some steps in this direction were made at once, such as a cut of 20% in the price of sugar and of 10% in certain state-produced textiles. It was stated that the government aimed at the reduction of the state expenditure by £T200,000,000 of which by the end of the year some £T40,000,000 was saved. A thorough reform of the whole fiscal system was contemplated.

Turkey expected to draw substantial benefit from its inclusion in the European Payments union. Serious shortage in sterling and dollar exchange prevented it from importing anything but necessities. The government endeavoured to simplify the formalities that had hampered foreign trade in the past. Controls were relaxed over a long range of commodities and a process of liberation and decentralization was begun.

A marked feature was the revival of trade with west Germany, which was Turkey's best customer and the main source of imports before World War II. In the first half of 1950 Germany replaced Great Britain as Turkey's first customer, buying £T52,500,000 worth of goods; it moved to second place as exporter to Turkey with £T47,100,000.

During the year the government distributed nearly 90,000 ac. of land on state farms to landless peasants and helped to start them at work.

(MA. B.)

**Education.**—Schools (1948-49): primary 15,310, teachers 30,546, pupils 1,474,671; secondary 321, teachers 4,112, pupils 65,960; lycées 88, teachers 1,858, pupils 22,721; institutions of higher education 33 (including the universities of Istanbul and Ankara), teaching staff 1,336, students 26,400.

**Finance and Banking.**—Budget: (1949) revenue £T1,251,800,000, expenditure £T1,371,800,000; (1950 est.) revenue £T1,313,300,000, expenditure £T1,487,200,000. Currency circulation (Aug. 1950) £T946,000,000.

Gold and foreign exchange (Sept. 1950) U.S. \$180,000,000. Bank deposits (Feb. 1950) £T842,000,000. Monetary unit: Turkish pound or lira with an exchange rate of £T2.825 to the U.S. dollar.

**Foreign Trade.**—(1949): Imports £T812,600,000; exports £T693,600,000. Main sources of imports (1949): United States 20%; United Kingdom 17%; France 6%; Italy 5%. Main destinations of exports: Germany 16%; United States 14%; United Kingdom 12%; Czechoslovakia 8%.

**Transport and Communications.**—Roads (1949) 13,530 mi., including 7,900 mi. all-weather roads. Licensed motor vehicles (Dec. 1949): cars 7,951; commercial 13,872. Railways (1949): 4,672 mi.; passenger-miles 1,350,000,000; freight net ton-miles 1,469,000,000. Shipping (July 1949): number of merchant vessels over 100 gross tons 191; total tonnage 312,031. Air transport (Turkish State airways, 1947): flights 6,712; miles flown 1,188,109; passengers flown 78,844. Telephones (1949): subscribers 52,423. Radio receiving sets (1949) 250,000.

**Agriculture.**—Main crops (metric tons, 1949): wheat 2,557,000; barley 1,220,000; oats 220,000; maize 609,000; rye 274,000; potatoes 471,000; sugar, raw value 140,000; tobacco (1948) 74,000; cotton, ginned 97,000; grapes, total 1,681,000; olives (1948) 214,000; linseed 52,000. Livestock (Dec. 1949): cattle 10,279,000; sheep 25,840,000; horses 1,164,000; camels 109,000; mules 104,000; asses 1,711,000; buffaloes 937,000; mohair goats (Dec. 1947) 4,162,000; turkeys (Dec. 1948) 1,145,000; chickens 18,434,000.

**Industry.**—Fuel and power (1949): coal 4,188,000 metric tons; lignite 1,272,000 metric tons; electricity 682,000,000 kw.hr.; crude oil 13,000 metric tons. Raw materials (metric tons, 1949): iron ore, metal content, 210,000; pig iron 113,000; steel ingots and castings 99,600; copper smelter 11,300; chrome 177,000; manganese ore (1947) 5,000. Manufactured goods (metric tons, 1949): cement 374,000; cotton yarn 29,800; wool yarn 7,900.

**Turkeys:** *see* LIVESTOCK.

**TVA:** *see* TENNESSEE VALLEY AUTHORITY.

**Twentieth Century Fund:** *see* SOCIETIES AND ASSOCIATIONS.

**Typhoid Fever:** *see* PUBLIC HEALTH ENGINEERING.

**Uganda:** *see* BRITISH EAST AFRICA.

**Ulcer:** *see* ALIMENTARY SYSTEM, DISORDERS OF.

**Unemployment:** *see* CENSUS DATA, U.S.; EMPLOYMENT.

**Unemployment Insurance:** *see* SOCIAL SECURITY.

**Unemployment Relief:** *see* RELIEF.

**U.N.E.S.C.O. (United Nations Educational, Scientific and Cultural Organization):** *see* UNITED NATIONS.

**Unfederated Malay States:** *see* MALAYA (FEDERATION OF) AND SINGAPORE.

**Union of American Republics:** *see* ORGANIZATION OF AMERICAN STATES.

**Union of South Africa:** *see* SOUTH AFRICA, THE UNION OF.

**Union of Soviet Socialist Republics.** The federation of soviet socialist republics is a Eurasian state covering parts of eastern Europe and northern and central Asia. Area (Sept. 17, 1939): 8,173,557 sq.mi. Pop. (1939 census): 170,467,186. In 1939 the union consisted of 11 republics of which the Russian Soviet Federated Socialistic republic was by far the largest (78% of the whole territory and 64% of the population). Of the remaining 36% of the population almost one-half lived in the Ukrainian Soviet Socialist republic (2% of the territory) and the other half in the nine other republics of the union. The U.S.S.R. is inhabited by almost 100 different nationalities speaking different languages. In Jan. 1939 Russians constituted 58.4% of the population, Ukrainians 16.6% and Byelorussians 3.1%. None of the other nationalities, all non-Slav and most of them non-Europeans, reached 3% of the total. The most important were Uzbeks 2.9%, Tatars 2.5%, Kazakhs 1.8%, Jews 1.8%, Azerbaijanis 1.3%, Georgians 1.3% and Armenians 1.3%.

In 1939 the U.S.S.R. consisted of the following republics:

	Capital	Area in sq. mi.	Population (1939 census)
Russian S.F.S.R.	Moscow	6,372,860	109,278,614
Ukrainian S.S.R.	Kiev	171,777	30,960,221
Byelorussian S.S.R.	Minsk	49,022	5,567,976
Georgian S.S.R.	Tiflis (Tbilisi)	27,020	3,542,289
Azerbaijan S.S.R.	Baku	33,196	3,209,727
Armenian S.S.R.	Erivan	11,580	1,281,599
Uzbek S.S.R.	Tashkent	145,908	6,282,446
Kazakh S.S.R.	Alma-Ata	1,059,184	6,145,937
Kirghiz S.S.R.	Frunze	76,042	1,459,301
Tadzhik S.S.R.	Stalinabad	55,584	1,485,091
Turkmen S.S.R.	Ashkhabad	171,384	1,253,985



Between 1939 and 1945 the U.S.S.R. considerably expanded its territory. In Europe the following areas were added:

	Area in sq. mi.	Population (1939 est.)
Estonia . . . . .	18,357	1,134,000
Latvia . . . . .	25,395	1,994,500
Lithuania (including the Vilnius area) . . . . .	25,173	3,032,000
From Finland . . . . .	17,596	100,000*
From Poland (excluding the Vilnius area) . . . . .	64,824	10,315,000
From Rumania (Bessarabia and N. Bukovina) . . . . .	19,338	3,650,000
From Czechoslovakia (Subcarpathian Ruthenia) . . . . .	4,856	725,400
From Germany (N.E. part of East Prussia) . . . . .	5,096	830,000
Total . . . . .	180,635	21,780,900

\*About 400,000 Karelians left in 1944 to resettle in Finland.

From Japan the U.S.S.R. acquired Karafuto or southern Sakhalin (13,935 sq.mi.; pop. 331,900) and the Chishima or Kuril Islands (3,994 sq.mi.; pop. c. 90,000). In addition the formerly independent republic of Tannu Tuva (64,000 sq.mi.; pop. c. 65,000) was added to the union.

After World War II the U.S.S.R. formed a federation of 16 republics. The five new ones were: the Karelo-Finnish S.S.R. (cap. Petrozavodsk); the Moldavian S.S.R. (cap. Chişinău or Kishinev) and Estonia (*q.v.*), Latvia (*q.v.*) and Lithuania (*q.v.*) transformed into soviet republics. Total *de facto* area: 8,436,121 sq.mi.

Addition of the figures quoted above would give a total population of 192,735,000. The official estimate for 1940 was 193,000,000 (E. Davydov in *Bolshaya Sovetskaya Entsiklopedia: S.S.S.R.*, suppl. vol., Moscow, 1948). The only postwar estimate, published in *Pravda* of Jan. 23, 1946, by Gheorghy F. Alexandrov, then propaganda chief of the All-Union Communist party, gave the same figure.

Chief towns (1939 census): Moscow (*q.v.*) (4,137,018); Leningrad (3,191,304); Kiev (846,293); Kharkov (833,432); Baku (809,347); Gorki, formerly Nizhni Novgorod (644,116); Odessa (604,223); Tashkent (585,005); Tiflis (519,175); Rostov-on-Don (510,253); Dnepropetrovsk (500,662). Chairman of the presidium of the supreme soviet of the U.S.S.R., Nikolai M. Shvernik; chairman of the council of ministers, Premier Joseph V. Stalin (*q.v.*).

**History.**—The year 1950 saw no important change in the political outlook of the Soviet Union or in its relations with the outside world. Some commercial contacts were maintained and even extended; but the enforced isolation of the soviet peoples from external currents of thought continued.

The diplomatic activity of the Soviet Union was divided into two parts, chronologically, by the outbreak of war in Korea in June and by the subsequent and consequent decision of the soviet government to abandon its boycott of the United Nations that had begun in January as the result of a refusal of the latter to admit the Chinese Communist representative in place of the delegate of the Kuomintang regime now confined in its effective strength to Formosa.

Despite the hopes expressed as a result of a somewhat conciliatory attitude of the soviet delegation on its arrival in New York city, the attitude taken up toward the various problems confronting the United Nations at the September meeting of the general assembly suggested little change in fundamental soviet policies. Once again, it was suggested that great power co-operation was the proper motive force for all U.N. action; and the soviet delegation took the lead in presenting its familiar proposals on atomic and general disarmament and in suggesting a revival of the dormant military staff committee. The soviet government also opposed the U.S. plan for overcoming the obstacles placed by the veto through the transference of greater initiative to the assembly. The use of the veto to block the renomination as secretary-general of Trygve Lie (*q.v.*), on the ground that he had improperly used his position in the handling of the Korean question, and the threat to ignore his renomina-

tion by the assembly were indicative of the limitations still put to the idea of international co-operation. (See UNITED NATIONS.)

Andrei Y. Vishinsky's speeches at Lake Success carried on the main line of previous soviet propaganda to the effect that the Soviet Union was a bastion of peace against U.S. war-mongering. While this was the main weapon used to hamper the opposition to soviet expansionism, the Soviet Union in its relations with the countries of eastern Europe was continuing the process of consolidating the "satellite countries" into a single bloc. Its precise relations with Communist China were, however, much less clear.

**Assimilation of People's Democracies.**—The techniques of reinforcing soviet control through economic and political means showed little change from the previous year. In Poland, Marshal K. K. Rokossovsky's entry in May into the Polish Politburo was significant of the extent of the political control now exercised. And in the autumn, there were reports that the Czechoslovak army, like the Polish army, was being thoroughly reorganized on the soviet army model. The propaganda war against Marshal Tito's regime in Yugoslavia showed no signs of abating. (See also ALBANIA; BULGARIA; CZECHOSLOVAKIA; HUNGARY; POLAND; RUMANIA; YUGOSLAVIA.)

**Soviet Policy in Germany.**—The soviet hesitation over German policy continued. Should eastern Germany be treated like the other satellites to which it was in this period linked by an increasing number of agreements concluded under soviet auspices? Or would this mean the certainty of a rearmed western Germany appearing in the forefront of the antisoviet defenses in Europe? As during 1949, both policies seemed to have been pursued simultaneously. At the same time, soviet intransigence over the proposed peace treaty for Austria was regarded as proof of the insincerity of soviet professions of their desire to create a peaceful and united Germany. (See AUSTRIA.)

A new trade agreement with the eastern zone was signed on April 12 and a supplementary one on July 21. In an exchange of letters in May it was agreed that the total of soviet and Polish reparations outstanding should be reduced by 50%. On the other hand, it was admitted that although some important industrial enterprises had been returned to the Germans, others still remained in soviet hands, giving the soviet government a



TAGANSKAYA STATION in the circle link of subway transportation newly opened to Moscow commuters in 1950



direct hold upon the eastern German economy. At the same time as the western powers were denounced for setting up an antisoviet arsenal of aggression in western Germany, the reports of a heavily armed police force in eastern Germany became more circumstantial and formed the basis for a protest by the three other occupying powers to the soviet government on May 23. No progress was made as the result of a proposal sent to the Soviet Control commission three days later for a procedure for setting up a united German government. Nor was the Berlin situation essentially altered. (See BERLIN.) The soviet statement on May 4 that all German prisoners had been repatriated from the Soviet Union was not generally accepted. (See PRISONERS OF WAR.) In the first half of the year Communist activity in western Germany had been directly subversive but some change of emphasis came in October, when after the symbolic consolidation of the Eastern German Communist regime in single-list elections, V. M. Molotov met in Prague the foreign ministers of the satellite states including eastern Germany. A communique from this conference on Oct. 21-22 proposed four points as the basis of a final settlement of the German problem. These proposals were: a four-power declaration reasserting the Potsdam policy; the removal of all limitations on peaceful German industry together with the maintenance of controls against the restoration of Germany's war potential; the conclusion of a peace treaty and the withdrawal of all foreign troops within a year of its signature and, finally, the calling of an all-German assembly with equal numbers of representatives from eastern and western Germany to prepare for the setting up of an all-German government. These proposals substantially reproduced those made after the Warsaw meeting on the same lines in June 1948. On Nov. 3, these proposals were called to the attention of the three western powers in notes handed to their ambassadors in Moscow, and it was suggested that the Council of Foreign Ministers should be convened at once "to examine the question of the fulfilment of the Potsdam agreement on the demilitarization of Germany." (See also GERMANY.)

*Soviet Policy in the Far East.*—Since the soviet government could do little but protest ineffectually against the continued control of Japan by Gen. Douglas MacArthur, and against the measures taken by him and by the Japanese government against Communist activities, most interest in the far east centred on relations between the Soviet Union and China to which a new complexity was given by the outbreak of the Korean war.

After negotiations in Moscow lasting for several weeks, a series of agreements between the U.S.S.R. and the Chinese People's Republic was signed in Moscow on Feb. 14. These were ratified on April 11. They included, first, a 30-year treaty of friendship, alliance and mutual assistance on the lines of those with the Soviet Union's western neighbours. The second agreement altered in favour of the new regime the provisions about Manchuria contained in the 1945 treaty concluded with Chiang Kai-shek. The Chinese Changchun railway was to be handed over to the full ownership and control of China, immediately upon the conclusion of a peace treaty with Japan and in any event not later than the end of 1952. Some modifications in its joint administration were to come into force at once. The same period was fixed for the return of Port Arthur; though the U.S.S.R. as well as China was to be allowed to use it in the event of war with Japan. It was recognized that the administration of Dalny (Dairen) belonged to China; and this subject too was to be reconsidered after the conclusion of the Japanese peace treaty. It was also announced that the Soviet Union would hand over to the Chinese government property "acquired by soviet organizations from Japanese owners in Manchuria." A credit of \$300,000,000 over a period of five years at 1% interest was granted to China. On March 27, a further agreement



KING PIECES from a soviet-made chess set brought to Europe by a returning traveller in 1950. Ideological warfare on the chessboard was represented by (left) a capitalist king shown as a skeleton clothed in ermine and obsolete armour, and (right) a heroic Communist-worker king

setting up two Sino-soviet companies for the exploitation of Sinkiang's mineral wealth was signed; and a trade agreement with China followed on April 19.

When the fighting broke out in Korea at the end of June, the soviet government at once took up the attitude that it was the result of a premeditated attack by South Korea upon North Korea. The measures taken by the Security council during the period of the Soviet Union's boycott were regarded as contrary to the charter and the subsequent fighting was described in the soviet press as being the product of the illegal intervention of the United States into a foreign civil war. An attempt at mediation through an approach by Jawaharlal Nehru to Joseph V. Stalin was frustrated by the premature publication of the correspondence on the soviet side, apparently with the object of showing that the only reason for the fighting continuing was the refusal of the Security council to seat the Chinese Communist representative or to hear a North Korean spokesman. The latter objectives were those clearly sought by Jacob Malik (q.v.) when he took the chair in the council at its August meetings, thus ending the boycott. But it seemed clear that there was no desire on the part of the Soviet Union to engage itself directly in the conflict. And when Chinese troops intervened early in November it was not possible to say to what extent, if at all, such intervention formed part of the general soviet plan. (See CHINA; JAPAN; KOREA; KOREAN WAR.)

*Internal Affairs: Economics.*—As usual internal "self-criticism" rather than the official statistical material with the dif-





ANDREI VISHINSKY, soviet foreign minister, signing a 30-year mutual defense treaty adopted in Moscow by the Soviet Union and Communist China, Feb. 14, 1950. Standing directly behind him are Joseph Stalin (left) and Mao Tse-tung

difficulties of interpretation it presented, afforded the main method by which the internal economic progress of the Soviet Union could be measured. The most important field in which shortcomings were pointed to was that of agriculture and as the year went on it became evident that an attempt at a major change in agricultural policy was being made, although as usual it was hard to know what lay behind some of the reports of its progress. The first symptoms came in February when Andrei A. Andreyev, the member of the Politburo with special responsibilities in the field of agriculture, acknowledged criticisms to the effect that he had allowed too much latitude to peasant individualism in the method of organizing work on collective farms. At the same time, there were reports suggesting that an attempt was being made to bring about the voluntary surrender to the collective farms of the plots which the peasants had been allowed to retain for their own use under the legislation of the 1930s. In a long article in *Pravda* on April 25, Nikita S. Krushchev, also a member of the Politburo, gave the signal for a campaign of a different kind—the aim now being to amalgamate the collective farms into larger units on the ground that *kolkhozes* of 30 families or less were too small to make full use of modern mechanized farming methods. Judging by later comments on the progress of this campaign, it ran into some opposition on the part of the peasantry who must have regarded it as yet another attempt to break their cherished link with the land.

In October it was learned that one of the tasks of the winter months would be to settle in larger agglomerations the peasants who had previously lived in the smaller villages. Although it may seem reasonable to regard this process as partly at least determined by the persistent inadequacy of the food supply for the country's rapidly growing population, a deeper social and political motive clearly underlay it. This was made plain in a *Pravda* leader on Sept. 18.

The soviet state has armed our agriculture with powerful equipment—tractors, combines and other machines which have lightened greatly the labour of the collective farmers and made it more efficient. Agricultural

labour is gradually being transformed into a type of industrial labour. One of the most important tasks of Communist construction—abolishing the difference between town and countryside—is being successfully solved.

It was thus admitted that the "permanent" agricultural settlement of the 1930s was being set aside and that the soviet rulers felt it possible and desirable to proceed to the proletarianization of the peasantry.

*Internal Affairs: Politics.*—Elections for the supreme soviet were held on March 12. There was as usual only one list of candidates; 99.96% of the electorate went to the polls. The supreme soviet held a session in Moscow from June 12–19. Its chief business was the budget which had an estimated revenue of 432,000,000,000 roubles and an estimated expenditure of 427,900,000,000 roubles. A state loan of 20,000,000,000 roubles had been oversubscribed in May. The supreme soviet also sanctioned amendments to the constitution to allow for the changes made in the number and composition of ministries: according to the new law, promulgated on June 17, there were 30 "all-union" or common ministries and 21 "union-republican" or separate ministries.

Changes in the holders of important posts during the year included the following: on Jan. 21 Mikhail G. Pervukhin became the 14th vice-chairman of the council of ministers and was replaced as minister of the chemical industry by Sergei Tikhomirov; on Jan. 2 K. M. Sokolov, minister of town development, was succeeded by Georgi M. Popov; on Jan. 11 A. A. Goregilyad, minister of shipbuilding industry, was replaced by Vyacheslav A. Malyshev, one of 14 vice-chairmen of the council of ministers; the next day Yury E. Maksarev was appointed minister of the transport machinery industry, releasing Ivan I. Nosenko; on Feb. 25, the ministry of armed forces was divided into two and Adm. Ivan S. Yumashev was appointed minister of the navy; on April 18, S. A. Akopov, minister of the automobile and tractor industry, was replaced by Grigory S. Khlamov; on May 29 S. Z. Ginzburg, minister of the building materials industry, was replaced by Pavel A. Yudin, and on the same day David Ya. Reiser was appointed minister of construction of heavy industry enterprises. In July it was learned that Col. Gen. Pavel F. Zhigarev had replaced Marshal Konstantin A. Vershinin as commander in chief of the air force. On Oct. 28 it was announced that Lev Z. Mekhlis resigned the ministry of state control because of ill-health and was replaced by Vsevolod N. Merekulov, formerly minister of state security.

On Jan. 12 the death penalty for treason, espionage and sabotage, abolished in May 1947, was restored.

*Cultural.*—The event of the year in the cultural field was generally held to be the publication by Stalin on June 20 of an article in which he took part in a controversy which had been going on about the linguistic theories of a well-known soviet philologist N. Y. Marr (1864–1934). This writer's theories had enjoyed a virtual monopoly as the only true Marxist theory of language since the 1920s. Stalin now attacked Marr's basic view that language is part of the "superstructure" of a particular economic order. Stalin argued that, on the contrary, language is not included in the superstructure and hence that the Russian language was basically the same as it had been before the revolution. He also approved of the study of "families" of languages, such as the Slav tongues, which Marr had deprecated.

Two further contributions to the controversy were published in August in *Bolshevik*. In the same issue another letter of Stalin dealt with a more general theoretical problem, namely that of the means by which the conclusions of Marx and Engels should be applied to current issues. It was wrong, said Stalin, to quote the works of an author without reference to the period at which they were written, and it is not the case that a formula arrived at through the study of one period of history is true for all periods. Stalin's examples were the view that Socialism in



one country alone was not possible and that after the victory of Socialism the state should "wither away."

Russian Marxists (he said) have arrived at the conclusion that Engels' formula had in view the victory of Socialism in all countries or in most countries, that it is inapplicable where Socialism wins in one country taken separately, while, in all other countries, Capitalism predominates.

By the same argument applied to linguistics, Stalin argued that a common world language incorporating the best elements of existing ones would be created but only when communism eventually triumphed. Meanwhile:

Marxism does not recognize immutable conclusions and formulae, binding for all epochs and periods. Marxism is the enemy of all dogmatism.

Whether this sally betokened serious official misgivings as to the sterility of soviet culture as a result of its enforced conformism and whether there were in fact symptoms of some reaction against the position taken up by Andrei Zhdanov during the cultural "purge" of 1948, it was too early to say. One interesting example of a new latitude in discussion was however the open discussion on the advantages and disadvantages of co-education and on other aspects of educational theory which took up some space in the soviet press in the summer. (See also COMMUNISM; RUSSIAN LITERATURE.) (M. Bf.)

**Education.**—Schools (1950): primary and secondary 220,000; institutions of higher education 850; universities 31. Pupils: primary, secondary and lower technical 37,000,000; universities and institutions of higher education 1,247,000. Teachers: primary and secondary schools 1,600,000.

**Finance.**—Budget (1950 est.): revenue 433,000,000,000 roubles; expenditure 427,900,000,000 roubles. On March 1, 1950, the rouble was put on what was described as a gold basis. The external value, already much too high and completely fictitious, was raised from 5.30 roubles to the U.S. dollar to 4 roubles to the U.S. dollar.

**Foreign Trade.**—In the soviet union foreign trade, a state monopoly, is used as a political weapon, and statistics of foreign trade are a state secret. Since World War II the U.S.S.R. had exploited the resources of its satellite countries, buying from them much more cheaply than the world market prices and selling to them at much higher rates. U.S.-soviet trade declined sharply after 1947, and in 1949 the U.S.S.R. took only \$8,000,000 of U.S. exports and supplied \$50,000,000 of U.S. imports. The industrialized western nations were not willing to help soviet armament by supplying strategic raw materials and latest models of industrial machinery.

**Communications.**—In 1950 the total length of the railways was estimated at 112,530 km., compared with 105,300 km. in 1940. Estimated 1950 freight traffic was 581,000,000,000 ton kilometres.

The five-year plan stipulated that by 1950 the total length of navigable inland waterways should be increased to 115,000 km. with an annual freight traffic of 49,000,000 ton-kilometres. No information was available as to actual achievements.

There were few all-weather highways suitable for motor traffic. No private motoring existed, although the production of motor vehicles was supposed to amount to 65,000 cars, 6,400 buses and 428,000 trucks.

Shipping of 1,824,000 dead-weight tons by mid-1950 occupied tenth place among the world fleets and represented 2.2% of world tonnage. Out of a total of 437 ships, the Soviet Union had only 60 of more than 7,000 tons, including 40 received from the U.S. under lend-lease and 10 taken from the Germans as reparations.

The civilian air fleet was operating an air transport system of 175,000 km. inside the Soviet Union, and also had a monopoly on air services between Moscow and the satellite capitals in Europe.

**Agriculture.**—The agricultural production targets for 1950 were not reached. Crop production (in metric tons, 1950): bread grains and coarse grains 124,700,000; sugar beets 24,300,000; potatoes 115,300,000 (planned); cotton 3,800,000. Livestock (1950, including those on collective farms, state farms and privately owned): cattle 57,200,000; pigs 24,100,000; sheep and goats 99,000,000; horses 13,700,000.

**Industry.**—Production (1950): coal 264,000,000 metric tons; crude oil 37,600,000 metric tons; electricity 86,700,000,000 kw.hr.; pig iron 19,200,000 metric tons; steel 27,600,000 metric tons. In the fourth quarter the average monthly gross industrial output exceeded that of 1940 by 53% in value and 70% in volume.

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**Unitarian Church.** The outstanding event of the year 1950 was the celebration in Boston, Mass., in May of the 125th anniversary of the founding by Unitarian Churches of the American Unitarian association. The theme was "Religion for a new age of reason." Four panel discussions dealt with: (1) religion and the growth of the free mind; (2) religion and freedom in society; (3) religion and individual responsibility; (4) religion and stability in society. The assembly passed

resolutions bearing directly on social and international issues, especially in the spheres of civil liberties and the way toward a peaceful world. Samuel A. Eliot (who died six months later) received the annual award for distinguished service to the cause of liberal religion. Unitarian churches voted overwhelmingly for the establishment of a Unitarian-Universalist commission on federal union of the two denominations. The Universalists had paralleled this action and the commission was at work drawing up a plan. A 56-page issue of *The Christian Register* was devoted to Unitarian developments during the decade 1940–50, indicating that at mid-century the denomination was taking stock of itself. A large company of Unitarian ministers issued a statement which indicated a trend in the church, declaring, "We believe in universal religion which is greater than any of its organized expressions. . . . We believe in the development of this universal religion in order to break down today's tensions and so forward the sense of world community. . . . We pledge our efforts to this great Unitarian cause." H. Kishimoto, professor of the science of religion at Tokyo Imperial university, visited Unitarian headquarters to plead, "The Unitarian faith is more urgently needed in Asia than any other religious doctrine. Asiatics need a religion which gives them a spiritual basis for the political and social democracy America is preaching in Asia." The Unitarian Service committee sent a medical mission to Japan during the summer. The department of adult education and social relations reported a marked growth of group activities in the churches in this field. The Unitarian Women's alliance was active in leadership training, in the belief that leadership is "a set of functions and skills attainable, with effort, by all people rather than by the few strong only." (See also CHURCH MEMBERSHIP.) (J. H. L.)

**United Church of Canada.** The United Church of Canada, which in 1925 united the Presbyterian Church in Canada, the Methodist Church (Canada) and the Congregational Churches in Canada, reported for 1949 a membership of 806,179 with 1,916,908 persons under pastoral oversight, a Sunday school enrolment of 517,222 and 6,270 preaching places. The church owned property worth \$125,994,207 and raised a total of \$22,591,581 for all purposes. The missionary and maintenance givings of the church in 1949 totalled \$2,706,114.

Among the important events in the life of the United Church during 1950 were the contribution of \$103,000 to a special student aid fund; the raising of all ministers' retiring pensions by 25%; the sending of approximately \$98,000 for relief to churches in Europe and in Asia; the transfer of the church's missionary property in China to the Church of China; a definite pledge to seek organic union with the Church of England in Canada, when and if that church pledges itself in like manner; and a church-wide observance of the 25th anniversary of union.

In Sept. 1950 the Rev. C. M. Nicholson of Halifax was elected moderator of the church for a two-year term; the Rev. Robert S. Christie was appointed assistant secretary of its Board of Evangelism and Social Service and Ralph C. Young secretary of its Committee of United Church Men. (G. A. St.)

**United Kingdom:** see GREAT BRITAIN & NORTHERN IRELAND, UNITED KINGDOM OF.

**United Nations.** The further deterioration of relations between the soviet bloc and the western nations adversely affected the United Nations during 1950. For the greater part of the year the U.S.S.R. refused to take an active part in the work of the various organs of the U.N. on the alleged ground that China was being illegally represented by the



nationalist government. For the first time during its five years of existence the U.N. undertook the use of military force in support of its principles. For the U.N., 1950 was a time of testing in a world of mounting tension.

**Membership.**—The membership of the U.N. was increased to 60 by the admission of Indonesia. By the end of 1950, membership was as follows: Afghanistan, Argentina, Australia, Belgium, Bolivia, Brazil, Burma, the Byelorussian Soviet Socialist Republic, Canada, Chile, China, Colombia, Costa Rica, Cuba, Czechoslovakia, Denmark, the Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, France, Greece, Guatemala, Haiti, Honduras, Iceland, India, Indonesia, Iran, Iraq, Israel, Lebanon, Liberia, Luxembourg, Mexico, the Netherlands, New Zealand, Nicaragua, Norway, Pakistan, Panamá, Paraguay, Peru, the Republic of the Philippines, Poland, Saudi Arabia, Sweden, Syria, Thailand, Turkey, the Ukrainian Soviet Socialist Republic, the Union of South Africa, the Union of Soviet Socialist Republics, the United Kingdom, the United States of America, Uruguay, Venezuela, Yemen and Yugoslavia.

The general assembly during its fourth session had asked the International Court of Justice (*q.v.*) to give an advisory opinion on the question of the competence of the general assembly to admit new states without a favourable recommendation by the Security council. On March 3 the court delivered an opinion in which it ruled by a vote of 12 to 2 that the general assembly could admit a state to membership only on the favourable recommendation of the Security council.

The question of the representation of a member in the organs of the U.N. was raised during 1950 by the effective occupation of continental China by the Communists, leaving the nationalist government only in control of Formosa. Soviet representatives on U.N. organs refused to attend meetings at which Chinese nationalist representatives were present on the ground that the nationalist government had ceased to represent China. The soviet representative returned to the Security council on Aug. 1 for the consideration of the Korean question. The general assembly considered the matter of Chinese representation in U.N. organs and appointed a committee to study the matter. No final action was taken, presumably because of the intervention of Chinese Communist forces in Korea.

**Meetings and Organization.**—The general assembly met for its fifth regular session at Flushing Meadow, N.Y., on Sept. 19. Nasrollah Entezam of Iran was elected president. The assembly had before it an agenda of 70 items, to which other items were subsequently added. The critical situation in east Asia, resulting from North Korean aggression in June and the subsequent military intervention of the Chinese Communists, creating the danger of a general war, made it impossible for the general assembly to complete its work. On Dec. 15 the president announced that he would subsequently make a definite proposal for the final closure of the fifth session of the general assembly. At that time, the First committee had not as yet completed its agenda. Because of the increasing scope of its work, the general assembly increased the number of its subsidiary organs. The Interim committee was continued for another year.

As in 1949, the Security council met less frequently than during its first three years, until the time of North Korean aggression. This was in large measure the result of the continuing great-power deadlock which made substantive decisions difficult and consequently encouraged the use, where possible, of the general assembly. The absence of the soviet representative from meetings during the first seven months further limited the work of the council, though it was by virtue of this absence that the council was able to function in the early stages of aggression in Korea. During 1950 the Security council was composed of China (represented by the nationalist government), France, the

Soviet Union, the United Kingdom and the United States (permanent members) and Cuba, Ecuador, Egypt, India, Norway and Yugoslavia. During its fifth session the general assembly elected Brazil, the Netherlands and Turkey to succeed Cuba, Egypt and Norway. The election of Turkey marked the first break in the continuous representation of the Arab league.

The Economic and Social council held two sessions during 1950, its 10th at Lake Success, N.Y., Feb. 7 to March 6, and its 11th in Geneva, Switz., July 9 to Aug. 16. Hernan Santa Cruz of Chile was president during both sessions. During 1950 the council was composed as follows: with terms ending Dec. 31, 1950—Australia, Brazil, Denmark, Poland, the U.S.S.R. and the United Kingdom; with terms ending Dec. 31, 1951—Belgium, Chile, China, France, India and Peru; and with terms ending Dec. 31, 1952—Canada, Czechoslovakia, Mexico, Iran, Pakistan and the United States. During its fifth session, the general assembly elected the following to membership for three-year terms ending Dec. 31, 1953: the Philippines, Poland, Sweden, the U.S.S.R., the United Kingdom and Uruguay.

The Trusteeship council held two sessions during 1950, the sixth in Geneva, Jan. 19 to April 4, and the seventh at Lake Success, June 1 to July 21. Roger Garreau (France) was president for the sixth session and Max Henriquez Urena (Dominican Republic) for the seventh. The membership of the council during 1949 was as follows: members administering trust territories—Australia, Belgium, France, New Zealand, the United Kingdom and the United States; members by virtue of permanent seats in the Security council—China and the Soviet Union; and members elected by the general assembly—Argentina, Dominican Republic, Iraq and the Philippines. In its fifth session the general assembly re-elected the Dominican Republic, whose term expired Dec. 31, for a three-year term, and elected Thailand for a three-year term, beginning Jan. 1, 1951, to take the place of the Philippines.

Some notable developments occurred in the organization and functioning of the secretariat. Early in 1950, Sec.-Gen. Trygve Lie asserted a strong political initiative in formulating a 20-year program of peace, which subsequently was the subject of negotiations with the governments of members, including the great powers. The outbreak of violence in Korea created conditions unfavourable to the success of this initiative. On March 1, 1950, the secretary-general announced the establishment of the United Nations field service as authorized by a resolution adopted by the general assembly in its fourth session. The administrative tribunal adopted its rules of procedure on June 7 and handed down its first decision on June 30. Since Lie's original term of office was due to expire on Feb. 2, 1951, it became necessary for the Security council and the general assembly to consider the appointment of a successor. Failing agreement of the permanent members of the Security council, the general assembly on Nov. 1 adopted a resolution extending Lie's term of office for three years. Shamaldharee Lall (India) was appointed assistant secretary-general in charge of conference and general services on Jan. 13, 1950, to succeed Adrian Pelt, who had been elected U.N. commissioner in Libya.

The secretary-general's budget estimates for 1951 provided for a total expenditure of \$45,450,800, compared with an approved budget of \$41,641,773 for 1950 (exclusive of \$8,000,000 for Palestine). The Advisory Committee on Administrative and Budgetary Questions recommended a reduction of \$1,623,800. The general assembly approved appropriations for 1951 totalling \$47,798,600 and voted to maintain the working capital fund at \$20,000,000. Estimated miscellaneous income of more than \$6,000,000 left a total of \$41,277,600 to be raised by contributions of members. The scale of assessments was revised, the most significant features being slight increases in the contributions of





"MUSICAL CHAIRS AT LAKE SUCCESS," a cartoon by Green which appeared in the *Providence Journal* in 1950

India and the U.S.S.R. and a slight decrease (0.87%) in the contribution of the United States.

Construction of the new secretariat building in Manhattan was completed, and personnel was moved from Lake Success to Manhattan during late 1950 and early 1951. The contract for the construction of the general assembly auditorium was signed on June 30. The general assembly in its fifth session requested the secretary-general to submit to it tentative plans and proposals for financing the construction of a delegation building at headquarters. The plan drawn up in 1947 had provided for a building housing delegation offices, specialized agencies and nongovernmental organizations.

**Political Problems.**—During 1950, the U.N. still had before it such questions as Indonesia, Palestine, Kashmir and the Balkans (Greece). In June, however, Korea and related problems in the far east came to dominate the picture and occupy a large part of the attention of the U.N. (see page 694).

**Indonesia.**—U.N. intervention through the Security council had been successful in bringing to an end hostilities between Dutch and Indonesian forces and in achieving a political settlement. The formal transfer of sovereignty from the Netherlands to the republic of the United States of Indonesia (*q.v.*) had occurred on Dec. 27, 1949. On Sept. 28, 1950, following favourable action by the Security council and the general assembly, Indonesia became a member of the U.N. There still remained important unresolved issues between the Dutch and Indonesian governments after the conclusion of the round-table conference agreements of Nov. 1949 and the subsequent transfer of sovereignty. One of these was the future status of Netherlands New Guinea (*q.v.*). This question remained unresolved notwithstanding lengthy negotiations between the parties at The Hague. By the end of the year these negotiations had been broken off.

**Palestine.**—The question of Palestine was a matter of continuing concern to the U.N. in 1950. The aspects of the question which were chiefly under consideration were the enforcement of the armistice agreements concluded in 1949, the relief and rehabilitation of Arab refugees, the achievement of an over-all political settlement and the future status of Jerusalem (*q.v.*). In February the chief of staff of the Truce Supervision organization, Brig. Gen. W. E. Riley, reported to the Security council that the work of the four commissions had thus far been remarkably successful. However, there continued to be numerous complaints of violation of these agreements. On Oct. 16 the Security council began consideration of certain of these charges which

had been brought before it, namely, the Egyptian complaint that Israel (*q.v.*) had expelled thousands of Arabs into its territory, Israel's complaint of blockade practices by Egypt at the Suez canal and Jordan's charge of aggression by Israel in occupying Jordan territory on Aug. 28 near the confluence of the Yarmuk and Jordan rivers. After extensive discussion, the Security council adopted a resolution on Nov. 17 which called upon the Mixed Armistice commission to give urgent attention to Egypt's complaint, called upon the parties to give effect to commission decisions on the repatriation of qualified Arabs and called upon governments not to take any action regarding transfer of persons without prior consultation with the Mixed Armistice commissions. The Security council reminded the governments that the armistice agreements envisaged permanent peace for Palestine and a political settlement.

The refugee question proved an insoluble problem and was a major factor blocking a political settlement. The United Nations Relief for Palestine Refugees, established under general assembly resolution of Nov. 1948, continued to deal with the matter until May 1, 1950, when the U.N. Relief and Works Agency for Palestine Refugees in the Near East took over. This agency was set up on the basis of recommendations of the Economic Survey mission, created by the U.N. Conciliation Commission for Palestine, that a public works program be organized to provide useful employment for recipients of relief. The agency was set up with Maj. Gen. Howard Kennedy as director, with an advisory commission. From the beginning it was handicapped in achieving its object by lack of funds and a paucity of work projects. By the end of 1950 the refugee problem seemed no nearer solution than at the beginning of the year.

No progress was made during 1950 in the achievement of a political settlement, largely because of the unwillingness of the Arab states to negotiate until adequate provision had been made for the Palestine refugees. The question of the future status of Jerusalem had been considered by the general assembly in its fourth session, and a resolution adopted providing for the setting-up of the city as a *corpus separatum* with the United Nations Trusteeship council as administering authority. The council was asked to draft a statute which it undertook to do during its sixth and seventh sessions. The council was unable, however, to get the co-operation of Israel and Jordan and, consequently, referred the matter back to the general assembly. The matter was considered by the general assembly in its fifth session, but the necessary two-thirds vote could not be mustered for any proposal under consideration. A Belgian proposal to study means of effecting international control of the holy places was defeated by a vote of 30 to 18, with 9 abstentions.

**Kashmir.**—The Kashmir (*q.v.*) dispute between India and Pakistan (*qq.v.*) remained in a state of deadlock at the end of 1950. The efforts of Gen. Andrew McNaughton of Canada, made on the basis of the Security council resolution of Dec. 17, 1949, to find a basis for dealing with the problem failed. His proposal for the progressive demilitarization of Jammu and Kashmir was not acceptable. The question came again before the Security council on Feb. 7, 1950. On March 14 the Security council adopted a resolution calling upon the parties to prepare and execute within five months a program of demilitarization. On April 12 Sir Owen Dixon of Australia was appointed United Nations representative to assist in the negotiations. The United Nations representative proposed that India and Pakistan hold those areas which were indisputably pro-Indian and pro-Pakistan in sentiment, and that a plebiscite under U.N. auspices should be held in the doubtful areas, corresponding roughly to the vale of Kashmir. The prime ministers of India and Pakistan agreed that no possibility existed of agreement along these lines. The United Nations representative made his report of failure to the Security



council on Sept. 15.

*Greece.*—The situation along Greece's northern frontier showed some improvement during 1950. The United Nations Special Committee on the Balkans reported to the general assembly at its fifth session that there had been no visible improvement in relations between Greece and Albania and Bulgaria, but that relations between Greece and Yugoslavia had become correct. It reported that the threat to the political independence and territorial integrity of Greece had been substantially lessened as the result of the elimination of large-scale guerrilla activity. The problem of repatriation of Greek nationals, especially children, remained serious. The general assembly adopted resolutions during its fifth session continuing the special committee for another year, requesting the repatriation of Greek nationals who expressed a desire to that effect and, particularly, urging the repatriation of Greek children.

*Korea.*—Developments in Korea offered the major challenge to the U.N. in the discharge of its responsibilities to maintain international peace and security. The general assembly at its fourth session had voted to continue the United Nations Commission for Korea for another year, authorizing it particularly to report on border violations in view of the tension between the People's Democratic Republic of Korea (North Korea) and the Republic of Korea (South Korea). Late in the evening of June 24 the secretary-general was informed of attacks launched by North Korean forces against South Korea. On the afternoon of June 25 (Sunday) an emergency meeting of the Security council was held with the soviet representative absent. A resolution based on a draft introduced by the United States representative was adopted, determining the action to constitute a breach of the peace, calling for the immediate cessation of hostilities and the withdrawal of North Korean armed forces to the 38th parallel, requesting the United Nations commission in Korea to observe and report and calling upon members to give every assistance in the execution of the resolution. Since reports from the United Nations commission gave clear evidence that the North Korean military attack was deliberate and unprovoked, and that the North Korean authorities were not willing voluntarily to withdraw their forces or accept the good offices of the commission, the Security council proceeded on June 27 to the adoption of a resolution, again based on a United States proposal, recommending that members furnish such assistance to the Republic of Korea as might be necessary to repel the armed attack and restore international peace and security. Earlier the same day Pres. Harry S. Truman had announced that U.S. forces would proceed to the assistance of the Republic of Korea. On July 7 the Security council recommended that members make forces and assistance available to a unified command, requested the United States to designate the commander, authorized the use of the United Nations flag and requested the U.S. to provide the Security council with reports on the course of action. On Aug. 1 the soviet representative returned to the Security council and assumed the presidency. During the month of August the council was involved in procedural tangles and was unable to take substantive decisions, but since resolutions had been adopted providing the basis for necessary U.N. military operations, the effectiveness of enforcement action did not suffer. The soviet representative, Jacob Malik, maintained that the early decisions of the Security council were invalid because taken in the absence of the soviet representative and with the "legal" government of China (the Communist) not represented.

By the time the general assembly convened for its fifth session in September, the military situation in Korea had changed to such an extent that, in spite of early reversals, it seemed likely that the U.N. forces might succeed in driving the Communists out of all Korea, if given the authority to do so. The

amphibious landing at Inchon on Sept. 15 appeared to have been decisive. After extended discussion a resolution was adopted on Oct. 7, recommending that all appropriate steps be taken to ensure conditions of stability throughout Korea, that constituent acts be taken under U.N. auspices for the establishment of a unified, independent and democratic government in Korea, that U.N. forces should not remain in Korea for a longer time than required to achieve these objectives and that all necessary measures be taken to achieve the economic rehabilitation of the country. A Commission for the Unification and Rehabilitation of Korea was set up, to take over the duties of the United Nations Commission for Korea and to assist in the achievement of these purposes. The Economic and Social council was requested, in consultation with the specialized agencies, to develop plans for relief and rehabilitation.

U.N. forces under Gen. Douglas MacArthur crossed the 38th parallel and undertook to achieve the military unification of Korea. The intervention of the Chinese Communists, however, professedly as "volunteers" but in reality on a large scale and in an organized manner, prevented this objective from being achieved and in fact confronted the U.N. with the threat of an extension of hostilities which might develop into a world war. The presence of organized Chinese forces was first reported by General MacArthur on Nov. 4. (*See CHINA; KOREAN WAR.*)

The intervention of Communist China came as no surprise to many. The U.N. organs had refused to seat representatives of the Communist government earlier in the year, continuing to accept representatives of the nationalist government when that government was reduced to control of the island of Formosa. President Truman had announced on June 27 that U.S. forces would prevent the Chinese Communists from attacking Formosa. On Aug. 25 the soviet representative on the Security council requested that the United States "armed invasion" of Formosa be considered by the Security council. On Aug. 29 the council voted to add this to its agenda. On Aug. 31 the soviet representative asked that the council investigate alleged bombing of Chinese territory by U.S. air forces. This proposal was rejected. The Chinese Communist foreign minister, Chou En-lai, publicly warned of the consequences of sending U.N. military forces into North Korea.

The intervention of the Chinese Communists presented new issues upon which there was not the same agreement among member delegations as there had been on action to meet the original North Korean aggression. At the time the complaint of U.S. "invasion" of Formosa was placed on the Security council agenda, a soviet motion that a representative of the Chinese Communist government should be invited to take part in the discussions was defeated by a vote of 4 to 4, with 3 abstentions. Subsequently, however, the council reversed its position, and the Communist government accepted an invitation to be represented. When General MacArthur's report on Chinese intervention was before the council, a resolution was adopted inviting the Communist government to be represented when this question was being discussed. A delegation headed by Gen. Wu Hsiu-chuan arrived in New York on Nov. 24. On Nov. 27 the council considered the complaint of U.S. armed aggression against Formosa and the complaint of aggression against the Republic of Korea. The representative of the Chinese Communist government was invited to participate in the discussions and made a lengthy statement, charging United States imperialism. On Nov. 30, a soviet veto defeated a six-power resolution, calling upon all states and authorities to refrain from assisting or encouraging the North Korean forces and to cause the immediate withdrawals of nationals or units in Korea, and affirming it to be the policy of the U.N. to hold the Chinese frontier with Korea inviolate. Four days later, on Dec. 4, the general





JACOB MALIK, soviet delegate to the United Nations (right foreground) presiding over the security council of which he was chairman throughout Aug. 1950. Seated, left, is Secretary-General Trygve Lie

assembly was asked to place the question of Chinese intervention on its agenda, which the assembly voted to do on Dec. 6. On Dec. 14 the assembly adopted a resolution sponsored by 13 Asian and Arab states requesting the president to constitute a group of three persons, including himself, to determine the basis on which a satisfactory cease-fire in Korea could be arranged. General Wu insisted that before there could be a cease-fire the United Nations must guarantee to meet Communist China's demands for the immediate evacuation of U.N. troops from Korea, withdrawal of the United States fleet from Formosan waters and the acceptance of the Communist government as representing China in the U.N. On Dec. 19 the Chinese Communist delegation left New York. The reply of the Chinese Communist government to proposals of the cease-fire group followed the lines of Wu's statement. As the year ended, the cease-fire group had not succeeded in its objective. Members of the United Nations were in disagreement as to the next step.

As a direct consequence of the Korean experience, U.S. Secretary of State Dean Acheson proposed to the general assembly a plan for strengthening the U.N. in the maintenance of international security. Based on the premise that in a future comparable situation circumstances might not be such as to permit the Security council to act promptly and effectively, the proposal involved strengthening the general assembly as an organ of enforcement action in case the Security council failed to discharge its responsibilities. On Nov. 3 the general assembly adopted a resolution (Uniting for Peace), based on a United States draft, which provided that if the Security council, because of the lack of unanimity of its permanent members, failed to exercise its primary responsibility for the maintenance of peace, the general assembly might consider the matter immediately with a view to making recommendations, that these measures might include the use of armed force when necessary, that if not in session the general assembly might meet in emergency special session

within 24 hours at the request either of the Security council or of a majority of the U.N. members, that a Peace Observation commission be established to observe and report in areas of international tension, that members include within their armed forces elements trained, organized and equipped for service as U.N. units and that a Collective Measures committee be set up to consider and recommend measures to be taken. The general assembly also adopted resolutions recommending that the Security council devise measures for the earliest application of charter provisions for placing armed forces at the disposal of the Security council and that the permanent members of the Security council meet and discuss problems likely to threaten peace with a view to resolving fundamental differences. On the basis of a Yugoslav proposal, the general assembly adopted a resolution on Nov. 14 stating that a member becoming involved in armed conflict should, within 24 hours, proclaim its readiness, if its opponent does likewise, to discontinue military operations and withdraw its forces.

Other steps taken by the U.N. for the maintenance of international peace and security included the following: the general assembly established a special committee to consider ways and means of co-ordinating the work of the Atomic Energy commission and the Commission for Conventional Armaments. With respect to the treatment of Indians in South Africa (*q.v.*), first brought before the United Nations in 1946, the general assembly adopted a resolution, characterizing a policy of "racial segregation" as discriminatory, recommending that the governments of India, Pakistan and the Union of South Africa hold a round-table conference on the matter and providing for the appointment of a three-member commission to assist if negotiations were not successfully concluded within a reasonable time. The general assembly adopted a resolution condemning Bulgaria, Hungary and Rumania for their refusals to carry out their treaty obligations in respect to human rights. By another resolution, the general assembly reversed action taken in 1946 and left members and specialized agencies free to determine



their relations with Spain. In the discharge of its duty under the Italian peace treaty to determine the future of the former Italian colonies, it completed partial decisions that had been made in 1949.

**Economic and Social Co-operation.**—The activities of the principal and subsidiary organs of the U.N. during 1950 covered a wide range of matters. The most important were economic development, technical assistance, full employment and economic stability, human rights, freedom of information, and refugees and stateless persons.

The question of the economic development of underdeveloped areas was considered by the Economic and Social council at its two sessions. The financing of economic development received special consideration from the Subcommittee on Economic Development. In its discussions the Economic and Social council recognized the close relation between economic development and full employment. It also emphasized the need of utilizing private capital as well as public funds, and the importance of carefully planned programs. It stressed the importance of a maximum effort on the part of the peoples of the underdeveloped areas, as well as of financial and technical assistance from outside. The general assembly, accepting the general conclusions of the council, called attention to the need of studying the extent to which agrarian conditions interfered with economic development, and the special problems connected with the development of arid areas. The assembly also requested a study of the effect of international economic and commercial policies on the development plans of underdeveloped areas.

Considerable progress was made during 1950 in organizing and carrying out the expanded technical assistance program adopted by the general assembly in its fourth session. The Technical Assistance board had its first meeting at Lake Success, Feb. 23–24, and made preparations for the Technical Assistance conference. The conference met at Lake Success June 12–14. Forty-five member states, nine nonmember states, ten specialized agencies and the Organization of American States were represented. Resolutions were adopted dealing with contributions of governments to the expanded program of technical assistance and concerning the allocation of funds among the participating organizations. Pledges of contributions from governments of approximately \$20,000,000 for the period ending Dec. 31, 1951, were received. Up to the end of 1950, 245 requests for technical assistance had been received from about 50 governments. More than 40 agreements with governments had been signed.

The international protection of human rights was a matter of continuing concern during 1950. Attention was largely focused on the drafting of an International Covenant on Human Rights, though related subjects came in for consideration. The Commission on Human Rights opened its sixth session on March 27 with the draft International Covenant on Human Rights and its implementation the leading item on its agenda. The commission undertook an article by article revision of the covenant in the course of which serious disagreements arose over the inclusion of provisions relating to economic and social rights, procedure for the handling of complaints and other matters. When the Economic and Social council considered the commission's report in its 11th session, it decided to submit certain controversial issues to the general assembly for its decision. The general assembly expressed dissatisfaction with the covenant as it stood, requested the commission to prepare recommendations for securing the maximum extension of the provisions of the covenant to constituent members of federal states, directed that economic, social and cultural rights be included and expressed itself in favour of the international consideration of private petitions.



GEN. DOUGLAS MacARTHUR being presented with the U.N. flag in Tokyo, Jap., in July 1950, after he was named commander of the U.N. military forces in South Korea, as authorized by the U.N. Security council

The question of freedom of information was considered by the Subcommittee on Freedom of Information and of the Press and the Economic and Social council. The subcommittee, meeting at Montevideo, Urug., May 15 to 26, was concerned primarily with the drafting of an international code of ethics. It also adopted a number of resolutions relating to freedom of information and the press, which were subsequently adopted in substance by the Economic and Social council. The general assembly, declaring freedom of information and the purposes of the U.N. indivisible, laid down a new program of work for achieving the desired end. It established a 15-member committee to meet not later than March 1, 1951, to examine the draft approved by the 1948 Conference on Freedom of Information and other texts, and to prepare draft conventions and submit its recommendations to the Economic and Social council. The general assembly also adopted a resolution condemning the practice of radio jamming.

The matter of refugees and stateless persons was considered by an *ad hoc* committee of the Economic and Social council which met at Lake Success on Jan. 16. The committee prepared a draft convention on the status of refugees, together with a protocol rendering applicable to truly stateless persons, whether or not refugees, the appropriate provisions. This draft was transmitted to the Economic and Social council. As subsequently revised by the *ad hoc* committee it was submitted to the general assembly. The general assembly decided to convene a conference to complete and sign a convention relating to the status of



refugees and a protocol relating to the status of stateless persons. It approved final arrangements for the establishment of the U.N. High Commissioner's Office for Refugees.

Other actions taken by the organs of the U.N. in the field of international economic and social co-operation included the following: The matter of forced labour and measures which might be taken to abolish it were discussed by the Economic and Social Council. An inquiry into the extent of slavery and analogous practices and methods for eliminating them was continued. The Commission on Narcotic Drugs and its *ad hoc* committee continued to work on methods of limiting more effectively the production and distribution of opium to legitimate medical and scientific requirements. Recognizing the need of continuing aid to children, particularly in underdeveloped areas and those subjected to war-devastation and other calamities, the assembly continued the United Nations International Children's Emergency fund (U.N.I.C.E.F.) for another three years.

An important, if not the most important, part of the work during 1950 in the area of international economic and social co-operation was performed by the specialized agencies, international organizations set up on the basis of their own constitutions for specialized purposes and brought into relation with the U.N. by agreements concluded by the appropriate organs of the U.N. and the particular specialized organizations in question. During 1950 the following specialized agencies were in actual operation:

*International Labour Organization (I.L.O.)*.—Headquarters in Geneva, Switz., David A. Morse, director-general; 62 members. See separate article.

*Food and Agriculture Organization (F.A.O.)*.—Headquarters in Rome, Norris E. Dodd, director-general; 68 members. See FOOD SUPPLY OF THE WORLD.

*International Monetary Fund*.—Headquarters in Washington, D.C.; Camille Gutt, managing director; 49 members. See separate article.

*International Bank for Reconstruction and Development*.—Headquarters in Washington, D.C.; Eugene R. Black, president; 49 members. See separate article.

*International Civil Aviation Organization (I.C.A.O.)*.—Headquarters in Montreal, Que.; Edward Warner, president of the council; 58 members.

*International Refugee Organization (I.R.O.)*.—Headquarters in Geneva; J. Donald Kingsley, director-general; 18 members. See REFUGEES.

*United Nations Educational, Scientific and Cultural Organization (U.N.-E.S.C.O.)*.—Headquarters in Paris; Jaime Torres Bodet, director-general; 59 members.

*World Health Organization (W.H.O.)*.—Headquarters in Geneva; Brock Chisholm, director-general; 74 members plus one associate member.

*International Telecommunications Union (I.T.U.)*.—Headquarters in Geneva; Leon Mulatier, secretary-general; 81 members (includes colonial areas).

*Universal Postal Union (U.P.U.)*.—Headquarters in Berne, Switz.; Fritz Hess, director of the international bureau; 86 members (includes colonial areas).

*World Meteorological Organization (W.M.O.)*.—Convention in force but organization not completed.

The constitutions of two additional specialized agencies had been drafted and signed by the end of 1950 but had not entered into force by receiving the necessary number of ratifications. The convention establishing the Inter-Governmental Maritime Consultative organization had been ratified unconditionally by three states. Ratification by 21 states, including the principal maritime powers, was required. The constitution of the International Trade organization had not yet been ratified by any state.

**Aid to Nonself-Governing Peoples.**—The work of the U.N. in this field during 1950 came under three principal heads: (1) action taken under chapter xi of the charter to improve conditions in nonself-governing territories generally; (2) action taken in connection with the administration of the trusteeship system; and (3) action taken under other provisions of the charter or in the discharge of responsibilities conferred by separate international agreements.

The Special Committee on Information Transmitted under Article 73 (e) of the Charter, created by the general assembly to consider and report on information submitted to the secretary-general, met Aug. 18 to Sept. 12. In considering the information submitted to it by the secretary-general, the committee gave

special attention to the problems of education in nonself-governing territories, with special emphasis on the development of training in the economic and social fields. The committee reached the conclusion, embodied in its report to the general assembly, that the eradication of illiteracy was a problem of the utmost urgency. The general assembly endorsed this conclusion. It also invited member governments on behalf of nonself-governing territories to submit requests for technical assistance under the U.N. expanded program. It requested these governments also to report on the extent to which the Declaration of Human Rights was implemented in their respective territories.

During 1950 the trusteeship system was further extended, developed and refined in its actual operation. In its sixth and seventh sessions the Trusteeship Council drafted a trusteeship agreement for the former Italian colony of Somaliland. The general assembly approved this agreement, placing the territory under the administration of Italy as a trust territory. The Trusteeship Council also considered reports from the administering authorities, covering Tanganyika, Western Samoa, Ruanda-Urundi, the Cameroons (English and French), Togoland (English and French), New Guinea, Nauru and the Pacific Islands. The Council received and considered reports of visiting missions to the Cameroons and Togoland, completed arrangements for a visiting mission to the trust territories in the Pacific and decided to send a visiting mission to east Africa in 1951. It also received and examined more than 350 petitions, including petitions relating to the Unification of "Eweland." (The Ewe people, more than 800,000 in number, are west Africans, have a common language, traditions and customs, but are divided by political boundaries of three territories—the two trust territories of British Togoland and French Togoland and the British colony of the Gold Coast.) On the basis of a report of its Committee on Administrative Unions, the Council decided to establish a standing committee to examine regularly the operation of administrative unions. Taking note of recommendations adopted by the general assembly in its fourth session, the Council adopted a resolution recommending that administering authorities abolish corporal punishment and whipping in all trust territories and urging all administering authorities to take necessary measures to ensure the absence in trust territories of discriminatory laws and practices contrary to the charter or trust agreements. The general assembly, in its fifth session, on the basis of the Trusteeship Council's report and recommendations, adopted resolutions requesting the Council to study laws, policies and practices in trust territories relating to the utilization and alienation of land, and to make recommendations to the administering authorities with respect to land policies and practices which would contribute to the economic and social development of the population.

By the terms of the Italian peace treaty, the general assembly had been asked to determine the disposition of the Italian colonies in Africa. Decisions had been taken by the general assembly in 1949 which largely determined the final disposition of these territories though the final decision on Eritrea awaited the report of a special commission. Without a dissenting vote the general assembly adopted a program for the establishment of an independent Libya (*q.v.*). The program provided for the convening of a Libyan national assembly not later than the beginning of 1951, the establishment of a provisional government by April 1, 1951, and the progressive transfer of authority by Britain and France, the process to be completed by Jan. 1, 1952. The program for the transfer of authority was to be drawn up by the U.N. commissioner in Libya, aided by the Council for Libya. The assembly recommended that the Economic and Social Council, in conjunction with the specialized agencies and the secretary-general, extend to Libya such financial and technical aid as might be needed to establish the country on a sound eco-



nomic and social basis. The assembly also recommended that Libya, once it had achieved independence, be admitted to the U.N.

On the future disposition of Eritrea (*q.v.*), the members of the U.N. Commission on Eritrea, established by the general assembly in 1949, were in disagreement. Nor was the Interim committee to which the commission reported able to come to a decision. The general assembly decided on Dec. 2 that Eritrea should be federated with Ethiopia as an autonomous unit. The plan provided for a transitional stage, ending not later than Sept. 15, 1952, during which an Eritrean government was to be organized and a constitution put into effect, the United Kingdom to continue to conduct Eritrea's affairs in the interim period. As has already been explained, the decision to place Somaliland under trusteeship was implemented during 1950 by the drafting of a trusteeship agreement by the Trusteeship council and its approval by the general assembly.

The question of the status of South-West Africa was also before the U.N. during 1950 as the result of the refusal of the Union of South Africa to submit a trusteeship agreement and to make reports on the administration of the territory to the U.N. The International Court of Justice in an advisory opinion, while admitting that the Union was under no legal obligation to place the territory under trusteeship, nevertheless upheld the U.N. position that the mandate continued in force and that the Union government must hold itself accountable to the U.N. for the administration of the territory. The general assembly reaffirmed its earlier position and set up a five-member committee to confer with the Union government on matters relating to the advisory opinion. (See also INTERNATIONAL LAW; TRUST TERRITORIES.)

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**FILMS OF 1950.**—*Clearing the Way, For All the World's Children, This Is the United Nations—I, This Is the United Nations—II* (United Nations, Films and Visual Information Division); *Man in the 20th Century* (March of Time Forum Films). (L. M. GH.)

**United States.** As the year 1950 opened the mood of the country was one of stocktaking, as was natural at mid-century. Estimates of population increase, and of distribution of new population, had been much discussed in the closing months of 1949. Lengthy preparation for the census of 1950 had been made in Washington, D.C., and throughout the country. On April 1 approximately 140,000 enumerators began the gigantic task of interviewing the individual citizen and reporting upon his replies to more questions than had ever before been asked by the census bureau. Early in November the final figures for the 1950 population of the states became available. They showed that the population of the United States on April 1, 1950, was 150,697,361, a gain of slightly more than 19,000,000 persons in the decade. The final figures representing the populations of counties and cities were expected to become available state by state during the first seven or eight months of 1951. Meanwhile, the preliminary reports, and in some cases rumours based upon them, were of intense interest to business and labour and particularly to chambers of commerce. In late August one statement issued by the census bureau, reporting on the growth in the 12 largest cities, stressed the fact that the rate of growth in the suburban areas of those cities was higher than in the cities themselves. In December the report showed 427 cities with a population in excess of 25,000. (See BIRTH STATISTICS; CENSUS DATA, U.S.; CHURCH MEMBERSHIP; DEATH STATISTICS; IMMIGRATION AND EMIGRATION; also articles on the separate states.)

**Domestic Politics of the Nation.**—In an election year,

although only for members of the house and one-third of the senate, the leadership of the president was of primary interest. In his message to the congress on Jan. 4, he called again for the enactment of his "fair deal" program. This included a wider extension of social security benefits, protective legislation in matters involving civil rights, repeal of the Taft-Hartley act and acceptance of higher taxes. Within a week he submitted the largest peacetime budget in the history of the United States, and later in the month he was more specific in additional appeals in terms of national defense. The April 7 special message particularized on the wide extension of social security benefits including medical care and educational opportunity. The congress passed bills embodying some of these proposals, but not until late August was the social security legislation signed. Meanwhile, in May, the president had presented to the congress a plan for aids to small business. On the whole, the response of the congress to the appeals of the president was slow, and it was apparent that the president's own party in the congress was far from unified in support of any one of his major proposals. By the first of June it was an accepted fact that politics in the election year would play havoc with any rapid enactment of constructive legislation. The one exception to be noted later was the acceptance of governmental reorganization based upon reports of the Hoover commission.

Moreover, the attention of the country was taken up not with expectation of congressional action upon the president's proposals, but with the continued upward trend of prices, the effect of this trend on the value of the dollar, increased public buying of stocks, the growing unity in the demands of union labour for advances in wages and improvement of working conditions and the patent and distressing disharmony in the branches of the armed services. Yet there was a general optimism on the business outlook.

An indication of the continued division in the Democratic party was seen in the widespread comment upon the announcement by James F. Byrnes on Jan. 14 that he would seek election as governor of South Carolina. On Feb. 6 the Republican party members of the house and senate issued a statement of Republican party principles and objectives. This was sponsored also by the Republican National committee. In state primaries, it was significant that Sen. Claude D. Pepper of Florida, an outstanding figure in the New Deal, was defeated. On the Republican side in the important state of Pennsylvania, Gov. James H. Duff overcame the candidates of the old guard machine and emerged as a national figure. More and more eyes turned to the senatorial contest in Ohio, where Robert A. Taft was up for re-election, and to the gubernatorial election in New York, where Gov. Thomas E. Dewey was expected not to be a candidate for re-election and the Democrats were consequently optimistic. On May 17, the National committee of the Democratic party reaffirmed the party platform of 1948. Both party organizations had avoided an issue that had caused widespread discussion—early in February, by an overwhelming vote (64-27), the senate had approved a proposed constitutional amendment to share presidential electoral votes among the candidates in proportion to their popular vote.

The congressional delay on the bills for the admission of Hawaii and Alaska as states dragged through the year. Despite general approval, both in the country and in congress, and an increasing feeling in some quarters that this was a crucial political and military issue, no final action was taken.

As was expected, the crux of politics in an election year was found in the attitudes, policies and actions of organized labour. An epidemic of critical strikes began early in the year with a strike against the Chrysler company. The long-standing strike of the United Mine Workers led to a citation for contempt of



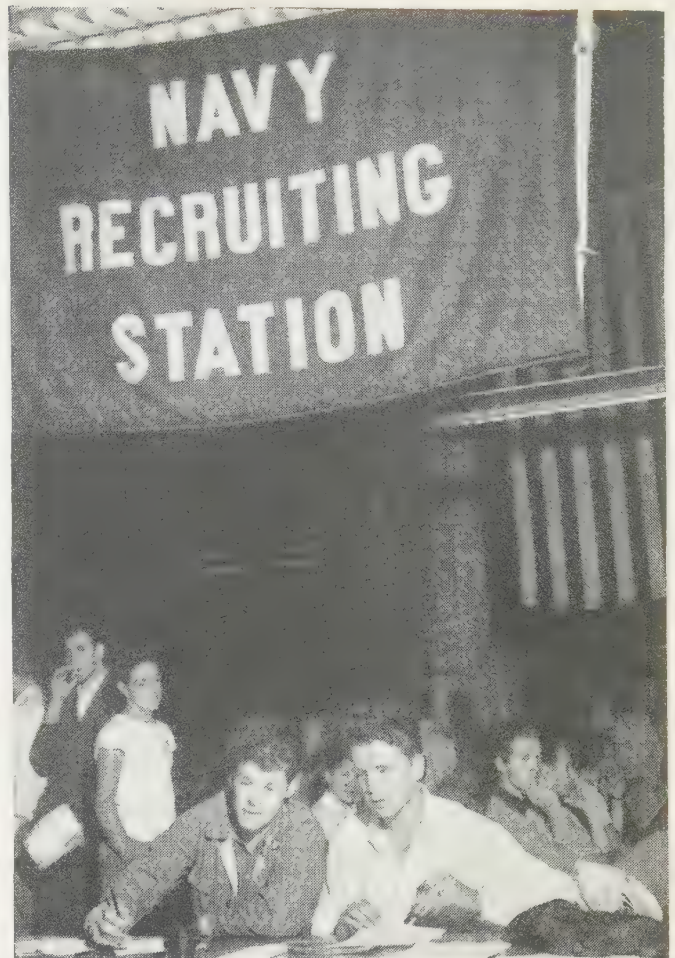
court despite John L. Lewis's direction to the miners on Feb. 12 to return to work, but under protest. The strike was brought to settlement on March 12. In mid-May the Brotherhood of Locomotive Trainmen and Engineers went on strike against four major railroad companies. The initial strike was quickly settled, but a recurrence and a threatened widening of the strike caused President Truman to take over the railroads on Aug. 25 and three days later the government began to operate the roads. This did not solve the problem, inasmuch as "wild cat" strikes occurred from time to time and in early December reached such proportions on four major railroads that there was serious interference with the crucial shipment of military supplies. President Truman's denunciation of this action of individual union members and his appeal to them to refrain from "absenteeism" led to a resumption of work, but the basic problem remained unsolved. (See also LABOUR UNIONS; RAILROADS; STRIKES.)

By May 25, the deadline provided in the law, 16 of the 21 plans for the reorganization of the federal government submitted to the congress by the president had gone into effect. These were the outgrowth of the Hoover commission reports and credit was given, as well, to numerous citizens' committees which had been organized to push this matter to a conclusion.

**Foreign Policy.**—Meanwhile, for the first six months of the year the foreign policy of the administration followed the lines laid down in the previous year. The greatest problem, realized to the full only part of the time, was how to maintain the position of the United States in the world *vis à vis* the Soviet Union. Two indeterminate factors were always present: (a) the shifting soviet foreign program; and (b) the uncertain partisan situation in the U.S. It is to be recalled that the mission of Madame Chiang Kai-shek, which had lasted more than a year, came to an end on Jan. 10. Her appeals on behalf of the nationalist government of China had been rejected by the president. On Jan. 5 President Truman stated that the United States would not defend Formosa, and inasmuch as Herbert Hoover and Robert Taft, as well as others, stated that they favoured holding Formosa, it became a matter of partisan discussion that underlay every move in matters involving the far east. Eight days after the president's statement the Communist government of China seized the United States consular offices in Peking, and Secretary of State Dean Acheson asked all U.S. consular officers to withdraw from China.

On the last day of January the president announced that he had asked the U.S. Atomic Energy commission to produce the hydrogen bomb. This served to intensify the debate in congress and in the country on foreign policy, and in particular on the technical bases of military supremacy and an over-all program for peace and security. The joint congressional committee on atomic energy approved the decision of the president, and scientists on the whole were in accord. It was apparent that a considerable body of the people approved but with misgivings. (See also ATOMIC ENERGY.)

In March the first shipment of arms, in accordance with the agreement previously reached, was sent to western European nations. Comment upon this, as a primary policy of the administration, ceased for a time when on March 17 Secretary of State Acheson, in an address at Berkeley, Calif., outlined a seven-point program of possible agreement with the Soviet Union as a basis for peaceful coexistence and the end of the cold war. Lack of favourable response by the U.S.S.R. explained the charge of the president, a month later, that it was apparent that the Soviet Union was fomenting revolution throughout the world and definitely preparing for war. He asked of the congress the appropriation of \$260,000,000 for the immediate development of the hydrogen bomb. The country was more and more inclined to follow his lead in taking increased measures for defense, but



NAVAL RECRUITS at an enlistment office in New York city in July 1950

disclaimed again and again any wish to enter an armament race.

But foreign policy was discussed more and more in terms of defense. It was pointed out that approximately three-fourths of the national budget for the fiscal year 1951 would be for past wars and the preparation for war. This led to vigorous debate on the cuts proposed by Secretary of Defense Louis Johnson. The president, as well as Secretary Johnson, claimed that the proposed cuts would not affect adversely the fighting units. But in March, testifying before a congressional committee, Gen. Dwight D. Eisenhower recommended increases of \$500,000,000 in the proposed budget. At this time he also pointed out the great necessity of protecting the approaches to Alaska. The debate in congress and in the country emphasized growing restiveness at what was termed western European lack of participation in preparation for defense. This was admitted despite the overwhelming evidence of economic recovery in these European countries made possible by funds furnished under the Marshall plan. Critics in the U.S. pointed out the mood of resignation expressed by European liberals, the lack of interest in west Germany in democratic education, the backward attitude of a large section of the British Labour party and growing French disunity. They feared that European jealousies would wreck any real defense against the U.S.S.R. The soviet response to the president's announcement as to the hydrogen bomb had been to term it "blackmail" in an effort to force soviet acquiescence to "American imperialism."

The accord reached by the 12 North Atlantic nations on May 18 lessened the strain, but it had been preceded on May 1 by an unprecedented display of military force when 25,000,000 Communists in the U.S.S.R. and elsewhere exhibited their potential military power. (See also EUROPEAN RECOVERY PROGRAM; NORTH ATLANTIC COMMUNITY.)



**Communism in the United States.**—As in the previous year, the people were much concerned with the evidences of communism or sympathy with communism within the United States. J. Edgar Hoover in April testified that there were 55,000 party members in the United States, but 500,000 fellow travellers. Late in January, Alger Hiss was convicted of perjury in the case growing out of charges made by a former Communist, Whittaker Chambers. This led to renewed activity on the part of those who felt that the charges in this case had been only the beginning of a widespread conspiracy. In March, Judith Coplon, former department of justice employee, was convicted of attempted espionage. And in April, after a trial lasting four months, Harry Bridges, long-time leader in the Longshoremen's union, was convicted of perjury in denying that in 1935 he had been a member of the Communist party.

Meanwhile, in February, Sen. Joseph McCarthy of Wisconsin began in the senate a series of attacks, which were later repeated elsewhere, upon "Communists in the state department." Late in the month a senate committee was appointed to investigate these charges and early in March began its hearings. These excited widespread attention. The president denounced McCarthy's charges; the individuals whom McCarthy named as Communists were vigorously defended and McCarthy himself was denounced even by Vice-President Alben W. Barkley. Seth W. Richardson, chairman of the loyalty review board, testified that 10,000 investigations of government employees in a three-year period had uncovered no case of espionage. On July 18 the senate committee, through its chairman, Sen. Millard E. Tydings of Maryland, reported that the charges of McCarthy had not been proved. McCarthy repeated and enlarged upon his charges. (See also COMMUNISM.)

**Mid-Year Crisis.**—In the first half of the year there was a feeling among the people of the U.S. of guarded but general optimism. Yet the tremendous costs of government and the apparently unending expansion of government activities caused widespread apprehension and fear of national bankruptcy. There was vigorous debate by some of the leading economists of the country on various programs of economic planning. Had the nation faced the second half of the year and the beginning of the fiscal year 1951 free to deal with long-familiar domestic problems involving labour, business and the farmer, it seemed certain that the people were in a mood to attempt to return to earlier programs.

But in the second half of the year a growing pessimism led to a general acceptance of war not only in Asia but possibly in Europe, and a resignation to conditions of life forced upon the American people by the state of the world outside the borders of the United States. Two developments occupied the national attention for the balance of the year—the growing tensions in Europe and the outbreak of armed conflict in the far east.

**International Developments.**—As the year had opened, the chances of an outbreak of general war seemed remote. Yet the first six weeks of the year were marked by six events, each one of which foreshadowed the most important developments of the next 12 months. On Jan. 6 Great Britain recognized the Chinese Communist government. On Jan. 13 the Soviet Union began its boycott of the meetings of the United Nations Security council. In late January India was proclaimed a republic. The United States, in the last week of January, formally signed defense agreements promising military aid to the North Atlantic nations. In early February Administrator Paul Hoffman asked for \$3,000,000,000 to continue the Marshall plan. On Feb. 15 it was announced that Communist China had signed a 30-year alliance with soviet Russia. In view of the widening breach in the United Nations, the secretary general, Trygve Lie, urged a conference of foreign ministers to formulate a 20-year peace plan; later in mid-

May he conferred with Joseph Stalin. (See also UNITED NATIONS.)

On July 8 Deputy Minister Jacob Malik returned to represent the U.S.S.R. in the Security council of the United Nations, becoming by previous agreement the presiding officer for the ensuing three months. Prior to his return, all attention had been shifted to the case of Korea, where on June 25 soviet-sponsored North Korean Communist forces had invaded the U.S.-sponsored South Korean republic. Prior to this, Herbert Hoover in a national broadcast had urged the reorganization of the United Nations with the exclusion of the soviet bloc. This suggestion, promptly opposed by both Americans and Europeans in and out of office, led to vigorous debate. Moreover, the repeated shifts in public opinion were reflected in the denunciation of the soviet-sponsored Stockholm peace appeal.

Throughout the late summer and early autumn, all discussions of international developments were held in the uncertain atmosphere produced by developments in Korea. The seeming success of united effort covered an actual situation of increasing apprehension. In mid-December Governor Dewey, President Truman and Herbert Hoover, in the order named, addressed the nation by radio, each in his own way and with a somewhat different program, calling upon the nation to meet at once the critical emergency created by disunion among non-Communist nations. Each denounced the U.S.S.R. On Dec. 29, in a radio broadcast, John Foster Dulles attempted to reconcile the opposing views as to means of preserving peace by emphasizing the weaknesses of the Soviet Union and the potential strength of the United States to win any war that it could not avoid.

**The United States and Korea.**—In early February, the question of economic aid to South Korea was answered by the congress with a vote of provisional aid. On Feb. 25 a United Nations commission on tour in Korea had been fired upon by North Koreans at the 38th parallel. This was followed by intensified guerrilla warfare in South Korea, but at the end of two months the South Korean government formally reported the elimination of the North Korean guerrilla forces. As early as Jan. 9 it had been reported that the withdrawal of U.S. military forces from South Korea was complete, but later it was announced that 95% of the officers of the South Korean army had been trained by U.S. army officers. Early in April Secretary of State Acheson gave warning to Pres. Syngman Rhee that scheduled elections in South Korea must be held and that economic rehabilitation must show progress or U.S. aid would be cut. It was reported at that time that Communists were barred from the elections, which were held, and a very large vote cast. The government of Rhee was weakened but remained in power. (See KOREA.)

The attention of students of contemporary international relations now shifted to Formosa. In April, speaking before the Academy of Political and Social Science in Philadelphia, Owen Lattimore had suggested that the United States forsake Formosa, recognize the Communist government of China, and "accept facts as they are." On June 18 Secretary of Defense Johnson and Gen. Omar Bradley, on a two-week tour in the far east, conferred with Gen. Douglas MacArthur in Tokyo "as to Formosa and Korea." It was reported from Tokyo that John Foster Dulles, adviser to the state department, who had been in Korea, would report to them. They returned to Washington on June 24.

The situation was dramatically altered and the pattern of the remaining months of the year set when on June 25 North Korean troops invaded South Korea. The Security council of the United Nations met in special session, condemned the action and voted to take armed measures to expel the North Koreans. Two days later President Truman issued orders for the army and the navy to join forces in South Korea in repelling the North Koreans. The following day Gen. MacArthur, representing the United

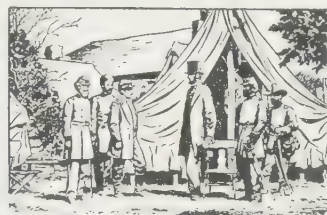
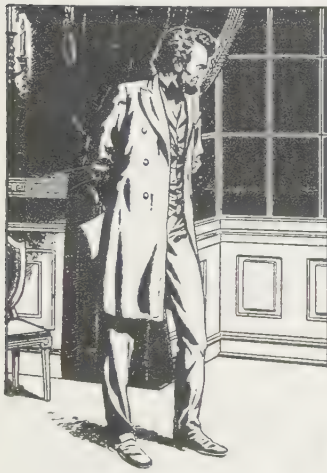




Above: REPLICA of the Mt. Rushmore memorial in South Dakota, one of the exhibits portraying U.S. history and notable scenes at the America fair, which opened in Osaka, Jap., in March 1950



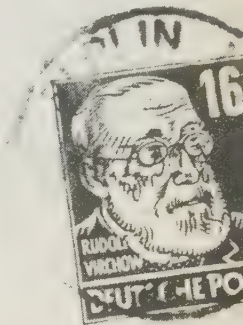
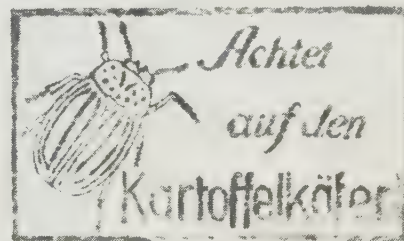
Above: GIANT-SIZED PORTRAIT posters dominating the scene in a Hungarian city in 1950, showing Matyas Rakosi and Joseph Stalin, leaders in the Hungarian People's Republic and the Soviet Union, respectively



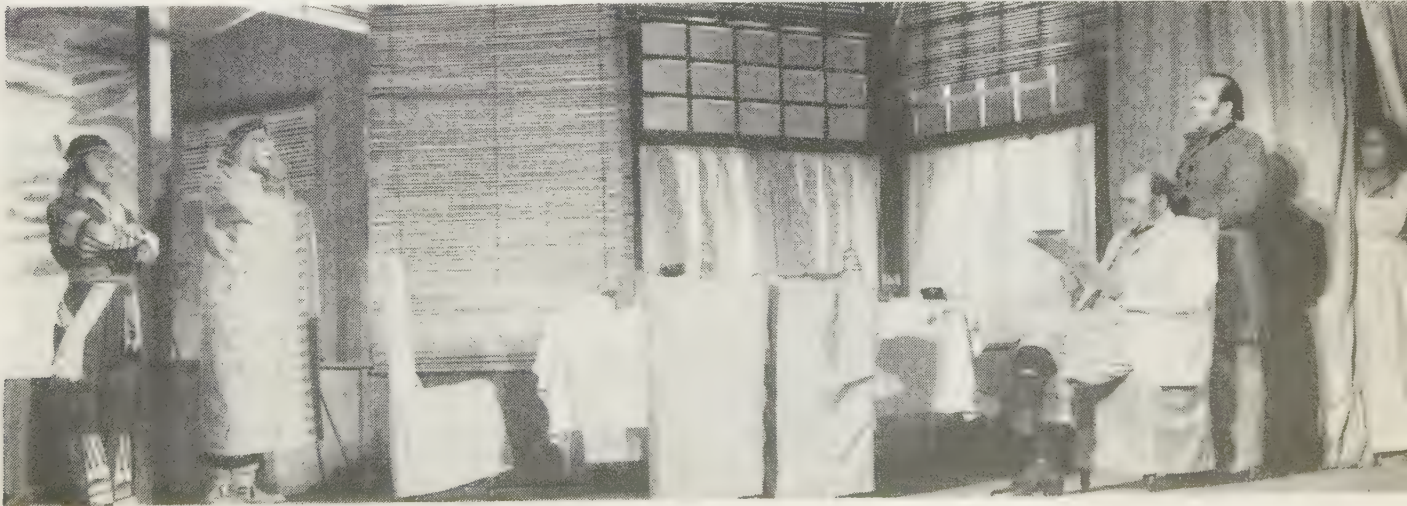
Left: THE STORY OF LINCOLN from the Siamese edition of *Eight Great Americans*, an illustrated booklet distributed by the U.S. department of state in 1950

### PROPAGANDA OF 1950—U.S. AND ANTI-U.S.

Below: SPECIAL postage cancellation by the soviet sector post office in Berlin, Ger., in 1950, warning against the potato bug, which the soviet government claimed U.S. planes were scattering over crops in Russian territory



Below: SCENE from a play about North American Indians, produced in Moscow. The press release accompanying the photo read, in part: "The play . . . exposes American theories of race superiority which reactionaries now use to justify the imperialist expansion of the United States"





States, arrived in South Korea. In the meantime, the U.S.S.R. declared the action of the United Nations illegal because of the absence of the soviet representative from the meetings of the Security council. Great Britain at once joined the United States in undertaking military action in Korea. In the midst of this discussion President Truman declared that troops of the United States, now ordered to Korea, were engaged in "police action, not in war." Fifty-three of the United Nations representatives supported this view. On the last day of the month the first U.S. troops landed in South Korea, and on July 9 General MacArthur was named supreme commander of the United Nations forces operating in Korea. These were presently to include not only British and Canadian troops, but also Australian and New Zealand units. By the end of November, 13 nations had infantry units serving in Korea and 14 had air and naval contingents.

On June 28, following the statement of President Truman as to U.S. action in Korea, the minister of foreign affairs of the Central People's (Communist) government of China said: "The American President Truman, after directing the South Korean puppet government of Syngman Rhee to provoke the Korean civil war, declared that the United States government had decided to use military forces to prevent the emancipation of our own Formosa. President Truman's statement of June 27 and the operations of the American navy constitute military aggression against Chinese territory and also tear the charter of the United Nations completely to shreds. This kind of violent aggressive activity on the part of the United States government does not exceed the expectations of the Chinese people. It serves only to increase the Chinese people's vigilance, because the Chinese people have long been ceaselessly exposing the secret plot of American imperialism to invade China, to occupy all of Asia . . . in fact, this American directed attack . . . is only the first step in a prearranged series of actions whose purpose it is to create a pretext for the American invasion of Formosa, Korea, French Indochina and the Philippines, and it is also a further step in Amer-

ican imperialist intervention in Asian affairs." This was the argument used by the representative of the Chinese Communist government before the United Nations Security council in December.

In July President Truman requested additional funds for naval and army expenditure; the marines were at once to call in their reserves; and it was announced that certain national guard units would be alerted for a call to service. The national Selective Service board at once set about calling 100,000 draftees. New plans were announced for an expenditure of \$4,000,000,000 for the development of air power. (See also SELECTIVE SERVICE.)

On Sept. 12 George Marshall succeeded Louis Johnson as secretary of defense, and in late September a successful landing at Inchon, Korea, planned and led by General MacArthur, led to the liberation of the capital of South Korea. Continued success of the United Nations forces in their campaigns in North Korea led to widespread expression of belief on three points: (1) the war could be and ought to be localized; (2) Communists in China would not wish armed conflict with the United States; and (3) the U.S.S.R. would withdraw or had withdrawn whatever support it had given to the North Koreans, because of a wish to avoid World War III. On Oct. 14 President Truman and General MacArthur met in conference at Wake Island, and on his return President Truman delivered an optimistic address to the nation. But this point of view was short-lived. All expectations were proved to be wrong. The defeat and rout of the North Korean forces in mid-October was suddenly reversed by great bodies of Chinese Communist troops crossing the Manchurian border into Korea and forcing the United Nations forces into a costly retreat. (See also KOREAN WAR.)

On Dec. 1, upon invitation of the United Nations, Gen. Wu Hsiu-chuan presented the case of Communist China in Korea to the United Nations and to the world. All this showed clearly that the initial position of the Chinese Communist government toward the west and toward the United States in particular remained hostile. The debate in the United States now turned to a discussion of the possibility of the United Nations forces holding in Korea, the nature of any aggressive action against Communist China, and most of all, the final shifting of the centre of preparation for armed conflict to western Europe.

The appointment of Gen. Dwight D. Eisenhower to command the forces of the North Atlantic treaty nations in Europe only emphasized what had been evident as early as September—the overwhelming financial and military involvement of the United States in Europe. Whereas within the previous year \$300,000,000 had been assigned to expenditure for the far east, \$3,500,000,000 had been marked for activities in Europe.

How completely the United States had lost its place in China was seen on Dec. 30, when it was announced by the Chinese Communist government that all U.S.-subsidized religious, medical, educational and relief organizations would be taken over by the Chinese and operated by the government.

**Elections of 1950.**—Unquestionably "communism" was an issue in the congressional and senatorial elections in Illinois, California, Maryland, New York and elsewhere. How far it determined the outcome was not clear. Three gubernatorial contests attracted national attention. After indicating in early May that he would not be a candidate for re-election, Governor Dewey altered his plans and announced that he would run. He won a substantial victory over his Democratic opponent. In Pennsylvania Governor Duff, who in May had overturned the Grundy machine, was elected to the senate and his gubernatorial candidate, John S. Fine, was successful. In California Gov. Earl Warren, who had been nominated for a third term as governor, outdistanced his Democratic rival, James Roosevelt, winning by an overwhelming majority of 1,127,898 votes. Senatorial con-



"CLOCK WATCHER," a cartoon by Summers of the *Buffalo Evening News*, published in 1950, a congressional election year





GEORGE C. MARSHALL (left) and Dwight D. Eisenhower conferring on foreign relations in Washington, D.C., in the summer of 1950. Later in the year Marshall became secretary of defense, and Gen. Eisenhower was named commander in chief of the forces of the North Atlantic treaty nations

tests were vigorous in 12 of the states holding such elections. The Democratic leader in the senate, Scott W. Lucas, was defeated in Illinois. Congresswoman Helen Gahagan Douglas, nominated by the Democrats and endorsed by the national administration, was defeated in California by Representative Richard M. Nixon, who had been prominent in the investigations that led to the Alger Hiss trial. The contest of greatest national interest had resulted, in Ohio, in the triumphant re-election of Robert A. Taft, generally considered the foremost representative of the Republican party in his opposition to the Truman administration. His opponent had been supported by all organized labour groups.

The congressional campaigns were fought at random inasmuch as both parties in the congress were divided on both domestic and international issues. The Democratic majority was materially reduced, the Republicans winning 200 seats and the Democrats retaining their control with 234 seats. The final vote showed that 40,351,862 votes cast in the elections for the house of representatives were almost equally divided between nominees of the Republican and of the Democratic parties except for 815,403

votes cast for other parties, which represented only 2.02% of the total. The total vote was unprecedented for an off-year election, yet represented, it was estimated, only 60% of the eligible voters.

(See also DEMOCRATIC PARTY; ELECTIONS, U.S.; REPUBLICAN PARTY.)

**National Emergency.**—The last two months of the year were packed with dramatic events. On Nov. 1 two Puerto Rican revolutionaries made an unsuccessful attempt at Blair House in Washington to assassinate President Truman. Early in November the general assembly of the United Nations accepted the proposals of Secretary of State Acheson, on behalf of the United States, that vital matters of world peace be discussed and acted upon in the assembly, where all the member nations were represented, and not in the Security council, where activity was subject to veto. Thus events had forced revision. Prior to this the Security council had asked that Communist China send a representative to explain China's action in Korea, and on Nov. 11 the Communist government of China announced acceptance, and their answer was given in the council on Dec. 1. It demanded that the United States get out of Korea. An attack upon the United States as the supposed villain in the world tragedy, this "answer" continued for many days. A committee of the United



Table I.—Major Legislation Passed by U.S. Congress in 1950

Act	House Vote	Senate Vote	Date of Enactment
<b>Oleomargarine Tax repeal</b> (Repealed federal taxes on oleomargarine and prescribed regulations for proper identification; increased maximum penalty for failure to obey FTC cease-and-desist orders to \$3,000 a day) . . . . .	263-106 Yeas: D. 196, R. 66, A.L. 1 Nays: D. 26, R. 80	59-20 Yeas: D. 37, R. 22 Nays: D. 6, R. 14	Signed March 16
<b>Foreign Economic Assistance Act of 1950</b> (Authorized omnibus foreign aid appropriation of \$3,121,450,000 in period July 1, 1950-June 30, 1951, including \$2,700,000,000 in new funds for European economic aid and \$35,000,000 for aid to underdeveloped areas) . . . . .	248-88 Yeas: D. 185, R. 63 Nays: D. 13, R. 74, A.L. 1	47-27 Yeas: D. 38, R. 9 Nays: D. 4, R. 23	Signed June 5
<b>Displaced Persons act of 1948 amendment</b> (Liberalized provisions of Displaced Persons act of 1948 and extended expiration period to June 30, 1951) . . . . .	Passed by voice vote	Passed by voice vote	Signed June 16
<b>Housing and Rent act of 1950</b> (Rent control extension to Dec. 31, 1950, with privilege of local option to June 30, 1951) . .	176-145 Yeas: D. 150, R. 25, A.L. 1 Nays: D. 39, R. 106	40-24 Yeas: D. 30, R. 10 Nays: D. 18, R. 6	Signed June 23
<b>Selective Service Extension Act of 1950</b> (Selective service extension to July 9, 1951; authorized president to call up armed forces reserve and retired personnel for 21 months of active duty) . . . . .	315-4 Yeas: D. 180, R. 135 Nays: D. 2, R. 1, A.L. 1	76-0 Yeas: D. 39, R. 37	Signed June 30
<b>Puerto Rican constitution</b> (Provided for organization of a constitutional government by people of Puerto Rico) . . .	Passed by voice vote	Passed by voice vote	Signed July 3
<b>Mutual Defense Assistance Act of 1949 amendment</b> (Authorized appropriation of \$1,222,500,000 in U.S. military aid to foreign nations in period July 1, 1950-June 30, 1951) . . . . .	362-1 Yeas: D. 211, R. 151 Nays: A.L. 1	66-0 Yeas: D. 34, R. 32	Signed July 26
<b>Suspension of armed forces strength restrictions</b> (Suspended restrictions on authorized strength of armed forces until July 31, 1954) . . . .	Passed by voice vote	Passed by voice vote	Signed Aug. 3
<b>Social Security act amendments of 1950</b> (Extended federal social security coverage to an estimated 10,000,000 persons and provided for greatly increased benefits) . . . . .	374-1 Yeas: D. 234, R. 139, A.L. 1 Nays: D. 0, R. 1	Passed by voice vote	Signed Aug. 28
<b>Defense Production Act of 1950</b> (Gave President power over rationing, credit, allocations, production loans and priorities, and standby wage and price control powers) . . . . .	Passed by voice vote	Passed by voice vote	Signed Sept. 8
<b>Dependents Assistance act of 1950</b> (Provided for family allowances to dependents of armed forces enlisted personnel) . . . .	Passed by voice vote	Passed by voice vote	Signed Sept. 8
<b>Internal Security act of 1950</b> (Directed registration and reporting of activities by Communist and Communist front groups; barred Communists from federal and defense jobs; authorized the Attorney General to apprehend and hold persons likely to commit acts of sabotage or espionage; tightened alien-exclusion and deportation laws) . . . . .	312-20 Yeas: D. 186, R. 126 Nays: D. 18, R. 1, A.L. 1	51-7 Yeas: D. 24, R. 27 Nays: D. 6, R. 1	Vetoed Sept. 22 Veto overridden House 286-48 Yeas: D. 161, R. 125 Nays: D. 45, R. 2 A.L. 1 Senate 57-10 Yeas: D. 26, R. 31 Nays: D. 10, R. 0 Enactment date Sept. 23
<b>Revenue act of 1950</b> (Provided for an additional \$4,700,000,000 in revenue by raising corporate and personal income tax rates and some excise tax rates) . . . . .	328-7 Yeas: D. 199, R. 129 Nays: D. 4, R. 2, A.L. 1	Passed by voice vote	Signed Sept. 23
<b>Rent Control extension</b> (Rent control extension to Mar. 31, 1951) . . . . .	Passed by voice vote	Passed by voice vote	Signed Dec. 20
<b>Clayton act amendment</b> (Amended section 7 of Clayton act to prohibit purchases of assets of competitors which would tend to lessen competition or to create a monopoly) . . . . .	Passed by voice vote	55-22 Yeas: D. 40, R. 15 Nays: D. 0, R. 22	Signed Dec. 29
<b>Excess profits tax</b> (Subjected corporate earnings above the 1946-49 average to 77% tax, retroactive to July 1, 1950, and increased regular corporate tax rate from 45% to 47%) . . . . .	Passed by voice vote	Passed by voice vote	Signed Jan. 3, 1951
<b>Federal Civil Defense act of 1950</b> (Authorized appropriation of \$3,100,000,000 for a 3-year federal civil defense program) .	Passed by voice vote	Passed by voice vote	Signed Jan. 12, 1951

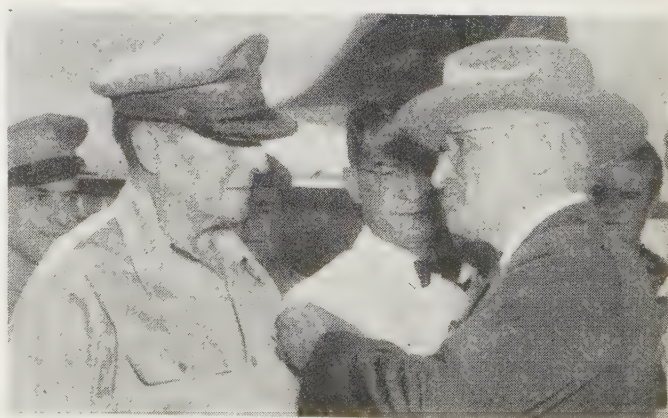
Nations appealed to Communist China to "cease fire" in Korea. In the midst of this, Prime Minister Clement Attlee of Great Britain journeyed to Washington for a conference with President Truman. It was not clear how satisfactory an agreement was reached except for statements that the United States and Great Britain would continue to stand together. Meanwhile, the war in Korea continued and the forces of the United Nations continued to retreat.

On Dec. 16 President Truman declared a national emergency and, addressing the nation in explanation of the need, outlined the steps the administration proposed to take in placing the nation on a war footing. As the year closed it was generally accepted by the people of the United States that all-out war with Communist China was to be avoided by any means short of appeasement in matters affecting the far east. As for the U.S. position in Korea, there was still uncertainty at the end of the year, both as to U.S. military policy in the field and as to the position of the U.S. in the United Nations. The complete shift in national interest was seen in late December in the wide attention given the decision of the North Atlantic treaty powers to create an "effective security force" for the North Atlantic community, signalized by the departure for Europe of General Eisenhower, who had been named supreme commander.

There was a growing conviction, as the year ended, that com-

munist must be contained, if not actually defeated, in Europe and in Asia if the United States were to survive. (E. E. R.)

**Foreign Credits of the U.S. Government.**—Amounts owed by other countries to the U.S. government rose by only 1% in the year ended Sept. 30, 1950. Whereas disbursements on loans and utilizations of other credits aggregated \$424,000,000 in that period, repayments of principal were \$292,000,000 so that the



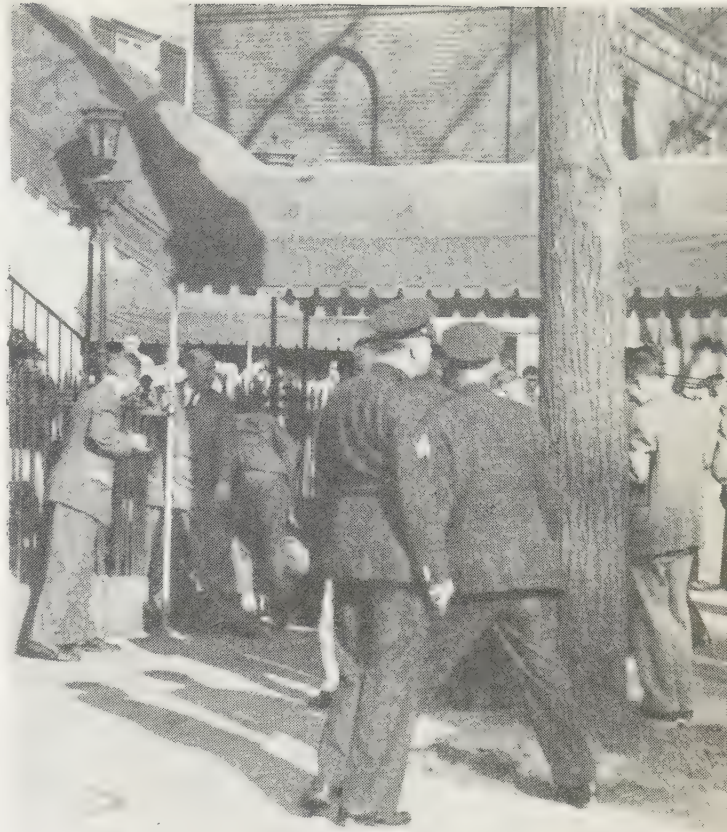
PRESIDENT TRUMAN pinning a Distinguished Service medal on Gen. Douglas MacArthur during their meeting at Wake Island in Oct. 1950



Table II.—Foreign Credits of the  
U.S. Government—by Agency and by Country, as of Sept. 30, 1950

	Total	Outstanding	Unutilized commitments and authorizations
Total . . . . .	\$11,640,771,619	\$9,972,833,376	\$1,667,938,243
Commitments . . . . .	10,884,077,745	9,972,833,376	911,244,369
Uncommitted authority. . . . .	756,693,874		756,693,874
By agency:			
Army department . . . . .	170,000,000	20,000,000	150,000,000
Commitments . . . . .	22,421,923	20,000,000	2,421,923
Uncommitted authority. . . . .	147,578,077		147,578,077
Economic Cooperation ad- ministration . . . . .	1,218,786,051	1,037,246,855	181,539,196
Commitments . . . . .	1,135,664,051	1,037,246,855	98,417,196
Uncommitted authority . . . . .	83,122,000		83,122,000
Export-Import bank . . . . .	3,505,999,997	2,231,224,834	1,274,775,163
Commitments . . . . .	2,980,006,200	2,231,224,834	748,781,366
Uncommitted authority. . . . .	525,993,797		525,993,797
General Services adminis- tration (War Assets admin.) . . . . .	17,675,019	17,675,019	
Maritime commission . . . . .	180,122,987	180,122,987	
Reconstruction Finance Corp. . . . .	166,410,447	131,410,447	35,000,000
State Department: United Nations headquarters loan . . . . .	65,000,000	41,141,794	23,858,206
Treasury department			
British loan . . . . .	3,750,000,000	3,750,000,000	
Lend-lease silver . . . . .	291,215,173	291,215,173	
Other lend-lease . . . . .	1,289,127,382	1,286,361,704	2,765,678
Surplus property . . . . .	986,427,595	986,427,595	
Other . . . . .	6,968	6,968	
By country:			
American republics . . . . .	854,013,864	414,526,504	439,487,360
Argentina . . . . .	125,163,828	163,828	125,000,000
Bolivia . . . . .	35,479,016	21,179,233	14,299,783
Brazil . . . . .	151,465,811	112,499,808	38,966,003
Chile . . . . .	96,468,663	85,425,555	11,043,108
Colombia . . . . .	39,756,968	22,554,181	17,202,787
Costa Rica . . . . .	6,510,912	6,510,912	
Dominican Republic . . . . .	126,802	126,802	
Ecuador . . . . .	25,541,609	12,491,609	13,050,000
El Salvador . . . . .	879,372	879,372	
Haiti . . . . .	8,595,001	4,595,001	4,000,000
Mexico . . . . .	243,694,246	80,194,946	163,499,300
Nicaragua . . . . .	1,155,500	1,155,500	
Panama . . . . .	2,000,000	1,731,461	268,539
Paraguay . . . . .	3,704,604	3,704,604	
Peru . . . . .	24,795,725	3,995,725	20,800,000
Uruguay . . . . .	15,216,656	15,216,656	
Venezuela . . . . .	11,111,071	3,819,374	7,291,697
Unclassified . . . . .	62,348,080	38,281,937	24,066,143
Afghanistan . . . . .	21,000,000		21,000,000
Austria . . . . .	22,559,309	22,559,309	
Belgium and Luxembourg . . . . .	178,394,373	175,050,809	3,343,564
Commonwealth of Nations . . . . .	5,073,768,564	5,020,416,375	53,352,189
United Kingdom . . . . .	4,854,596,630	4,819,596,630	35,000,000
Australia . . . . .	14,669,744	14,669,744	
Canada . . . . .	10,695,922	7,870,922	2,825,000
India . . . . .	171,503,467	171,503,467	
Jamaica . . . . .	17,703,000	2,385,811	15,317,189
New Zealand . . . . .	4,003,462	4,003,462	
Southern Rhodesia . . . . .	210,000		210,000
Union of South Africa . . . . .	386,339	386,339	
Burma . . . . .	4,352,239	4,352,239	
China . . . . .	179,746,957	165,304,600	14,442,357
Czechoslovakia . . . . .	5,538,855	5,538,855	
Denmark . . . . .	51,904,637	51,904,637	
Egypt . . . . .	7,250,000	6,919,178	330,822
Ethiopia . . . . .	7,141,508	5,291,508	1,850,000
Finland . . . . .	120,617,097	120,573,529	43,568
France . . . . .	2,045,618,153	2,038,657,142	6,961,011
Germany . . . . .	66,382,217	66,382,217	
Greece . . . . .	99,446,317	99,446,317	
Hungary . . . . .	14,061,808	14,061,808	
Iceland . . . . .	4,388,483	2,388,483	2,000,000
Iran . . . . .	27,363,249	27,363,249	
Ireland . . . . .	128,200,000	108,606,502	19,593,498
Israel . . . . .	100,000,000	38,584,441	61,415,559
Italy . . . . .	360,437,709	357,505,795	2,931,914
Japan . . . . .	16,357,158	13,935,235	2,421,923
Korea . . . . .	20,950,020	20,950,020	
Lebanon . . . . .	598,274	598,274	
Liberia . . . . .	24,667,612	19,875,729	4,791,883
Netherlands—Indonesia . . . . .	607,653,608	507,653,608	100,000,000
Netherlands . . . . .	445,357,101	445,357,101	
Indonesia . . . . .	162,296,507	62,296,507	100,000,000
Norway . . . . .	103,290,513	103,290,513	
Philippines . . . . .	65,374,700	65,374,700	
Poland . . . . .	79,621,161	79,621,161	
Portugal . . . . .	27,546,505	6,828,802	20,717,703
Saudi Arabia . . . . .	42,158,130	23,658,130	18,500,000
Sweden . . . . .	23,784,553	23,434,553	350,000
Switzerland . . . . .	5,431,516	5,431,516	
Thailand . . . . .	110,101,139	72,007,923	38,093,216
Turkey . . . . .	222,552,917	222,552,917	
U.S.S.R. . . . .	55,892,200	21,045,004	34,847,196
Yugoslavia . . . . .			
International organization:			
United Nations hdqtr. loan . . . . .	65,000,000	41,141,794	23,858,206
Unclassified areas . . . . .	40,912,400		40,912,400
Europe—special cotton credit . . . . .	38,412,400		38,412,400
Various countries . . . . .	2,500,000		2,500,000
Uncommitted lending authority	756,693,874		756,693,874
Export-Import bank . . . . .	525,993,797		525,993,797
Economic Cooperation administration . . . . .	83,122,000		83,122,000
Spain . . . . .	62,500,000		62,500,000
Other Europe . . . . .	20,622,000		20,622,000
Army department . . . . .	147,578,077		147,578,077

Source: Clearing Office for Foreign Transactions, Department of Commerce.



POLICE AND SPECTATORS outside of Pres. Harry S. Truman's residence in Washington, D.C., on Nov. 1, 1950, after an attempt on the president's life by two Puerto Rican nationalists

net increase in outstanding indebtedness was only \$132,000,000. Credit utilizations were thus less than 40% of those in the preceding 12 months when they aggregated \$1,143,000,000.

Not only did gross foreign aid (credits and grants combined) decline sharply between these two years, from \$6,543,000,000 to \$4,474,000,000, but the proportion of the total consisting of credits fell from one-fifth to one-tenth. The contraction largely reflected the diminution in aid under the European Recovery program (Marshall plan). With the substantial increase in production and trade of the participating countries, their need for dollar assistance declined even more rapidly than contemplated under the original plan for its four-year life. It also came to be recognized that, in many instances, a virtual limit had been reached as to the amount which could be loaned with a reasonable expectation of repayment. Finally, the transition from strictly economic aid to military aid abroad, stimulated by the invasion of South Korea in June 1950, necessitated a greater emphasis on grant aid rather than loans and other credits.

Of the \$424,000,000 credits utilized in the year ended Sept. 30, 1950, almost half or \$197,000,000 was disbursed by the Export-Import Bank of Washington under its own authority. A substantial part of the balance or \$166,000,000 represented aid extended on a loan basis under the European Recovery program by the Economic Cooperation administration, collections on which are handled by the Export-Import bank.

Collections of principal rose within the year to reach \$292,000,000 as compared with \$251,000,000 in the preceding 12 months. These were expected to continue to rise since debt agreements on credits outstanding at mid-1950 called for payments of almost \$290,000,000 in the calendar year 1951 and more than \$330,000,000 in 1952. Interest collections also increased to \$107,000,000 in the year ended Sept. 30, 1950, from \$97,000,000 in the previous year. They were scheduled to rise further to between \$190,000,000 and \$200,000,000 in both 1951 and 1952. The



projected increase reflected in large measure amounts on the special British loan and related credits which were scheduled to fall due beginning Dec. 31, 1951, after five years of grace.

Since the creation of the original Export-Import bank in 1934, net commitments under all U.S. government lending programs amounted to \$12,700,000,000. All except \$900,000,000 had been utilized by Sept. 30, 1950. Of the \$11,800,000,000 utilized, \$1,800,000,000 had been repaid (exclusive of \$500,000,000 in interest and commissions) leaving almost \$10,000,000,000 outstanding on Sept. 30, 1950 as shown in Table II. Of the total unutilized commitments and authorizations on Sept. 30, 1950, three-fourths were those of the Export-Import bank, and a substantial part of the remainder were those under the European Recovery program. There was little likelihood of any further utilization of amounts available to the department of the army or the Reconstruction Finance corporation. (R. C. PE.)

**Education.**—See the articles EDUCATION; UNIVERSITIES AND COLLEGES.

**Defense.**—For information about the armed forces of the United States in 1950, see ARMIES OF THE WORLD; AVIATION, MILITARY; COAST GUARD, U.S.; MARINE CORPS, U.S.; NATIONAL GUARD; NAVIES OF THE WORLD; SELECTIVE SERVICE.

**Foreign Trade.**—See the articles BUSINESS REVIEW; EXPORT-IMPORT BANK OF WASHINGTON; INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT; INTERNATIONAL MONETARY FUND; INTERNATIONAL TRADE; TARIFFS.

**Communications.**—For statistics, see the articles AVIATION, CIVIL; CANALS AND INLAND WATERWAYS; ELECTRIC TRANSPORTATION; MOTOR TRANSPORTATION; POST OFFICE; RADIO; RAILROADS; ROADS AND HIGHWAYS; SHIPBUILDING; SHIPPING, MERCHANT MARINE; TELEGRAPHY; TELEPHONE; TELEVISION.

**Agriculture.**—Statistical material pertaining to this subject may be found under AGRICULTURE; FOOD SUPPLY OF THE WORLD; also in separate articles on the principal crops and agricultural products.

**Mineral Production.**—See separate articles on the principal minerals; also MINERAL AND METAL PRODUCTION AND PRICES. (X.)

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(E. E. R.)

**United States Government Departments and Bureaus:** see GOVERNMENT DEPARTMENTS AND BUREAUS. Also see under specific name, i.e., COAST GUARD, U.S., etc.

**United States Investments Abroad:** see FOREIGN INVESTMENTS.

**United States Mint:** see COINAGE.

**Universities and Colleges.** The following nine pages carry a selected list of nationally or regionally accredited universities, colleges, junior colleges and technical schools of college grade in the U.S., its territories and Canada, with location, year founded, chief executive, enrolment, size of faculty, endowment and number of library volumes, for the academic year 1950-51.

The symbol \* denotes 1949-50 data; † denotes data previous to 1949-50. (See also EDUCATION.)



Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endow-ment	Bound-ary Volumes	Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endow-ment	Bound-ary Volumes
<b>A</b>															
Acadia University, Wolfville, N.S., Can. . .	1838	Watson Kirkconnell	630	644	59	\$1,179,151	90,000	Barat College, Lake Forest, Ill. . .	1863	Mother M. Reilly	352	352	42	—	32,468
Adams State Col., Alamosa, Colo. . .	1921	N. W. Newsum	451	552	44	—	28,583	Barber-Scotia College, Concord, N.C. . .	1867	L. S. Cezar	166	166	19	\$850,000	12,105
Adelphi College, Garden City, N. Y. . .	1896	James R. McCain	2,232	2,182	130	856,831	53,000	Bard College, Annandale-on-Hudson, N.Y. . .	1860	W. H. Case, Jr.	240	240	41	173,950	60,000
Agnes Scott College, Decatur, Ga. . .	1889	Paul M. Eddy	467	476	61	2,766,000	60,500	Barnard College, New York, N.Y. . .	1889	William C. McIntosh	1,024	1,035	135	6,502,799	69,500
Akron, University of, Akron, Ohio . . .	1870	H. E. Simmons	2,054	3,863	205	1,457,778	330,000	Barry College, Miami, Fla. . .	1940	Mother M. Mary Gelfand	220	290	22	—	15,500
Alabama, University of, University, Ala. . .	1831	John M. Gallalee	6,556	6,649	625	6,000,000	85,863	Bates College, Lewiston, Me. . .	1864	Charles F. Phillips	828	831	57	1,982,939	85,000
Alabama A. and M. College, Normal, Ala. . .	1870	Joseph F. Drake	925	1,029	55	—	18,000	Bay City Junior College, Bay City, Mich. . .	1922	Charles F. Phillips	429	508	38	—	13,000
Alabama College, Montevallo, Ala. . .	1896	John T. Caldwell	699	704	72	669,605	58,950	Baylor Univ., Waco, Tex. . .	1845	William B. White	4,407	5,162	226	4,210,000	160,000
Alabama Polytechnic Inst., Auburn, Ala. . .	1892	Ralph B. Draughon	6,365	6,635	471	920,186	165,000	Beaver College, Jenkintown, Pa. . .	1853	Raymond M. Kistler	546	562	68	—	27,500
Alabama State Tch. Col., Florence, Ala. . .	1873	Ethelbert B. Norton	1,178	1,233	88	—	57,481	Belhaven College, Jackson, Miss. . .	1893	Vincent G. Taylor	180	201	25	553,808	21,000
Alabama State Tch. Col., Jacksonville, Ala. . .	1883	Houston Cole	1,260	1,451	76	—	27,368	Belmont Abbey Col. (Jr.), Belmont, N.C. . .	1878	Vincent G. Taylor	205	205	32	—	50,000
Alabama State Tch. Col., Livingston, Ala. . .	1885	W. W. Hill	495	729	43	—	26,245	Beloit College, Beloit, Wis. . .	1846	Carey Cronis	1,057	1,060	84	2,793,125	162,960
Alabama State Tch. Col., Montgomery, Ala. . .	1874	H. Council Trenholm	926	1,126	68	—	14,472	Bemidji State Tch. Col., Bemidji, Minn. . .	1913	C. R. Sarigast	575	575	56	—	30,000
Alabama State Tch. Col., Troy, Ala. . .	1887	Terris Moore	300	745	50	—	32,700	Bennett College, Greensboro, N.C. . .	1873	David B. Jones	727	727	54	337,118	19,750
Alaska, University of, College, Alaska . . .	1917	Aaron Brown	452	859	37	—	25,500	Bennett Junior College, Millbrook, N.Y. . .	1932	Joseph Carroll	410	433	36	1,047,229	27,451
Albany State College, Albany, Ga. . .	1903	Andrew Stewart	3,614	3,775	364	1,031,033	129,000	Bennington College, Bennington, Vt. . .	1855	F. H. Burkhardt	348	348	53	115,120	31,000
Albertus Magnus Col., New Haven, Conn. . .	1925	Sister M. Corallia	185	187	34	9,284	25,340	Berea College, Berea, Ky. . .	1840	William H. Graham	1,089	1,119	90	13,800,000	115,000
Albion College, Albion, Mich. . .	1835	W. W. Whitehouse	1,219	1,237	75	4,180,230	73,000	Bessie Tift College, Forsyth, Ga. . .	1840	William H. Graham	579	595	45	3,102,625	19,769
Albright College, Reading, Pa. . .	1856	Harry V. Masters	684	710	50	1,013,848	35,000	Bethany College, Bethany, W. Va. . .	1881	Enory L. Liquid	302	350	38	523,350	26,000
Alcorn A. and M. College, Alcorn, Miss. . .	1871	J. R. Otis	643	1,023	92	209,871	18,000	Bethany College, Lindsborg, Kan. . .	1887	Enory L. Liquid	350	380	36	474,736	25,000
Alfred University, Alfred, N.Y. . .	1836	M. Ellis Drake	921	1,048	87	962,451	70,977	Bethel College, North Newton, Kan. . .	1872	Richard V. Moore	889	955	45	535,983	20,400
Allegheny College, Meadville, Pa. . .	1815	Louis T. Benetz	1,075	1,086	80	2,440,000	118,000	Bethune-Cookman Col., Daytona Beach, Fla. . .	1856	George B. Stuart, Jr.	837	846	56	1,614,817	70,000
Allen University, Columbia, S.C. . .	1870	Samuel R. Higgins	194	194	22	—	15,000	Birmingham-South. Col., Birmingham, Ala. . .	1843	Joseph B. Roads	477	558	20	22,464	25,268
Alliance Col., Cambridge Springs, Pa. . .	1912	Arthur P. Coleman	531	547	34	569,498	17,400	Bishop College, Marshall, Tex. . .	1843	Robert P. Ludlum	239	241	50	2,250,000	30,000
Alma College, Alma, Mich. . .	1886	Stephen Nisbet	240	541	39	—	25,442	Blackburn College, Carlinville, Ill. . .	1837	Robert P. Ludlum	364	384	39	1,296,837	18,500
Alverno College, Milwaukee, Wis. . .	1936	Sister M. Augustine	460	642	39	—	13,360	Black Hills Teachers College, Spearfish, S.D. . .	1883	Rosalee L. Jones	236	274	44	118,652	6,484
Amari College (Jr.), Amarillo, Tex. . .	1929	A. M. Meyer	1,085	1,551	68	189,000	36,000	Bluefield College (Jr.), Bluefield, W. Va. . .	1895	Chas. L. Hartman	444	444	34	—	18,000
American Int. Col., Springfield, Mass. . .	1885	Spencer Miller, Jr.	900	4,086	297	852,002	138,849	Blue Mountain Col., Blue Mountain, Miss. . .	1873	Lawrence T. Lowrey	235	243	28	518,000	20,200
American University, Washington, D.C. . .	1863	Paul F. Douglass	1,056	1,072	57	1,477,715	279,227	Boise Junior College, Boise, Ida. . .	1932	Eugene B. Charfee	538	620	45	—	13,500
Amherst College, Amherst, Mass. . .	1825	Charles W. Cole	627	730	58	35,035	23,026	Boston Teachers College of the City of Boston, Mass. . .	1852	William F. Looney	740	1,353	43	—	31,000
Anderson College and Theological Seminary, Anderson, Ind. . .	1817	John A. Morrison	85	120	14	500,000	6,500	Boston College, Chestnut Hill, Mass. . .	1863	Wm. L. Keleher	4,060	6,786	411	1,305,000	231,207
Andrew College (Jr.), Cuthbert, Ga. . .	1854	S. C. Olliff	105	117	22	—	10,878	Bowdoin College, Brunswick, Me. . .	1839	Daniel L. Marsh	1,976	2,016	127	5,969,914	300,000
Antelope Valley Junior College, Lancaster, Calif. . .	1929	Walter Dingus	1,085	1,130	75	2,738,000	75,000	Bowling Green St. Univ., Bowling Green, O. . .	1794	Kathleen C. M. Sills	837	841	71	11,517,575	221,000
Antioch College, Yellow Springs, Ohio . .	1852	Douglas McGregor	1,170	1,262	103	—	48,275	Bradford University, Bradford, Mass. . .	1910	Frank J. Prout	4,978	4,235	279	—	110,000
Appalachian State Tch. Col., Boone, N.C. . .	1903	B. B. Dougherty	380	531	42	1,412,000	226,000	Bradley University, Peoria, Ill. . .	1803	Dorothy M. Bell	297	297	30	500,000	19,817
Aquinas College, Grand Rapids, Mich. . .	1923	Arthur F. Bukowski	5,693	5,693	342	144,416	37,038	Branch Agricultural College (Jr.), Cedar City, Utah . .	1897	David B. Owen	3,660	4,373	222	2,524,362	75,000
Arizona, University of, Tucson, Ariz. . .	1885	James B. McCormick	6,675	6,75	53	—	108,000	Brigham Young University, Provo, Utah . .	1875	Ernest L. Wilkinson	4,419	4,605	275	290,000	163,000
Arizona State Col., Flagstaff, Ariz. . .	1899	Lacey A. Eastburn	4,043	4,539	186	132,666	265,000	Brigham Young University, Salt Lake City, Utah . .	1897	Ernest L. Wilkinson	4,419	4,605	275	290,000	163,000
Arkansas A. and M. Col., Fayetteville, Ark. . .	1871	Lewis W. Jones	700	975	50	—	20,000	Brooklyn College, Brooklyn, N.Y. . .	1908	N. A. MacKenzie	6,303	6,394	405	556,634	275,000
Arkansas Agricultural, Mechanical and Normal College, Pine Bluff, Ark. . .	1873	Lawrence A. Davis	998	1,209	83	—	18,192	Brooklyn Polytechnic Inst. of Brooklyn, N.Y. . .	1854	H. S. Rogers	1,810	5,814	391	1,499,743	40,000
Arkansas Polytech. Col., Russellville, Ark. . .	1909	J. W. Hull	794	1,008	66	—	26,215	Brooklyn College, Brooklyn, N.Y. . .	1930	Harry D. Gideonse	8,060	17,396	912	26,286	201,473
Arkansas State Agri. and Mech. Col. Magnolia, Ark. . .	1909	Dolph Camp	763	797	48	—	17,400	Brown University, Providence, R.I. . .	1764	Henry M. Wriston	3,584	3,775	418	14,199,000	770,000
Arkansas State College, State College, Ark. . .	1907	Nolen M. Irby	1,061	1,342	80	—	25,998	Bryn Mawr College, Bryn Mawr, Pa. . .	1880	Katharine E. McBride	625	715	90	8,584,879	210,000
Arkansas State Tch. Col., Conway, Ark. . .	1917	E. H. Hereford	1,383	1,530	92	70,347	24,500	Bucknell University, Lewisburg, Pa. . .	1846	Horace A. Hildreth	2,060	2,146	153	2,044,726	118,000
Arlington State Col. (Jr.), Arlington, Tex. . .	1935	Foreman M. Hawes	300	307	45	1,424,782	25,000	Butler University, Indianapolis, Ind. . .	1850	Maurice O. Ross	4,759	10,066	1,079	8,351,156	259,095
Armstrong College (Jr.), Savannah, Ga. . .	1890	Z. T. Johnson	871	877	54	—	46,194	California, University of, Berkeley, Los Angeles, Santa Barbara, San Francisco, Davis, Mount Hamilton, La Jolla and Riverside, Calif. . .	1868	Robert G. Sprout	39,492	39,492	4,188	55,324,407	2,177,633
Asbury College, Wilmore, Ky. . .	1878	Glen L. Clayton	424	555	34	—	30,959	California Inst. of Tech., Pasadena, Calif. . .	1891	Lee A. DuBridge	1,070	1,070	250	23,220,000	75,750
Ashtand College, Ashland, Ohio . .	1904	Henry J. Maquin	3,904	3,904	231	5,741,811	30,543	California State Polytechnic College, San Luis Obispo, Calif. . .	1901	Julian A. McPhee	2,767	2,767	189	—	21,054
Assumption College, Worcester, Mass. . .	1914	George M. Sparks	394	394	33	—	15,000	Calvin College and Seminary, Grand Rapids, Mich. . .	1876	Henry Schultze	1,327	1,373	64	200,000	38,000
Atlanta Div., Univ. of Ga., Atlanta, Ga. . .	1867	Rufus E. Clement	280	472	33	—	15,000	Campbell College (Jr.), Buie's Creek, N.C. . .	1887	Leslie H. Campbell	376	380	34	180,120	10,034
Atlanta University, Atlanta, Ga. . .	1882	Lewis N. Holm	1,100	1,250	48	1,556,000	27,000	Campbellville Junior College, Campbellsville, Ky. . .	1906	John M. Carter	320	325	18	50,000	9,000
Atlantic Union College, S. Lancaster, Mass. . .	1825	Eric W. Hardy	280	472	33	—	15,000								
Augusta, Junior College of, Augusta, Ga. . .	1925	Conrad Bergendoff	1,100	1,250	48	1,556,000	27,000								
Augustana College, Rock Island, Ill. . .	1860	L. M. Slavic	688	777	39	28,640	33,661								
Augustana College, Sioux Falls, S.D. . .	1860	T. P. Stephens	281	356	42	1,100,000	25,000								
Aurora College, Aurora, Ill. . .	1893	W. B. Guerrant	480	897	57	—	80,000								
Austin College, Sherman, Tex. . .	1897	Halbert Harvill	533	897	57	—	80,000								
Austin Peay State College, Clarksville, Tenn. . .	1927	Carl V. Bishop	203	269	26	—	15,000								
Averett College (Jr.), Danville, Va. . .	1859	Ralph Prator	1,147	1,514	92	—	15,000								
		Nelson P. Horn	558	578	38	1,479,063	60,000								
		John R. Knight	1,457	1,606	106	2,603,000	55,000								
		John R. Emens	2,859	3,145	185	—	115,115								
<b>B</b>															
Bakersfield College (Jr.), Bakersfield, Calif. . .	1913	Ralph Prator	1,147	1,514	92	—	15,000								
Baker University, Baldwin City, Kan. . .	1853	Nelson P. Horn	558	578	38	1,479,063	60,000								
Baldwin-Wallace College, Berea, Ohio . .	1845	John R. Knight	1,457	1,606	106	2,603,000	55,000								
Ball State Teachers College, Muncie, Ind. . .	1918	John R. Emens	2,859	3,145	185	—	115,115								



Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endowment	Bound Library Volumes	Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endowment	Bound Library Volumes
Canal Zone Jr. Col., Balboa Heights, C.Z.	1933	Roger C. Hackett	154	526	34	—	11,000	Colorado Woman's College (Jr.), Denver, Colo.	1888	Val H. Wilson	416	416	50	\$120,684	11,472
Canisius College, Buffalo, N.Y.	1870	Raymond W. Schouten	1,637	3,026	116	\$150,000	46,099	Columbia College, Columbia, S.C.	1934	Walter K. Greene	300	300	30	360,000	17,019
Capital University, Columbus, Ohio	1850	Harold L. Yachum	931	971	95	681,816	52,000	Columbia University, New York, N.Y.	1934	Dwight D. Eisenhower	14,346	27,635	3,198	103,541,658	1,897,615
Carleton College, Northfield, Minn.	1938	Aaron E. Jones	257	498	42	471,924	6,000	Compton College (Jr.), Compton, Calif.	1925	O. Scott Thompson	5,512	5,512	150	—	25,000
Carnegie Institute of Tech., Pittsburgh, Pa.	1909	John C. Warner	979	983	102	29,000,000	152,015	Concord College, Athens, W. Va.	1875	Virgil H. Stewart	834	987	56	572,025	20,000
Carroll College, Helena, Mont.	1909	Ernest J. Riley	3,125	4,521	270	750,000	100,000	Concordia College, Moorhead, Minn.	1891	J. N. Brown	949	1,002	69	36,337	16,000
Carroll College, Waukegan, Wis.	1840	N. V. Russell	521	566	49	1,278,112	42,000	Concordia College (Jr.), Bronxville, N.Y.	1881	Albert E. Meyer	242	242	22	—	30,127
Carson-Newman Col., Jefferson City, Tenn.	1851	Harley D. Fite	888	932	45	672,855	33,532	Connecticut College, New Britain, Conn.	1864	Herbert D. Wolfe	1,113	1,113	131	—	37,000
Cascade College, Portland, Ore.	1918	C. J. Pike	171	216	23	65,000	40,599	Connecticut College, Storrs, Conn.	1849	Herbert D. Wolfe	1,113	1,113	131	—	37,000
Case Institute of Technology, Cleveland, O.	1880	T. Keith Glennan	1,283	1,999	198	6,261,000	45,126	Contra Costa Jr. Col., Martinez, Calif.	1881	A. N. Jorgensen	7,431	9,005	689	161,000	137,000
Catholic Univ. of America, Wash., D.C.	1863	A. R. Keppel	635	680	51	671,949	33,284	Converse College, Spartanburg, S.C.	1919	Rosemary J. McCann	824	837	101	2,446,279	132,273
Catholic Univ. of America, Wash., D.C.	1863	Patrick J. McCormick	2,894	3,973	351	5,699,650	390,000	Cooper College, New York, N.Y.	1949	Edw. M. Gathmey	1,300	4,000	90	—	7,500
Cedar Crest College, Allentown, Pa.	1867	Dale Hendry Moore	360	362	30	75,000	30,000	Cooper Union, New York, N.Y.	1859	Edw. M. Gathmey	351	392	43	654,105	40,700
Centenary College of La., Shreveport, La.	1825	Joe J. Mickle	806	1,523	80	863,960	12,325	Copiah-Lincoln Jr. Col., Wesson, Miss.	1928	J. M. Ewing	345	395	62	9,783,353	111,100
Centenary Junior Col., Hackettstown, N.J.	1867	Edward W. Seay	420	758	32	1,055,555	28,000	Cornell College, Mount Vernon, Iowa	1853	Russell D. Cole	675	695	44	2,942,487	60,000
Central College, Fayette, Mo.	1855	E. P. Puckett	414	426	37	454,000	8,000	Cornell University, Ithaca, N.Y.	1865	C. W. de Kiewiet	10,115	10,115	1,527	45,375,393	1,463,968
Central College, Pella, Ia.	1853	G. T. Vander Lugt	209	206	21	—	4,000	Cotter Junior College, Nevada, Mo.	1884	Blanche Himmam Dow	163	166	18	58,359	10,232
Central Junior College, El Centro, Calif.	1925	W. Folkom	209	206	21	—	8,000	Craigston Junior College, Omaha, Neb.	1878	Carl M. Reinert	2,370	2,545	415	9,900,000	164,400
Central Michigan College of Education, Mt. Pleasant, Mich.	1922	E. W. Waterman	161	189	28	—	6,000	Culver-Stockton College, Canton, Mo.	1853	W. H. McDonald	361	364	32	505,000	36,000
Central Missouri St. Col., Warrensburg, Mo.	1892	Charles L. Anspach	2,093	3,476	142	—	66,171	Cumberland Col. (Jr.), Williamsburg, Ky.	1888	J. M. Boswell	371	371	22	650,000	10,000
Central State College, Edmond, Okla.	1870	G. W. Danner	1,511	1,112	112	—	79,046	Dakota Wesleyan University, Mitchell, S.D.	1885	Samuel M. Hilburn	211	281	26	582,676	30,000
Central Wash. Col. of Educ., Ellensburg, Wash.	1890	W. Max Chambers	1,000	1,087	52	—	39,500	Dalhousie Univ., Halifax, N.S., Can.	1818	Alexander E. Kerr	1,504	1,541	206	4,343,831	118,909
Centre College, Danville, Ky.	1819	Robert E. McConnell	1,454	1,491	81	2,543,679	37,143	Danbury State Tch. Col., Danbury, Conn.	1870	Ruth A. Haas	386	898	59	—	25,000
Chaffey College (Jr.), Ontario, Calif.	1883	Daniel B. Milliken	850	950	60	—	37,000	Dartmouth College, Hanover, N.H.	1773	John Sloan Dickey	2,738	2,813	319	27,201,682	666,443
Chapman College, Los Angeles, Calif.	1861	George Newton	292	292	34	195,000	22,488	Dartmouth College, Hanover, N.H.	1900	John Sloan Dickey	2,738	2,813	319	27,201,682	666,443
Charleston, College of Charleston, S.C.	1785	George D. Grice	243	266	17	834,783	33,960	Davis and Elkins Col., Elkins, W. Va.	1904	R. B. Purdum	862	862	60	5,250,000	50,000
Chattanooga Univ. of Chattanooga, Tenn.	1886	David A. Lockmiller	990	1,911	52	1,086,325	30,000	Dayton, University of, Dayton, Ohio	1850	George J. Renneker	1,948	3,400	185	—	28,000
Chesnut Hill College, Philadelphia, Pa.	1871	Sister Maria Koska	416	416	52	101,400	34,500	Delaware State College, Dover, Del.	1938	Fred K. Esleman	462	781	39	—	48,000
Cheyney Training School for Teachers, Cheyney, Pa.	1837	L. P. Hill	383	385	28	—	22,434	Delaware State College, Newark, Del.	1833	John A. Perkins	2132	3,928	263	5,865,672	160,000
Chicago, School of the Art Inst. of Chicago, Ill.	1879	C. Hubert Ropp	982	2,573	85	72,344,407	57,187	Delaware State College, Newark, Del.	1833	John A. Perkins	2132	3,928	263	5,865,672	160,000
Chicago, University of Chicago, Ill.	1890	Robert M. Hutchins	6,685	8,080	874	—	17,500,000	Delta State Tch. Col., Cleveland, Miss.	1935	Oscar J. Chapman	200	211	33	—	16,000
Chicago City Junior College, Chicago, Ill.	1934	James M. McCallister	774	1,119	56	—	19,000	Denison University, Granville, Ohio	1924	William M. Keshley	763	2,351	170	—	8,900
Chicago Musical College, Chicago, Ill.	1934	O. S. Williams	2,486	3,316	127	—	48,500	Denison University, Granville, Ohio	1924	William M. Keshley	763	2,351	170	—	8,900
Chicago Teachers College, Chicago, Ill.	1867	Peter J. Maslo, Jr.	2,366	4,734	142	—	62,000	Denison University, Granville, Ohio	1924	William M. Keshley	763	2,351	170	—	8,900
Chico State College, Chico, Calif.	1869	Rudolph Ganz	225	726	92	—	6,000	De Paul University, Chicago, Ill.	1864	Cyril F. Richards	1,264	1,272	95	3,851,612	92,466
Chickasha College (Jr.), Columbia, Mo.	1887	Raymond M. Cook	1,116	1,897	88	—	68,000	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Cincinnati, University of Cincinnati, Ohio	1851	Glen Kendall	3,352	5,536	76	—	68,000	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Cincinnati, University of Cincinnati, Ohio	1851	Raymond Walters	3,352	5,536	76	—	68,000	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	C. P. Summerall	1,860	1,570	926	11,792,349	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
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Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith	1,50	1,54	36	—	49,600	De Paul University, Chicago, Ill.	1864	Albert C. Jacobs	6,317	9,352	500	2,385,517	240,000
Civilian Junior College, Azusa, Calif.	1842	Wesley V. Smith													



Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endowment	Bound Volumes
East Los Angeles Jr. Col., Los Angeles, Calif.	1945	Rosco C. Ingalls	2,127	4,424	190	—	9,000
East Mississippi Jr. Col., Scooba, Miss.	1928	Cruce Stark	386	386	30	—	76,281
East Tennessee St. Col., Johnson City, Tenn.	1911	Bruce Dossett	1,837	2,107	121	—	17,346
East Texas State Tch. Col., Commerce, Tex.	1889	James G. Gee	2,380	2,380	119	—	5,250
Edinburg Regional College, Edinburg, Tex.	1927	H. A. Hodges	373	739	45	—	11,000
El Camino College (Jr.), El Camino College, Calif.	1946	Forrest G. Murodock	1,627	3,342	91	—	4,500
Elizabeth City St. Tch. Col., Elizabeth City, N.C.	1891	Sidney D. Williams	500	500	28	—	22,268
Elizabeth Town College, Elizabeth Town, Pa.	1899	A. C. Baugher	295	350	33	\$750,000	17,000
Elmhurst College, Elmhurst, Ill.	1871	Henry W. Dinkmeyer	631	668	54	250,000	43,000
Elmira College, Elmira, N.Y.	1855	Lewis Eldred	285	290	55	461,000	60,000
Elon College, Elon College, N.C.	1889	Leon Edgar Smith	651	703	40	462,500	39,292
Emmanuel College, Boston, Mass.	1919	Sr. Margaret Patricia	638	640	74	—	30,000
Emory and Henry College, Emory, Va.	1874	Percy Christian	792	991	54	—	41,996
Emory College, Oxford, Ga.	1836	Faye G. Gibson	508	513	33	713,505	28,086
Emory at Valdosta (Jr.), Valdosta, Ga.	1928	Virgil Y. C. Eady	115	115	14	200,000	5,089
Emory University, Emory University, Ga.	1836	Goodrich C. White	3,242	3,442	668	20,894,891	332,837
Erskine College, Due West, S.C.	1839	R. C. Grier	430	440	35	397,000	26,000
Evansville College, Evansville, Ind.	1854	Lincoln B. Hale	1,056	1,888	89	420,000	29,564
Eveleveth Junior College, Eveleveth, Minn.	1919	E. T. Carlsted	98	98	5	—	12,500
Everett Junior College, Everett, Wash.	1941	J. F. Marvin Buechel	598	1,503	60	—	5,500
F							
Fairleigh Dickinson Col. (Jr.), Rutherford, N.J.	1941	Peter Sammartino	1,148	2,240	123	502,000	14,231
Fayetteville State College, Fayetteville, N.C.	1867	George H. Hand	849	1,115	64	—	34,278
Fenn College, Cleveland, Ohio	1881	J. W. Seabrook	616	618	32	—	29,692
Finn Junior College, New York, N.Y.	1900	Edward Hadnot	985	4,290	253	809,060	31,904
Findlay College, Findlay, Ohio	1882	Edward R. De Marco	125	124	44	—	8,934
Fisk University, Nashville, Tenn.	1867	H. Clifford Fox	246	315	25	465,697	20,000
Flat River Junior Col. of Flat River, Mo.	1922	Charles S. Johnson	766	798	70	4,485,000	100,000
Florida Junior College, Ft. Mich.	1923	Charles E. Bess	147	147	19	—	9,480
Florida University of Gainesville, Fla.	1853	W. Fred Totten	693	877	36	—	14,000
Florida A. and M. Col., Tallahassee, Fla.	1887	J. Hills Miller	10,039	10,039	666	331,779	406,000
Florida Normal and Industrial College, St. Augustine, Fla.	1892	George W. Gore, Jr.	2,011	2,011	164	—	20,069
Florida Southern College, Lakeland, Fla.	1885	R. W. Puryear	240	377	15	—	8,000
Florida State Univ., Tallahassee, Fla.	1887	Ludd M. Spivey	1,380	1,846	95	1,300,000	61,000
Furman University, South Carolina	1846	Doak S. Campbell	5,880	6,399	420	200,000	211,033
Furman College, South Carolina	1846	Mother Mary M. Casey	409	668	58	—	25,500
Furman University, New York, N.Y.	1841	Laurence J. McGinley	674	942	453	1,109,779	20,276
Fort Hays Kansas State Col., Hays, Kan.	1902	M. C. Cunningham	991	1,074	101	—	66,500
Fort Valley State College, Fort Valley, Ga.	1895	C. V. Troup	674	1,118	55	64,500	16,491
Francis T. Nicholls Jr. Col. of LSU, Thibodaux, La.	1944	Charles C. Elkins	189	193	24	—	2,285
Franklin College of Indiana, Franklin, Ind.	1837	Theodore A. Distler	1,175	1,287	84	1,700,000	120,000
Fresno Jr. Col., Fresno, Calif.	1911	Harold W. Richardson	497	503	37	1,250,600	37,618
Fresno State College, Fresno, Calif.	1910	Thomas A. Blakely	637	1,352	73	—	6,000
Fullerton Junior College, Fullerton, Calif.	1913	Arnold E. Joyal	2,848	3,353	184	—	73,437
Furman University, Greenville, S.C.	1826	H. Lynn Sheller	1,155	1,237	72	4,246,446	70,000
G							
Gardner-Webb Col. (Jr.), Boiling Springs, N.C.	1905	Philip Levin Elliott	347	374	22	258,768	10,350
General Beadle St. Tch. Col., Madison, S.D.	1881	V. A. Lowry	151	151	24	—	20,000
Geneva College, Beaver Falls, Pa.	1848	Charles M. Lee	720	1,483	84	767,534	38,000
George Peabody Col. for Tch., Nashville, Tenn.	1937	Henry H. Hill	1,841	2,046	122	5,543,317	78,000
George Peabody College, Nashville, Tenn.	1837	Hugh M. Tiner	1,139	1,289	112	850,000	36,000
Georgetown College, Georgetown, Ky.	1829	Samuel S. Hill	628	648	42	583,287	20,000
Georgetown University, Washington, D.C.	1789	Hunter Guthrie	4,861	5,330	745	3,500,000	400,000
Georgetown Visitation Jr. College, Washington, D.C.	1919	Sister Margaret	131	131	15	—	14,700
George Washington Univ., Washington, D.C.	1821	Mary Sheerin	6,660	10,572	843	2,900,000	240,000
George Williams College, Chicago, Ill.	1890	Cloyd H. Marvin	320	375	24	746,170	28,770
Georgia College, Athens, Ga.	1885	Harold C. Coffman	5,431	5,431	578	2,179,862	234,340
Georgia Institute of Tech., Atlanta, Ga.	1885	Blake R. Van Leer	4,177	4,845	307	667,535	111,220
Georgia Military Col. (Jr.), Milledgeville, Ga.	1879	Ren A. Thorne	476	426	27	—	20,000
Georgia Southern College, Milledgeville, Ga.	1908	Sister Maria Anna	210	211	37	—	1,000
Georgia Southwestern Col. (Jr.), Americus, Ga.	1926	Lloyd A. Moll	315	315	16	—	5,025
Georgia State Col. for Women, Milledgeville, Ga.	1889	Guy R. Wells	800	919	77	—	42,900
Georgia Teachers College, Collegeboro, Ga.	1908	Zach S. Henderson	1,270	1,236	94	500,000	62,000
Gettysburg College, Gettysburg, Pa.	1832	Henry W. A. Ramson	1,559	1,897	92	—	15,000
Glenville State College, Glenville, W. Va.	1872	Elmer T. Worthing	422	510	31	—	22,500
H							
Hampden-Sydney Col., Hampden-Sydney, Va.	1776	Edgar G. Gammon	1,229	1,259	117	2,000,000	80,000
Hampton Institute, Hampton, Va.	1868	Alonso G. Moran	1,229	1,259	117	2,000,000	80,000
Hampton College, Hampton, Va.	1827	Albert G. Parker, Jr.	1,229	1,259	117	2,000,000	80,000
Hardin-Simmons University, Abilene, Tex.	1891	Rupert N. Richardson	1,558	2,057	102	1,385,000	50,000
Hartwick College, Hartwick, N.Y.	1857	Charles A. Naylor, Jr.	940	1,125	63	—	25,110
Hartwick College (Jr.), Salinas, Calif.	1920	John B. Lemos	734	778	50	—	13,796
Harvard University, Cambridge, Mass.	1636	Henry F. Arnold	10,801	13,796	487	258,451	19,573
Hastings College, Hastings, Neb.	1882	James B. Conant	619	642	41	196,397,986	5,250,000
Hawaii University of Honolulu, H. I.	1833	Wm. M. French	506	506	66	5,049,151	37,000
Heidelberg College, Tiffin, Ohio	1907	Gilbert F. White	4,154	4,926	335	166,316	180,000
Henderson St. Tch. Col., Arkadelphia, Ark.	1850	Gregg M. Sinclair	719	740	58	1,259,184	211,624
Hendrix College, Conway, Ark.	1929	D. Terry Wickham	1,017	1,195	60	—	40,392
Hershey Junior College, Hershey, Pa.	1884	Matt L. Ellis	495	506	38	1,535,266	37,450
Hibbing Junior College, Hibbing, Minn.	1916	V. H. Fenstermacher	70	98	20	—	17,004
Hilldale College, Hillsdale, Mich.	1844	S. A. Patchin	200	210	32	—	7,114
Hillsdale College, Hillsdale, Mich.	1844	G. O. Withey	1,190	1,307	60	—	5,954
Hillsdale College, Hillsdale, Mich.	1844	Harvey L. Turner	575	645	41	780,316	33,329
Hillsdale College, Hillsdale, Mich.	1844	Alan S. Wilson	410	2,145	167	—	15,000
Hinds Junior College, Raymond, Miss.	1917	G. M. McLendon	488	488	35	—	6,500
Hiram College, Hiram, Ohio	1830	Paul H. Fall	593	593	44	1,016,361	48,275
Hofstra College, Hempstead, N.Y.	1934	John C. Adams	1,899	3,362	181	784,194	351,136
Hollins College, Hollins College, Va.	1842	John R. Everett	339	341	45	959,760	46,979
Holmes Jr. College, Goodman, Miss.	1925	C. W. Lorraine	301	301	23	—	6,800
Holy Cross Col. of the, Worcester, Mass.	1843	Sister M. O'Brien	1,755	1,755	120	468,671	149,700
Holy Names College, Spokane, Wash.	1907	Rose	433	433	42	—	31,232
Hood College, Frederick, Md.	1893	Sister M. F. Xavier	166	200	35	—	10,743
Hopewell College, Hopewell, Va.	1866	Andrew Gehl Truxal	503	522	32	881,332	35,300
Houghton College, Houghton, N.Y.	1883	Irwin J. Lubbers	873	911	68	1,031,975	58,000
Houghton College, Houghton, N.Y.	1883	Stephen W. Paine	705	741	51	56,700	28,610
Houston Univ. of, Houston, Tex.	1934	W. W. Kemmer	8,200	13,900	570	783,698	48,000
Howard College, Birmingham, Ala.	1842	Harwell G. Davis	1,002	1,444	78	1,454,220	97,500
Howard Payne College, Brownwood, Tex.	1869	Thomas H. Taylor	639	730	50	—	27,088
Howard University, Washington, D.C.	1867	Mordecai W. Johnson	4,141	4,169	423	1,231,864	75,000
Humboldt State College, Arcata, Calif.	1913	Cornelius H. Siemsen	625	645	47	—	75,000
Huntington College, Huntingdon, Pa.	1870	George N. Shuster	5,751	11,732	742	391,625	166,442
Huntington College, Huntingdon, Pa.	1870	Hobert Seay	595	638	42	503,881	34,503
Huron College, Huron, S.D.	1883	George F. McDougall	247	289	23	762,779	27,200
I							
Idaho College of Caldwell, Idaho	1891	Paul M. Pitman	434	434	37	537,232	25,000
Idaho State College, Pocatello, Idaho	1889	J. E. Buchanan	3,273	3,273	310	5,000,000	143,000
Idaho State College, Pocatello, Idaho	1901	Carl W. McIntosh	1,473	1,504	152	—	28,000



Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endow-ment	Bound Library Volumes
Illinois University of Urbana, Ill. . . . .	1868	George D. Stoddard	20,498	24,394	3,785	\$2,800,089	2,383,503
Illinois College, Jacksonville, Ill. . . . .	1858	H. Gary Hudson	372	410	35	1,477,455	38,561
Illinois Institute of Technology, Chicago, Ill. . . . .	1882	Henry Townley Head	3,079	7,345	303	2,600,000	13,500
Illinois State Normal Univ., Normal, Ill. . . . .	1857	R. W. Fairchild	2,294	2,450	225	—	26,500
Illinois Wesleyan Univ., Bloomington, Ill. . . . .	1850	R. V. Holmes	991	1,045	76	2,118,721	1,800
Immaculate College, Immaculate, Pa. . . . .	1850	W. L. Burns	331	331	46	—	850,000
Immaculate Junior Coll., Wash. D.C. . . . .	1922	Sister Marie Angèle	317	17	4	—	74,702
Immaculate Heart Coll., Los Angeles, Calif. . . . .	1916	Sister M. Eucharist	517	118	48	—	47,387
Incarinate Word Coll., San Antonio, Tex. . . . .	1881	Sister M. Columille	543	178	68	286,843	12,200
Indiana Central College, Indianapolis Ind. . . . .	1902	Edith M. Tiley	373	456	36	118,054	280,000
Indiana State Tch. Coll., Terre Haute, Ind. . . . .	1870	Edith M. Tiley	3,386	3,152	165	371,980	18,000
Indiana University, Bloomington Ind. . . . .	1820	Harph N. B. Wells	13,386	2,156	2,650	3,719,980	27,000
Iowa State University of Iowa City, Ia. . . . .	1847	Virginia M. Hatcher	9,125	8,156	1,356	1,565,985	26,906
Iowa State College of A. & M. Arts, Ames, Ia. . . . .	1858	Virginia M. Hatcher	9,125	8,156	1,356	1,565,985	26,906
Iowa State Tch. Coll., Cedar Falls, Ia. . . . .	1876	J. W. Maucker	2,485	2,668	331	1,325,792	15,000
Iowa Wesleyan College, Mount Pleasant, Ia. . . . .	1842	Raymond Chadwick	433	478	40	450,000	35,430
<b>J</b>							
Jackson College for Negro Teachers, Jackson, Mississippi . . . . .	1877	Jacob L. Reddix	884	1,336	56	—	45,226
Jackson Junior College, Jackson, Mich. . . . .	1928	G. L. Greenwall	317	353	37	—	53,899
James Olinick University, Decatur, Ill. . . . .	1901	J. Walter Malone	1,065	1,331	70	1,043,570	10,025
James Olmsted Wilson Tch. Coll., Wash., D.C. . . . .	1873	Walter E. Hager	491	527	46	—	110,000
Jamestown Community College, Jamestown, N.D. . . . .	1909	Samuel S. George	337	343	32	1,356,607	22,800
Jamestown Community College, Jamestown, N.Y. . . . .	1934	Carlyle C. Ring	113	158	16	—	70,000
Jefferson City Junior College, Jefferson City, Mo. . . . .	1926	Joe Nichols, Jr.	461	461	34	—	2,327
Jersey City Jr. Coll., Jersey City, N.J. . . . .	1946	Frank J. McMackin	1,421	559	27	—	9,000
John B. Stetson University, Deland, Fla. . . . .	1883	J. Ollie Edmunds	1,416	1,450	119	1,310,000	23,343
John Carroll University, Cleveland, Ohio . . . . .	1886	Fredrick E. Welfie	1,533	2,184	105	4,300,000	44,389
John Muir College, Pasadena, Calif. . . . .	1946	Archib W. Turrell	2,309	2,309	124	36,125,750	492,371
Johns Hopkins University, Baltimore, Md. . . . .	1876	Delley W. Bronk	2,446	7,214	1,221	2,000,000	166,246
Johnson C. Smith University, Charlotte, N.C. . . . .	1867	Hardy Liston	643	457	39	—	7,114
Joliet Junior College, Joliet, Ill. . . . .	1901	E. W. Royce	1,064	1,064	88	—	57,67
Jones County Junior Coll., Ellisville, Miss. . . . .	1927	R. B. Young	314	337	28	—	43,422
Joplin Junior College, Joplin, Mo. . . . .	1938	Rai S. Wood	166	171	26	616,000	112,800
Judson College, Marion, Ala. . . . .	1838	J. I. Riddle	166	171	26	859,568	107,400
Junata College, Huntington, Pa. . . . .	1876	Calvert N. Ellis	593	617	41	—	209,235
<b>K</b>							
Kalamazoo College, Kalamazoo, Mich. . . . .	1833	John Scott Everton	557	562	59	1,022,000	66,000
Kansas University of Lawrence, Kan. . . . .	1865	Deane W. Malott	7,296	7,366	1,007	1,250,000	91,500
Kansas City Jr. College of Kansas City, Mo. . . . .	1915	A. M. Swanson	637	1,580	66	—	19,687
Kansas City University of Kansas City, Mo. . . . .	1929	Clarence R. Decker	1,708	3,051	214	524,213	36,200



Institution and Location	Year Founded	Chief Executive	Full Time Students	Part and Students	Faculty	Endowment	Bound Library Volumes	Institution and Location	Year Founded	Chief Executive	Full Time Students	Part and Students	Faculty	Endowment	Bound Library Volumes
Marygrove College, Detroit, Mich.	1846	Gordon W. Honora	758	758	92	—	58,573	Morgan State Junior College, Chicago, Ill.	1933	Clarence Lee Jordan	165	168	14	\$7,000	7,000
Mary Hardin-Baylor College, Belton, Tex.	1845	Sir John G. Singleton	—	438	45	—	30,546	Morgan State College, Baltimore, Md.	1867	Martin D. Jenkins	1,427	1,840	97	—	45,000
Maryland University of College Park, Md.	1807	H. C. Byrd	13,795	1,380	45	3,001,377	235,000	Morningside College, Sioux City, Ia.	1881	E. A. Roadman	823	888	65	755,271	60,000
Maryland State Ch. Col., Bowie, Md.	1867	William C. Henry	225	225	15	—	20,000	Morris Brown College, Atlanta, Ga.	1881	W. A. Fountain, Jr.	613	743	38	476,462	9,812
Maryland State Ch. Col., Bowie, Md.	1899	Lillian C. Compton	436	441	28	—	20,751	Morris Normal and Industrial College (Jr.), Morristown, Tenn.	1881	Miller Williams Boyd	303	336	22	82,928	13,116
Maryland State Ch. Col., Salisbury, Md.	1925	J. D. Blackwell	226	275	19	—	26,362	Morton Junior College, Cicero, Ill.	1924	Wm. P. Maclean	486	492	61	—	17,000
Maryland State Ch. Col., Towson, Md.	1865	Earle T. Hawkins	920	920	52	—	35,000	Mt. Allison Univ., Sackville, N.B., Can.	1840	W. T. R. Fletting	625	855	60	1,110,164	66,000
Maryhurst College, Maryhurst, Ore.	1893	Sister M. Rose Augusta	284	302	36	—	25,000	Mt. Angelus Junior College, Cresson, Pa.	1939	Sister M. Magdalene	108	108	21	50,000	7,500
Marymount College, Salina, Kan.	1922	Kate M. Chrysostom	120	362	41	—	24,460	Mt. Angelus Junior College, Cresson, Pa.	1889	Damian Jentes	95	95	26	6,861,767	41,890
Marymount College, Tarrytown, N.Y.	1907	Mother M. Chrysostom	212	232	35	—	23,566	Mt. Holyoke College, St. Hadley, Mass.	1837	Edward A. Fitzpatrick	1,217	1,257	164	54,829	41,353
Maryville College, Maryville, Tenn.	1819	Ralph W. Lloyd	821	828	60	1,000,000	21,799	Mt. Mercy College, Milwaukee, Wis.	1872	Mother M. Francella	658	899	79	—	30,000
Maryville College, St. Louis, Mo.	1872	Mother Odette Koutan	295	302	42	2,066,111	53,995	Mt. St. Agnes College, Baltimore, Md.	1933	Idlephone	284	573	42	—	12,375
Mary Washington College of the University of Virginia, Fredericksburg, Va.	1908	Morgan L. Combs	1,200	1,506	80	65,000	82,536	Mt. St. Clare College (Jr.), Clinton, Iowa	1867	Sister M. Placide	135	185	28	—	21,300
Marywood College, Scranton, Pa.	1913	Sister M. Eugenia	178	781	58	144,445	45,247	Mt. St. Joseph College (Jr.), Col. of Mt. St. Joseph, Ohio	1918	Mother M. Regis Cleary	93	93	16	—	11,426
Mason City Junior Col., Mason City, Ia.	1918	J. M. Beem	187	1,200	73	9,000	9,000	Mt. St. Mary's College, Emmitsburg, Md.	1854	Sister Maria Carona	438	459	51	895,000	35,000
Mass. Institute of Tech., Cambridge, Mass.	1863	Ralph A. Van Meter	3,500	3,575	289	50,994,032	170,000	Mt. St. Mary's College, Los Angeles, Calif.	1934	Sister M. Maurilia	165	167	23	—	16,129
Mass. State Ch. Col., Bridgewater, Mass.	1861	James Rhynne Killian, Jr.	629	629	45	15,000	27,488	Mt. St. Vincent College, New York, N.Y.	1808	John L. Sheridan	614	614	35	350,000	28,000
Mass. State Ch. Col., Fitchburg, Mass.	1833	John J. Kelly	429	605	40	—	38,500	Mt. St. Vincent College, New York, N.Y.	1925	Sister Agnes Marie	454	565	50	—	31,000
Mass. State Ch. Col., Framingham, Mass.	1894	Ellis F. White	345	383	33	—	20,509	Mt. Union College, Alliance, Ohio	1863	Mother Alfred Schroll	340	375	41	241,932	23,242
Mass. State Ch. Col., N. Adams, Mass.	1839	Martin F. O'Connor	383	353	39	—	12,487	Mt. Union College, Alliance, Ohio	1910	Sister Catherine Marie	521	760	72	—	11,500
Mass. State Ch. Col., Salem, Mass.	1854	Edward A. Sullivan	215	353	39	—	20,000	Mt. Union College, Alliance, Ohio	1846	George H. Bell	845	1,180	72	1,368,481	90,000
Mass. State Ch. Col., Worcester, Mass.	1871	Eugene A. Sullivan	404	456	18	—	17,737	Mt. Union College, Alliance, Ohio	1846	Charles B. Ketcham	781	873	54	1,106,710	82,000
Medical Evangelists, College of, Loma Linda and Los Angeles, Calif.	1909	George T. Harding	565	567	86	—	55,000	Mt. Union College, Alliance, Ohio	1848	Levering Tyson	803	818	70	25,000	10,000
Memphis State College, Memphis, Tenn.	1909	J. M. Smith	2,300	2,480	117	—	30,000	Mt. Union College, Alliance, Ohio	1897	Edward L. Clark	600	1,085	42	—	32,000
Menlo College, Menlo Park, Calif.	1927	William E. Kratt	1,027	3,046	68	3,022,748	93,000	Mt. Union College, Alliance, Ohio	1929	Sister M. Josephine	775	775	71	—	42,651
Mercer University, Macon, Ga.	1833	Spright Dowell	1,075	1,046	38	—	13,534	Mt. Union College, Alliance, Ohio	1922	Ralph H. Woods	1,317	1,439	88	—	187,000
Mercyhurst College, Erie, Pa.	1926	Mother M. Borgia Egan	290	325	35	1,860,000	20,000	Mt. Union College, Alliance, Ohio	1926	G. Umbreit	319	376	22	992,828	30,650
Mercyhurst College, Raleigh, N.C.	1891	Caltherie Campbell	598	621	48	602,962	22,746	Mt. Union College, Alliance, Ohio	1837	R. N. Montgomery	848	862	65	—	—
Merridith Municipal Jr. Col., Meridian, Miss.	1937	H. M. Ivy	950	1,210	66	—	12,500	Napa Junior College, Napa, Calif.	1942	H. M. McPherson	14	903	49	—	6,000
Miami University of Coral Gables, Fla.	1925	Bowman F. Ashe	8,700	11,066	533	2,500,000	239,066	National College of Educ. Exten., Ill.	1886	K. Richard Johnson	376	411	42	140,000	35,792
Miami University, Oxford, Ohio	1809	Ernest H. Hahne	5,011	5,038	382	19,958,601	1,434,676	Nazareth College, Nazareth, Mich.	1897	Sister Mary Kevin Coady	396	865	57	15,000	39,866
Michigan University of Ann Arbor, Mich.	1817	Alexander G. Ruthven	19,448	22,410	1,269	—	—	Nazareth College, Nazareth, Mich.	1924	Rouven G. Gustavson	—	252	36	10,000	25,810
Michigan Col. of Min. and Tech., Houghton, Mich.	1885	Grover C. Dillman	—	1,876	179	—	55,000	Nazareth College, Nazareth, Mich.	1869	Willey G. Brooks	—	7,987	691	1,202,414	500,000
Michigan State College, E. Lansing, Mich.	1855	John A. Hannah	13,692	15,140	910	2,438,167	416,497	Neb. State Ch. Col., Chadron, Neb.	1911	Herbert L. Cushing	397	408	54	—	30,000
Michigan St. Normal Col., Ypsilanti, Mich.	1849	Eugene B. Elliott	2,400	3,800	225	—	135,000	Neb. State Ch. Col., Kearney, Neb.	1905	Wayne O. Reed	698	765	57	—	57,000
Middlebury College and the Women's College of Middlebury, Middlebury, Vt.	1800	Samuel S. Stratton	1,220	1,220	75	4,909,423	116,739	Neb. State Ch. Col., Wayne, Neb.	1888	Victor P. Morey	364	384	40	—	40,638
Middle Georgia College (Jr.), Cochran, Ga.	1928	Lucien E. Roberts	302	332	19	—	19,211	Nevada University of Reno, Nev.	1887	Malcolm A. Love	709	737	50	938,202	39,722
Middle Tenn. St. Col., Murfreesboro, Tenn.	1909	Q. M. Smith	1,214	1,207	78	—	35,000	Newark Col. of Engineering, Newark, N.J.	1881	Robert W. Van Houten	1,348	1,466	125	690,534	90,000
Midland College, Fremont, Neb.	1887	W. P. Hieronymus	379	390	28	232,107	27,500	Newberry College, Newberry, S.C.	1856	James C. Kinard	1,159	2,615	156	112,821	21,619
Midway Junior College, Midway, Ky.	1847	Lewis A. Piper	78	78	8	504,315	5,000	New Brunswick University of Fredericton, N.B., Can.	1875	A. Trueman	780	780	74	341,108	45,000
Midwestern University, Wichita Falls, Tex.	1922	James B. Boren	1,217	2,117	90	500,000	22,600	Newcomb College, New Orleans, La.	1886	Lagor Wilton	638	656	80	2,248,684	340,000
Miles College, Birmingham, Ala.	1907	W. A. Bell	731	782	36	2,543,989	101,600	New Hampshire University of Durham, N.H.	1866	Robert F. Chandler, Jr.	3,397	3,397	242	1,472,500	170,000
Mills College, Oakland, Calif.	1852	Lynn White, Jr.	491	573	127	2,543,989	101,600	New Haven YMCA Jr. Col., New Haven, Conn.	1893	Samuel M. Brownell	913	1,648	140	—	27,000
Millsaps College, Jackson, Miss.	1891	Marion L. Smith	741	771	50	1,339,923	30,000	New Jersey State Ch. Col., Gloucester, N.J.	1920	Lawrence L. Bethel	—	794	61	138,150	—
Milwaukee-Downer Col., Milwaukee, Wis.	1851	Lucia R. Briggs	283	308	47	2,642,914	43,538	New Jersey State Ch. Col., Jersey City, N.J.	1917	Edgar F. Bunce	555	1,079	37	—	30,000
Miner Teachers College, Washington, D.C.	1851	Eugene A. Clark	577	577	30	—	81,500	New Jersey State Ch. Col., Newark, N.J.	1929	Faegel A. Irwin	504	785	41	—	43,160
Minnesota Univ. of Minneapolis, Minn.	1851	James L. Morrill	22,080	3,128	312	36,220,217	1,528,289	New Jersey State Ch. Col., Paterson, N.J.	1855	Eugene G. Wilkins	741	1,639	32	—	40,000
Misericordia College, Dallas, Pa.	1924	Sister Marie Teresa	510	792	52	1,100,000	24,500	New Jersey State Ch. Col., Trenton, N.J.	1855	Clair S. Wightman	546	955	34	—	18,000
Mississippi University of the South, Miss.	1848	D. M. Williams	2,682	2,782	271	738,558	126,973	New Jersey State Ch. Col., Upper Montclair, N.J.	1855	Roscoe L. West	904	1,078	83	—	64,752
Mississippi College, Clinton, Miss.	1826	J. M. Nelson	891	—	46	900,000	35,000	New Mexico Univ. of Albuquerque, N.M.	1908	Harry A. Sprague	1,158	1,180	88	51,200	64,140
Mississippi Southern Col., Hattiesburg, Miss.	1910	R. C. Cook	2,038	2,474	167	248,789	41,953	New Mexico College of Agriculture and Mechanic Arts, College, N.M.	1888	Thomas L. Puley	3,628	4,643	277	1,127,298	184,432
Mississippi State Col., State College, Miss.	1878	Fred T. Mitchell	2,702	2,932	299	—	135,203	New Mexico High Sch. of Ag., Las Vegas, N.M.	1893	J. W. Branson	1,342	1,590	143	598,671	69,000
Missouri St. Col. for Wom., Columbus, Miss.	1884	B. L. Parkinson	865	875	75	—	81,500	New Mexico Military Inst., Roswell, N.M.	1893	Edward M. Filling	735	894	83	—	40,000
Missouri University of Columbia, Mo.	1839	F. A. Middlebush	9,912	10,407	501	2,528,322	603,543	New Mexico School of Mines, Socorro, N.M.	1889	Hugh M. Martin, II	240	240	24	1,845,914	26,643
Missouri Valley College, Marshall, Mo.	1888	H. Roe Barile	425	511	39	670,000	34,000	New Mexico Western Col., Silver City, N.M.	1893	Haddon W. James	193	196	23	—	12,801
Modesto Junior College, Modesto, Calif.	1921	Henry T. Tyler	1,160	1,301	70	—	24,000	New Rochelle, Col. of New Rochelle, N.Y.	1904	Mother M. Durothoia Dunkey	427	581	66	—	33,501
Monmouth College, Monmouth, Ill.	1853	James Harper Grier	773	773	37	2,037,213	50,000	New York State Col. for Tech., Albany, N.Y.	1844	Evon R. Collins	713	713	68	118,000	65,605
Montana School of Mines, Butte, Mont.	1893	Arthur E. Adams	291	291	32	800,000	37,000	New York State Col. for Tech., Albany, N.Y.	1844	Donald M. Tower	1,595	2,075	128	47,146	26,331
Montana State College, Bozeman, Mont.	1893	Roland R. Remne	2,189	2,839	263	2,028,037	11,500	New York State Col. for Tech., Albany, N.Y.	1844	—	1,136	1,429	94	—	—
Montana State University, Missoula, Mont.	1893	R. H. Jesse	2,668	2,303	213	882,000	336,395	New Mexico College of Agriculture and Mechanic Arts, College, N.M.	1888	J. W. Branson	1,342	1,590	143	598,671	69,000
Monterey Peninsula College (Jr.), Monterey, Calif.	1947	Calvin C. Flint	354	563	26	—	8,000	New Mexico High Sch. of Ag., Las Vegas, N.M.	1893	Edward M. Filling	735	894	83	—	40,000
Montgomery Jr. Col., Bethesda, Md.	1946	Hugh G. Price	381	539	43	—	5,000	New Mexico Military Inst., Roswell, N.M.	1893	Hugh M. Martin, II	240	240	24	1,845,914	26,643
Monticello College (Jr.), Godfrey, Ill.	1835	John R. Young	221	221	27	100,000	2,000	New Mexico School of Mines, Socorro, N.M.	1889	Haddon W. James	193	196	23	—	12,801
Montreal University of Montreal, Que., Can.	1876	Oliver Maurault	7,260	8,690	1,715	365,000	210,000	New Rochelle, Col. of New Rochelle, N.Y.	1904	Mother M. Durothoia Dunkey	427	581	66	—	33,501
Moorehead State Tch. Col., Moorhead, Minn.	1887	O. W. Snarr	666	801	72	—	28,591	New York State Col. for Tech., Albany, N.Y.	1844	Evon R. Collins	713	713	68	118,000	65,605
Warriorian Col. and Theol. Sem., Bethlehem, Pa.	1807	Raymond S. Haupt	427	434	40	1,014,943	37,000	New York State Col. for Tech., Albany, N.Y.	1844	Donald M. Tower	1,595	2,075	128	47,146	26,331
Warhead State Col., Warhead, Ky.	1923	William J. Baird	612	633	62	—	27,000	New York State Col. for Tech., Albany, N.Y.	1844	—	1,136	1,429	94	—	—
Warehous College, Atlanta, Ga.	1867	Benjamin E. Mays	608	608	40	2,000,000	100,000	New York State Col. for Tech., Albany, N.Y.	1844	—	1,136	1,429	94	—	—



Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endow. ment	Bound Library Volumes	Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endow. ment	Bound Library Volumes
New York State Tch. Col., Buffalo, N.Y.	1872	Harry W. Rockwell	2,022	2,574	157	—	39,736	Oakwood College, Huntsville, Ala.	1896	F. L. Peterson	171	262	22	—	9,974
New York State Tch. Col., Cortland, N.Y.	1869	Daniel V. Smith	1,930	1,358	100	—	40,000	Oberlin College, Oberlin, Ohio	1833	William E. Stevenson	2,019	2,121	166	\$24,000,000	486,207
New York State Tch. Col., Fredonia, N.Y.	1867	Leslie R. Gregory	662	963	48	—	33,452	Occidental College, Los Angeles, Calif.	1887	Arthur G. Coons	1,297	1,378	100	\$1,514,000	95,785
New York State Tch. Col., Genesee, N.Y.	1867	Herbert G. Espy	663	670	46	—	35,000	Oceanic College, Columbia, Ohio	1870	George W. Mabree	124	146	21	1,400	6,500
New York State Tch. Col., New Paltz, N.Y.	1886	Wm. J. Haggerty	900	907	82	—	18,344	Ohio State University, Columbus, Ohio	1870	Howard L. Bevis	18,946	20,512	2,000	3,020,980	845,901
New York State Tch. Col., Oswego, N.Y.	1889	Charles W. Hunt	718	1,037	60	—	24,735	Ohio Wesleyan University, Delaware, Ohio	1842	Arthur S. Flemming	4,950	5,290	340	90,000	190,000
New York State Tch. Col., Plattsburgh, N.Y.	1889	Harvey M. Rice	1,360	1,437	111	—	40,570	Oklahoma University of Norman, Okla.	1892	George Lynn Cross	8,271	9,610	134	5,194,336	193,008
New York State Tch. Col., Potsdam, N.Y.	1880	Charles C. Ward	826	1,037	83	—	18,131	Oklahoma A. and M. College, Stillwater, Okla.	1890	Henry G. Bennett	8,017	8,516	593	5,230,213	326,000
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Oklahoma Military Acad. (Jr.), Claremore, Okla.	1908	Don Procter	621	710	50	—	36,000
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Olympic College (Jr.), Bremerton, Wash.	1919	Homer M. Ledbetter	268	268	19	—	8,500
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Omaha University of Omaha, Neb.	1946	L. J. Elias	465	529	42	4,322	85,000
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ontario Agricultural College, Guelph, Ont., Can.	1908	Philip Milo Bail	1,750	3,450	85	123,553	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Orange Coast Col. (Jr.), Costa Mesa, Calif.	1874	J. D. MacLachlan	728	2,429	129	—	51,000
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Oregon Univ. of Eugene, Ore.	1947	Basil H. Peterson	589	662	46	—	6,500
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Oregon College of Educ., Monmouth, Ore.	1872	Harry K. Newburn	589	662	46	—	512,624
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Oregon State College, Corvallis, Ore.	1856	Robert J. Maaske	585	591	53	—	28,000
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1858	A. L. Strand	5,766	5,887	495	352,472	248,500
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1848	J. C. Laframboise	2,766	4,190	344	—	150,000
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1865	A. B. Martin	4,443	4,500	33	500,000	26,085
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1847	J. Gordon Howard	751	761	65	1,300,000	41,000
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1925	Sister Marie Ancille	—	109	20	—	11,500
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1886	S. W. Eubanks	536	600	33	576,000	31,998
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1928	C. J. Weiden	281	281	24	—	18,248
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1896	John L. McMahon	302	435	70	550,042	48,955
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
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New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A. Walker	411	442	34	324,977	—
New York State Tch. Col., Plattsburgh, N.Y.	1880	Frederick W. Crumb	996	1,037	83	—	18,131	Ottawa University of Ottawa, Ont., Can.	1891	Fred A.					



Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endowment	Bound Volumes	Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endowment	Bound Volumes
Pikeville College, (Jr.), Pikeville, Ky. . . . .	1889	A. A. Page	248	300	30	\$315,000	13,000	*St. Augustine's College, Raleigh, N.C. . . . .	1867	Harold L. Trigg	—	458	27	—	18,000
Pine Manor Junior Col., Wellesley, Mass. . . . .	1911	Marie Warren Potter	205	205	30	—	8,658	St. Bede Junior College, Peru, Ill. . . . .	1891	Lawrence Vohs	66	67	20	—	25,600
Placer College, University of, Pittsburg, Pa. . . . .	1787	Rufus H. Fitzgerald	9,987	18,613	931	8,621,514	550,000	St. Benedict's College of St. Joseph, Minn. . . . .	1913	Mother Richarda	221	521	36	\$6,800	23,600
Platt College, (Jr.), Auburn, Calif. . . . .	1936	Harold M. Weaver	414	436	33	—	10,000	St. Benedict's College, Atchison, Kan. . . . .	1859	Cuthbert McDonald	183	185	47	170,869	100,000
Plymouth Teachers College, Plymouth, N.H. . . . .	1870	Howard R. Jones	284	287	41	5,540,204	121,500	St. Bonaventure Univ., St. Bonaventure, Ala. . . . .	1859	Juneface Seng	1,789	2,043	116	109,000	23,000
Pomona College, Claremont, Calif. . . . .	1887	E. Wilson Lyon	1,000	1,027	93	—	8,237	St. Bonaventure Univ., St. Bonaventure, N.Y. . . . .	1859	Juvenile Lor	792	792	75	118,125	109,000
Porterville College, Porterville, Calif. . . . .	1927	B. E. Jamison	200	275	18	—	7,222	St. Catherine's College of St. Paul, Minn. . . . .	1905	Sister Antonine	198	198	14	635,000	42,000
Port Huron Junior Col., Port Huron, Mich. . . . .	1923	John H. McKenzie	257	319	138	—	52,597	St. Charles College (Jr.), Catonsville, Md. . . . .	1831	George A. Gleason	178	198	14	64,000	42,000
Portland, University of, Portland, Ore. . . . .	1901	Robert H. Sweeney	1,482	1,569	138	—	11,500	St. Cloud St. Sch. Col., St. Cloud, Minn. . . . .	1869	John W. Headley	1,728	1,728	130	70,000	70,000
Potomac State School of West Virginia University (Jr.), Keyser, W. Va. . . . .	1902	E. E. Church	371	409	35	—	37,743	St. Dunstan's College, Charlottetown, P. E. I., Can. . . . .	1831	R. V. MacKenzie	301	304	19	10,000	10,000
Prairie View Agricultural & Mechanical College, Prairie View, Tex. . . . .	1876	E. B. Evans	2,303	2,303	130	26,000	139,575	St. Edward's Seminary, Kenmore, Wash. . . . .	1891	James H. Brennan	125	125	18	18,300	18,300
Pratt Institute, Brooklyn, N.Y. . . . .	1887	Charles Pratt	1,676	4,332	297	9,969,507	36,800	St. Elizabeth's Col. of Convent Station, N.J. . . . .	1899	Sister Marie José	609	930	74	34,400	34,400
Presbyterian College, Clinton, S.C. . . . .	1880	Marshall W. Brown	459	463	31	558,589	1,000,000	St. Francis College of Joliet, Ill. . . . .	1874	Sister M. Antica	274	130	51	16,000	36,500
Princeton University, Princeton, N.J. . . . .	1746	Harold W. Dadds	3,700	3,700	517	55,000,000	42,000	St. Francis Xavier Col. for Wm., Chicago, Ill. . . . .	1847	Adrian J. M. Veigle	550	550	35	1,349,333	21,000
Providence College, Providence, R.I. . . . .	1898	Frederic E. Morgan	454	456	40	956,981	30,000	St. Francis Xavier Univ., Antigonish, N.S., Can. . . . .	1912	Sister Mary Huberta	274	524	45	600,000	600,000
Providence College, Providence, R.I. . . . .	1917	Robert J. Slavin	1,705	2,110	110	37,000	153,225	St. John's University, Cleveland, Ohio . . . . .	1853	P. J. Nicholson	857	859	60	200,000	200,000
Puerto Rico, Polytech. Inst. of San German, P.R. . . . .	1912	Edward G. Seel	507	537	32	362,257	17,322	St. John's University, Collegeville, Minn. . . . .	1870	Robert B. Navin	371	747	29	28,800	28,800
Puget Sound, College of, Tacoma, Wash. . . . .	1903	Jaime Benitez	6,947	11,330	534	2,600,966	105,000	St. John's University, Collegeville, Minn. . . . .	1857	Alvin H. Deutsch	887	887	70	200,000	200,000
Purdue University, West Lafayette, Ind. . . . .	1869	R. Franklin Thompson	1,570	1,604	102	1,458,734	286,244	St. Joseph Junior Col., St. Joseph, Mo. . . . .	1925	Mother M. Ethelreda	400	510	43	23,000	80,889
Queens College, Charlotte, N.C. . . . .	1857	McAllister Carson	302	333	44	550,000	25,873	St. Joseph's College, Emmitsburg, Md. . . . .	1889	Nelle Blum	448	448	28	172,871	172,871
Queens College, Flushing, N.Y. . . . .	1937	John J. Theobald	3,181	3,490	236	10,466	80,483	St. Joseph's College, Philadelphia, Pa. . . . .	1899	Francis J. Dodd	459	459	48	49,675	49,675
Queen's University, Kingston, Ontario, Can. . . . .	1841	R. C. Wallace	2,296	2,310	315	5,597,622	224,159	St. Joseph's College, Philadelphia, Pa. . . . .	1851	Edward G. Jackson	1,212	2,022	73	26,000	26,000
Radcliffe College, Cambridge, Mass. . . . .	1879	Wilbur K. Jordan	1,290	1,290	2,600	7,954,358	105,000	St. Joseph's Col. for Women, Brooklyn, N.Y. . . . .	1916	William T. Dillon	366	366	46	43,015	43,015
Radford College, Woman's Division of Virginia Polytechnic Institute, Radford, Va. . . . .	1910	David W. Peters	857	881	56	—	33,000	St. Joseph's University, St. Joseph, N.B., Can. . . . .	1864	Clement Cormier	518	—	37	2,000,000	20,000
Randolph-Macon College, Ashland, Va. . . . .	1830	J. Earl Moreland	461	474	34	1,091,000	82,374	St. Lawrence University, Canton, N.Y. . . . .	1856	Eugene G. Bewkes	1,404	1,548	82	4,032,066	445,464
Randolph-Macon Woman's Col., Lynchburg, Va. . . . .	1893	Theodore H. Jack	610	619	74	1,341,138	71,859	St. Louis University, St. Louis, Mo. . . . .	1818	Paul C. Reinert	6,499	8,943	38	25,000	25,000
Redlands, University of, Redlands, Calif. . . . .	1907	George H. Armatost	1,150	1,232	83	3,353,000	90,000	St. Mary's College, Olympia, Wash. . . . .	1895	Raphael Heider	281	285	40	40,000	40,000
Reed College, Portland, Ore. . . . .	1904	E. B. MacNaughton	593	619	61	1,562,083	7,834	St. Mary's College of the Springs, Col. of Columbus, Ohio . . . . .	1868	Sister M. Angalia	230	230	47	30,500	30,500
Regis College, Weston, Mass. . . . .	1927	Sister Mary Alice	582	582	70	190,100	36,332	St. Mary-of-the-Woods Col., St. Mary-of-the-Woods, Ind. . . . .	1926	Sister Mary Benedictus	—	75	17	12,779	12,779
Rensselaer Polytechnic Inst., Troy, N.Y. . . . .	1824	Livingson W. Houston	3,472	3,978	405	12,913,163	27,236	St. Mary's Col., Notre Dame, Ind. . . . .	1844	Mother Marie Helene	313	343	48	486,222	42,142
Rhode Island Col. of Educ., Providence, R.I. . . . .	1854	Lucius A. Whipple	474	1,340	60	—	21,500	St. Mary's Col., St. Mary's College, Calif. . . . .	1863	Brother W. Thomas	566	700	70	260,000	48,000
Rhode Island State College, Kingston, R.I. . . . .	1877	Max. W. Sullivan	731	1,740	155	—	105,429	St. Mary's Dominican College, New Orleans, La. . . . .	1920	Sister Mary Louise	150	195	22	127,000	14,000
Rice Institute, Houston, Tex. . . . .	1912	William V. Houston	1,509	1,509	124	30,000,000	206,306	St. Mary's School and Junior College, Raleigh, N.C. . . . .	1929	Mother M. Borgia	25	14	7	11,684	11,684
Richmond, University of, Richmond, Va. . . . .	1832	George M. Madlin	1,696	2,640	162	3,046,078	115,000	St. Michael's College, Winoski Park, Vt. . . . .	1842	Richard G. Stone	297	297	28	206,764	206,764
Ricker College, Houlton, Me. . . . .	1848	Jasper F. Crouse	175	175	20	50,000	7,000	St. Norbert College, West De Pere, Wis. . . . .	1904	Daniel P. Lyons	922	922	91	300,000	300,000
Ricks College, Rexburg, Ida. . . . .	1888	John L. Clarke	442	495	35	—	15,000	St. Olaf College, Northfield, Minn. . . . .	1874	A. M. Killen	589	680	45	90,351	90,351
Ripon College, Ripon, Wis. . . . .	1850	Clark G. Kuebler	614	622	50	1,004,580	50,780	St. Patrick's Seminary, Menlo Park, Calif. . . . .	1898	Thomas M. Granskou	1,328	1,338	104	1,102,393	43,000
Riverside College, (Jr.), Riverside, Calif. . . . .	1916	Orland W. Noble	652	1,917	47	—	18,091	St. Paul Seminary, St. Paul, Minn. . . . .	1892	R. G. Bondas	307	307	16	—	30,000
River College, Nashville, N.H. . . . .	1933	M. St. Pascal	145	208	24	737,617	20,220	St. Peter's Seminary, St. Peter, Minn. . . . .	1892	James J. Shanahan	408	408	35	550,000	22,000
Roanoke College, Salem, N.Y. . . . .	1842	H. Sherman Oberly	450	467	37	59,290,574	514,575	St. Peter's College of Albany, N.Y. . . . .	1872	Sister Rose of Lima	742	803	45	133,124	133,124
Rochester, University of, Rochester, N.Y. . . . .	1850	Raymond L. Thompson	3,436	6,318	676	1,072,000	38,700	St. Scholastica, College of, Duluth, Minn. . . . .	1919	Mother M. Athanasius	358	402	41	230,000	38,500
Rockford College, Rockford, Ill. . . . .	1847	Mary Ashby Cheek	244	504	54	—	21,000	St. Teresa, Col. of, Kansas City, Mo. . . . .	1867	Sister Marietta	241	289	42	23,500	23,500
Rocky Mountain College, Billings, Mont. . . . .	1910	Thomas M. Knapp	476	951	62	559,047	20,093	St. Teresa, College of, Winona, Minn. . . . .	1910	Jennings	558	623	43	35,000	35,000
Rollins College, Winter Park, Fla. . . . .	1885	William D. Copeland	138	111	71	1,303,700	80,000	St. Thomas, College of, St. Paul, Minn. . . . .	1885	St. M. Rachael Dady	1,575	1,624	54	44,405	44,405
Roseville College, Chicago, Ill. . . . .	1885	Paul A. Wagner	630	636	74	—	27,300	St. Vincent College, Latrobe, Pa. . . . .	1846	Vincent J. Flynn	290	309	53	335,693	65,000
Rosevelt College, River Forest, Ill. . . . .	1848	Edward J. Sparling	3,045	4,860	268	160,000	43,000	Salem College, Winston-Salem, N.C. . . . .	1772	Dennis H. Matthei	290	309	53	2,000,000	65,000
Rosary College, Rosemont, Pa. . . . .	1884	Sister M. Timothea	694	713	48	—	63,086	Sam Houston State Tch. Col., Huntsville, Tex. . . . .	1876	Dale H. Gramley	1,872	2,072	125	936,250	77,076
Rosemont College, Rosemont, Pa. . . . .	1874	Mother Mary Boniface	357	398	44	2,300,000	24,000	Samuel Huston College, Austin, Tex. . . . .	1876	Harmon E. Harrington	552	559	30	8,944	14,873
Royal Military College of Canada, Kingston, Ont., Can. . . . .	1874	Ford L. Wilkinson, Jr.	323	329	38	—	35,000	San Angelo College (Jr.), San Angelo, Tex. . . . .	1928	Bryan Wildenheit	355	355	37	7,753	7,753
Russell Sage College, Troy, N.Y. . . . .	1876	D. R. Agnew	250	250	40	1,131,940	5,986	San Benito County Junior College, Hollister, Calif. . . . .	1919	Aaron S. Cokerbread	48	48	35	8,900	8,900
Rutgers College, Holly Springs, N.C. . . . .	1916	Lewis A. Friman	563	981	87	26,785	17,387	San Bernardino Valley College, (Jr.), San Bernardino, Calif. . . . .	1926	John L. Lounsbury	1,307	1,669	70	27,888	27,888
Rutgers University (incl. N.J. College for Women), New Brunswick and Newark, N.J. . . . .	1866	O. L. Brandon	185	284	32	6,621,070	973,602	San Diego State Col., San Diego, Calif. . . . .	1914	John Aveline	879	1,669	134	6,288	6,288
Sacramento Jr. Col., Sacramento, Calif. . . . .	1916	J. Paul Mohr	2,260	6,861	110	—	30,000	San Diego State Col., San Diego, Calif. . . . .	1897	Walter R. Hepner	3,732	4,613	248	135,000	135,000
Sacramento St. Col., Sacramento, Calif. . . . .	1947	Guy A. West	1,061	1,828	67	600,000	42,000	San Francisco City College of (Jr.), San Francisco, Calif. . . . .	1935	Louis G. Conlan	4,435	5,155	255	35,000	35,000
St. Ambrose College, Davenport, Ia. . . . .	1882	Amrose J. Burke	938	1,239	73	—	31,000	San Francisco Univ. of San Fran., Calif. . . . .	1855	William J. Dunne	1,807	3,283	182	80,000	80,000
St. Anselm's College, Manchester, N.H. . . . .	1889	Bertrand C. Dolan	597	621	48	—	20,000	San Francisco State Col., San Francisco, Calif. . . . .	1921	Mother Leonor Mejia	448	455	45	100,000	100,000



Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endowment	Bound Library Volumes	Institution and Location	Year Founded	Chief Executive	Full Time Students	Part Time Students	Faculty	Endowment	Bound Library Volumes
San Jose St. Col. and San Jose Jr. Col., San Jose, Calif.	1857	T. W. MacQuarrie	7,041	7,353	400	—	118,000	Spelman College, Atlanta, Ga.	1881	Florence M. Read	383	383	44	\$3,327,563	102,419
San Luis Obispo Junior College, San Luis Obispo, Calif.	1936	Lawrence Griffin	1,387	1,633	33	—	5,000	Springfield College, Springfield, Mass.	1885	Paul M. Umbert	1,316	1,732	83	1,100,000	38,760
San Mateo Junior College, San Mateo, Calif.	1922	Charles S. Morris	1,607	1,633	86	—	16,500	Springfield Junior Col., Springfield, Ill.	1929	Mother M. Carmelita Mosley	278	358	28	288,844	12,226
San Rafael, Dominican Col. of, San Rafael, Calif.	1915	Sister Mary Patrick	306	317	47	—	35,273	Spring Hill College, Spring Hill, Ala.	1830	Wm. Patrick Donnelly	611	805	49	288,844	12,226
Santa Ana College, (Jr.), Santa Ana, Calif.	1915	Daniel C. McNaughton	1,448	678	40	—	17,400	Stephen F. Austin State Col., Nacogdoches, Tex.	1885	J. E. Wallace Sterling	7,147	7,712	700	38,424,326	1,221,600
Santa Clara, Univ. of, Santa Clara, Calif.	1851	William C. Gianera	1,148	1,279	96	\$1,850,000	67,500	Stevens College (Jr.), Columbia, Mo.	1917	Paul L. Boynton	1,706	1,706	84	250,846	35,471
Santa Maria Jr. Col., Santa Maria, Calif.	1920	Harry Edward Tyler	202	562	31	—	6,500	Stevens Institute of Tech., Hoboken, N.J.	1833	Harvey N. Davis	954	1,868	141	2,630,000	35,000
Santa Monica College, (Jr.), Santa Monica, Calif.	1929	Elmer C. Sandmeyer	—	1,556	63	—	12,000	Stillman College, Tuscaloosa, Ala.	1876	Samuel B. Hay	250	255	28	1,28,958	10,000
Santa Rosa Junior Col., Santa Rosa, Calif.	1918	Floyd P. Bailey	1,009	1,454	58	—	13,987	Stockton College, (Jr.), Stockton, Calif.	1935	Leon P. Mineer	3,464	3,822	180	—	50,000
Sarah Lawrence College, Bronxville, N.Y.	1926	Harold Taylor	358	362	74	300,000	56,000	Stout Institute, Menomonee, Wis.	1903	Verne C. Fryklund	839	839	61	—	34,031
Saskatchewan, Univ. of, Saskatoon, Sask., Can.	1907	W. P. Thompson	2,419	5,880	215	297,776	110,000	Stowe Teachers Col., St. Louis, Mo.	1890	Ruth M. Harris	512	532	38	—	19,000
Savannah State College, Savannah, Ga.	1890	W. K. Payne	1,010	1,129	75	—	15,000	Sue Bennett College, (Jr.), London, Ky.	1896	Ocie Sanders	149	149	18	—	10,849
Schreiner College, Nashville, Tenn.	1892	Hugh C. Stuntz	146	146	19	590,395	8,000	Sullins College, (Jr.), Bristol, Va.	1920	W. E. Martin	300	375	36	500,000	27,000
Schreiner Institute (Jr.), Kerrville, Tex.	1923	Andrew Edington	350	380	24	250,000	9,037	Sul Ross State Col., Alpine, Tex.	1920	R. M. Hawkins	891	1,346	53	—	27,000
Scranton University, of, Scranton, Pa.	1888	J. Eugene Gallery	1,027	2,250	101	2,500,000	32,666	Sunflower Junior College, Moorhead, Miss.	1911	W. B. Horton	177	177	25	—	27,500
Seaside Pacific College, Seaside, Wash.	1926	Frederick Hard	232	—	35	1,392,484	38,571	Susquehanna University, Salinas, Pa.	1858	G. Morris Smith	445	453	41	504,531	27,500
Seattle University, Seattle, Wash.	1891	C. Hoyt Watson	—	735	35	—	29,950	Swarthmore College, Swarthmore, Pa.	1864	John W. Nelson	894	911	106	9,850,390	158,157
Sequoias College of the (Jr.), Visalia, Calif.	1892	Albert A. Lemieux	1,964	2,202	140	—	35,950	Sweet Briar College, Sweet Briar, Va.	1901	Anne G. Pennell	442	442	60	983,339	72,113
Sewanee College, (Jr.), Sevier, Tenn.	1856	Ivan C. Crookshanks	878	1,447	57	—	8,700	Swift Memorial Jr. Col., Rogersville, Tenn.	1883	R. E. Lee	130	131	11	—	3,430
Sewanee College, (Jr.), Sevier, Tenn.	1856	John L. McNulty	5,681	7,681	300	—	100,000	Syracuse University, Syracuse, N.Y.	1870	William P. Tolley	11,648	16,007	1,421	10,269,266	375,119
Shasta College, (Jr.), Redding, Calif.	1950	William Granger Ryan	412	484	65	500,000	33,000	Taft Junior College, Taft, Calif.	1922	Garlyn A. Basham	225	240	46	—	9,000
Show University, Raleigh, N.C.	1865	G. A. Collier	267	476	24	—	1,000	Talladega College, Talladega, Ala.	1867	A. D. Beithel	312	314	32	1,88,733	43,000
Shenandoah College, (Jr.), Dayton, Va.	1875	W. R. Strasser	697	708	49	385,000	17,000	Tarkio College, Tarkio, Mo.	1883	M. Earle Collins	192	204	36	712,038	20,800
Shenandoah College, Shepherdstown, W. Va.	1875	L. P. Hill	150	164	21	57,000	6,000	Taylor State Col. (Jr.), Stephenville, Tex.	1899	E. J. Howell	896	896	72	—	35,000
Shimer College, Mt. Carroll, Ill.	1873	Oliver S. Ikenberry	425	565	30	198,110	12,888	Taylor University, Upland, Ind.	1846	Clyde W. Meredith	565	576	36	108,998	26,421
Shorter College, Rome, Ga.	1873	A. J. Brumbaugh	86	87	17	555,015	24,878	Tennessee University, Philadelphia, Pa.	1884	Robert L. Johnson	9,121	16,417	785	2,018,620	322,533
Siena College, Loudonville, N.Y.	1873	Charles W. Burts	192	287	30	—	34,986	Tennessee University of Knoxville, Tenn.	1794	Claude E. Brown	7,458	7,923	894	723,804	324,069
Siena Heights College, Adrian, Mich.	1937	Mark Kennedy	1,327	2,021	105	—	29,046	Tennessee A. and L. St. Col., Nashville, Tenn.	1907	W. S. Davis	1,985	1,985	190	—	33,000
Sims College, Boston, Mass.	1819	Mother Mary Gerald	313	408	32	3,707,260	86,000	Tennessee College of Art, Nashville, Tenn.	1927	Paul Meek	1,741	2,050	126	218,050	43,000
Simpson College, Indianola, Ia.	1860	Bancroft Beatley	1,363	1,441	175	1,528,550	38,000	Tennessee Polytechnic Inst., Cookeville, Tenn.	1915	Everett Derryberry	305	305	29	—	17,082
Sir George Williams College, Montreal, Que., Can.	1860	Edwin E. Voigt	576	585	42	—	21,650	Texas A. and M. Col. of, College Station, Tex.	1876	H. W. Stilwell	208	487	26	—	7,511
Skagit Valley Jr. Col., Mount Vernon, Wash.	1926	Kenneth E. Norris	717	1,111	123	—	4,490	Texas Christian University, Fort Worth, Tex.	1881	Theophilus S. Painter	6,466	6,675	551	471,000	156,000
Skidmore College, Saratoga Springs, N.Y.	1873	LeRoy V. Good	117	275	23	—	4,490	Texas College, Tyler, Tex.	1873	M. E. Sadler	2,934	4,234	930	107,292,531	904,410
Smith College, Northampton, Mass.	1911	Henry T. Moore	962	963	103	1,094,766	66,643	Texas Lutheran College, Seguin, Tex.	1893	D. R. Griss	836	836	41	—	14,107
Snead Junior College, Bozaz, Ala.	1935	Festus M. Cook	229	476	27	210,000	7,312	Texas State Univ. of, San Marcos, Tex.	1925	William F. Kraushaar	327	334	30	17,490	25,000
Snow College, (Jr.), Ephraim, Utah	1888	James A. Nuttall	447	231	24	11,000	—	Texas State Univ. of, San Marcos, Tex.	1925	John F. Barron	341	1,136	44	—	6,718
Snow College, (Jr.), Ephraim, Utah	1888	Boylston Green	598	598	48	—	31,099,900	Texas State Univ. of, San Marcos, Tex.	1925	John A. Gunn	1,800	1,938	172	—	109,208
South Carolina, Univ. of, Columbia, S.C.	1801	Norman M. Smith	3,267	3,807	245	—	213,000	Texas Technological Col., Lubbock, Tex.	1923	R. O'Hara Lanier	1,749	2,056	161	—	29,000
South Carolina State Agri. and Mech. Col., Orangeburg, S.C.	1896	Berner C. Turner	1,288	1,188	150	—	42,618	Texas Wesleyan College, Ft. Worth, Tex.	1891	D. M. Wiggins	5,476	5,476	357	1,073,552	28,876
South Dakota, Univ. of, Vermillion, S.D.	1882	I. D. Weeks	1,622	1,622	136	—	135,000	Texas Western College, Amarillo, Tex.	1913	Wilson Homer Elkins	1,840	2,300	125	428,000	52,243
South Dakota School of Mines and Technology, Rapid City, S.D.	1885	Warren E. Wilson	475	475	50	100,000	21,000	Thiel College, Greenville, Pa.	1866	Wm. F. Zimmerman	527	531	46	231,713	30,000
South Dakota State College of Agri. and Mech. Arts, Brookings, S.D.	1883	Fred H. Leinbach	1,731	1,731	175	832,303	95,000	Tilston Junior College, Harvey, Ill.	1927	James L. Beck	307	315	25	—	9,600
Southwestern State College, Durant, Okla.	1925	Gladney J. Tinsley	1,019	1,110	100	—	39,068	Toledo College, Toledo, Ohio	1877	Fred L. Brundage	3,115	4,526	241	2,218	151,137
Southeast Missouri St. Col., Cape Girardeau, Mo.	1873	T. T. Montgomery	863	1,059	74	—	39,636	Toronto, University of, Toronto, Ont., Can.	1827	Sidney E. Smith	11,594	12,509	1,350	69,364	500,000
Southern Calif. Univ. of Los Angeles, Calif.	1879	W. W. Parker	1,261	1,272	68	—	90,000	Tougaloo College, Tougaloo, Miss.	1869	Harold C. Warren	331	360	31	45,500	17,870
Southern Christian Inst. (Jr.), Edwards, Miss.	1875	Fred D. Fagg, Jr.	13,223	20,184	1,161	21,699,962	600,000	Transylvania College, Lexington, Ky.	1780	Raymond F. McLain	883	1,051	38	740,428	44,717
Southern Idaho Col. of Educ., Albion, Ida.	1875	John Long	278	309	14	—	5,669	Trinity College, Hartford, Conn.	1823	G. Keith Funston	488	491	57	519,000	52,000
Southern Illinois University, Carbondale, Ill.	1869	R. H. Snyder	217	258	32	—	21,500	Trinity College, Washington, D.C.	1897	Brace Thomas	882	2,094	120	328,883	48,000
Southern Methodist University, Dallas, Tex.	1911	Delvie W. Morris	2,574	4,477	405	7,000,000	284,000	Tufts College, Medford, Mass.	1852	Leonard Carmichael	3,365	3,516	887	9,512,086	250,000
Southern Missionary Col., Collegedale, Tenn.	1923	Umphrey Lee	5,103	7,257	354	—	15,487	Tulane Univ. of Louisiana, New Orleans, La.	1834	Rufus C. Harris	4,511	6,203	1,023	13,065,495	540,750
Southern Oregon Col. of Educ., Ashland, Ore.	1926	Elmo N. Stevenson	783	815	50	—	20,156	Tusculum College, Greeneville, Tenn.	1894	C. I. Pontus	277	489	285	1,573,836	68,035
Southern St. John's, Springfield, S.D.	1881	J. Howard Kramer	170	250	24	174,708	20,000	Tuskegee Institute, Tuskegee, Ala.	1881	Frederick D. Patterson	1,987	2,042	220	82,2830	25,500
Southern University and Agri. and Mech. College, Scotlandville, La.	1880	Fulton G. Clark	1,833	2,282	126	—	46,485	*Tyler Junior College, Tyler, Tex.	1926	H. E. Jenkins	1,095	1,563	77	7,888,357	9,000
South Georgia College (Jr.), College, Ga.	1906	William S. Smith	394	394	21	—	8,000	Union College, Barbourville, Ky.	1879	Conway Boatman	403	500	27	608,896	21,000
Southwestern at Memphis, Memphis, Tenn.	1848	Peyton N. Rhodes	511	530	66	2,606,415	60,000	Union College, Lincoln, Neb.	1891	Harvey C. Hartman	685	729	50	46,000	4,000
Southwestern College, Winfield, Kan.	1885	Alvin W. Murray	402	451	43	600,000	28,000	Union College, Schenectady, N.Y.	1795	Carter Davidson	1,142	1,512	108	6,500,000	135,000
Southwestern Louisiana Inst., Lafayette, La.	1883	Joel L. Fletcher	2,557	2,557	193	—	89,000								
Southwestern State College, Weatherford, Okla.	1901	R. H. Burton	832	932	72	—	40,289								
Southwestern University, Georgetown, Tex.	1840	William C. Finch	565	580	120	1,120,000	52,000								
Southwest Missouri St. Col., Springfield, Mo.	1906	Roy Ellis	1,745	1,795	150	—	70,000								
Southwest Texas State Tch. Col., San Marcos, Tex.	1899	John G. Flowers	1,625	2,013	106	—	64,960								



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Union University, Jackson, Tenn. . . . .	1834	Warren F. Jones	465	634	34	\$421,979	24,173	Western Montana College of Education, Dillon, Mont. . . . .	1893	Ruth Jordan	245	249	30	—	24,250
U.S. Coast Guard Acad., New London, Conn. . . . .	1876	A. G. Hall	500	500	55	—	34,000	Western Ontario Univ. of London, Ont., Can. . . . .	1827	G. Edward Hall	3,044	4,372	360	\$1,373,276	187,000
U.S. Military Academy, West Point, N.Y. . . . .	1802	Bryant E. Moore	2,496	2,496	265	—	140,667	Western Reserve Univ., Cleveland, Ohio . . . . .	1826	John Stafford Mills	4,332	11,267	698	22,173,684	644,079
U.S. Naval Academy, Annapolis, Md. . . . .	1845	Barry W. Hill	3,676	3,676	504	—	127,000	Western State Col. of Colo., Gunnison, Colo. . . . .	1901	Peter P. Mickelson	664	664	47	—	44,954
Upsala College, East Orange, N.J. . . . .	1893	Vald B. Lawson	1,396	1,672	86	500,000	33,000	Western Washington College of Education, Bellingham, Wash. . . . .	1899	Wm. W. Haggard	1,423	1,453	93	—	76,373
Ursinus College, Collegeville, Pa. . . . .	1869	Norman E. McClure	803	811	57	950,000	41,000	West Georgia College (Jr.), Carrollton, Ga. . . . .	1907	I. S. Ingram	419	426	23	—	11,702
Ursuline College, Louisville, Ky. . . . .	1938	Mother M. Columbia	151	252	34	—	22,000	West Liberty State Col., W. Liberty, W. Va. . . . .	1837	Paul N. Elbin	520	742	23	—	25,000
Ursuline Col. for Women, Cleveland, Ohio . . . . .	1870	Mother M. Celestine	231	—	34	338,420	225,000	Westminster College, Fulton, Mo. . . . .	1831	William W. Hall, Jr.	420	423	34	500,000	40,000
Utah, University of, Salt Lake City, Utah . . . . .	1850	A. Ray Olpin	6,500	7,850	502	—	142,024	Westminster College, New Wilmington, Pa. . . . .	1852	Will W. Orr	939	1,081	77	1,000,000	48,000
Utah State Agricultural Col., Logan, Utah . . . . .	1888	Louis L. Madsen	3,450	3,568	387	—	—	West Texas State Col., Canyon, Tex. . . . .	1875	Robert P. Steele	350	350	30	150,000	16,000
Valdosta State College, Valdosta, Ga. . . . .	1906	J. Ralph Thaxton	364	399	28	—	27,040	West Virginia State Col., Institute, W. Va. . . . .	1909	James P. Steele	1,224	1,913	86	—	58,373
Vallejo College (Jr.), Vallejo, Calif. . . . .	1945	George P. Chaffey	1,376	1,376	75	343,300	7,000	West Virginia Wesleyan Col., Buckhannon, W. Va. . . . .	1867	Irvin Stewart	4,841	5,287	432	125,300	202,167
Valparaiso University, Valparaiso, Ind. . . . .	1859	O. P. Kretzmann	1,848	1,875	145	31,555,082	58,172	Wheaton College, Norton, Mass. . . . .	1890	W. J. Scarborough	618	760	40	242,000	37,000
Vanderbilt University, Nashville, Tenn. . . . .	1872	Harvie Branscomb	3,136	3,161	450	—	367,076	Wheaton College, Wheaton, Ill. . . . .	1834	A. Howard Tenney	546	546	69	1,268,270	67,067
Vanport Extension Center (Jr.), Portland, Ore. . . . .	1946	Stephen E. Epler	1,219	1,349	56	—	7,104	Wheelock College, Boston, Mass. . . . .	1860	V. Raymond Edman	1,516	1,600	126	806,780	95,000
Vassar College, Poughkeepsie, N.Y. . . . .	1861	Sarah G. Blanding	1,373	—	202	16,200,000	273,158	Whitman College, Walla Walla, Wash. . . . .	1889	Winifred E. Barn	775	880	42	1,510,000	83,300
Vermont University of, and State Agricultural Col., Burlington, Vt. . . . .	1929	D. R. Henry	1,390	1,423	75	—	15,000	Whittier College, Whittier, Calif. . . . .	1901	William C. Jones	1,163	1,221	70	1,000,000	55,000
Vermont Junior College, Montpelier, Vt. . . . .	1911	William S. Carlson	3,064	3,161	325	4,433,083	200,000	Whitworth College, Spokane, Wash. . . . .	1890	Frank F. Caran	721	753	51	57,000	24,000
Villa Maria College, Erie, Pa. . . . .	1834	Ralph Edward Noble	225	230	22	135,027	7,839	Wichita, Municipal Univ. of, Wichita, Kan. . . . .	1893	Charles Leander Hill	2,388	2,930	200	91,813	90,500
Villanova College, Villanova, Pa. . . . .	1925	Mother M. Aurelia	1,933	287	34	1,879,911	17,000	Wilberforce University, Wilberforce, O. . . . .	1865	Harry F. Caran	356	356	38	63,111	30,000
Virginia, University of, Charlottesville, Va. . . . .	1842	F. X. N. McGuire	2,229	3,550	279	4,326,029	86,905	Wiley College, Marshall, Tex. . . . .	1833	J. S. Schall	453	891	34	600,000	21,000
Virginia, University of, Charlottesville, Va. . . . .	1819	Colgate W. Darden, Jr.	4,096	4,168	579	15,030,000	592,300	Willamette University, Salem, Ore. . . . .	1833	Eugene S. Farley	771	1,829	74	522,000	22,000
Virginia Intermont College (Jr.), Bristol, Va. . . . .	1884	Rabun L. Brantley	330	375	35	502,000	14,000	William Woods College (Jr.), Fulton, Mo. . . . .	1862	G. Herbert Smith	1,015	1,044	126	2,086,578	280,295
Virginia Military College, Lexington, Va. . . . .	1921	Floyd B. Moe	180	460	25	—	20,000	William and Mary Col. of, Williamsburg, Va. . . . .	1693	John Edwin Pamflet	1,719	1,729	136	2,086,578	280,295
Virginia Polytechnic Inst., Blacksburg, Va. . . . .	1839	R. J. Marshall	811	811	83	978,917	87,185	William Jewell Col., Liberty, Mo. . . . .	1843	Lewis W. Webb, Jr.	1,470	1,552	77	17,227	17,227
Virginia State College, Petersburg, Virginia	1882	Walter S. Newman	3,703	3,781	181	34	81,312	William Jewell Col., Liberty, Mo. . . . .	1843	Walter Pope Blinn	552	1,014	41	2,593,257	66,445
Virginia Union University, Richmond, Va. . . . .	1865	Robert Prentiss Daniel	1,379	1,456	124	173,000	47,289	William Jewell Col., Liberty, Mo. . . . .	1843	James P. Baxter, III	1,028	1,056	122	13,176,781	200,000
Voorhees School and Junior College, Den-	1865	John M. Ellison	865	915	56	1,000,000	30,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
mark, S.C. . . . .	1897	Earl H. McClenney, Sr.	—	292	20	50,000	4,430	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wabash College, Crawfordsville, Ind. . . . .	1832	Frank H. Sparks	522	534	50	3,079,459	101,900	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wagner College, Staten Island, N.Y. . . . .	1883	Walter C. Langsam	870	1,525	114	424,284	40,010	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wake Forest College, Wake Forest, N.C. . . . .	1833	Harold W. Tribble	1,931	1,946	212	4,613,646	7,500	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Waldorf College (Jr.), Forest City, Ia. . . . .	1903	Morton O. Nilssen	263	292	27	65,000	7,500	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Walla Walla College, College Place, Wash. . . . .	1862	G. W. Bowers	1,088	1,127	59	—	34,894	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Ward-Belmont School (Jr.), Nashville, Tenn. . . . .	1895	Robert C. Provine	311	311	45	1,440,650	7,750	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Washington, State Col. of, Pullman, Wash. . . . .	1865	Bryan S. Staffer	1,330	1,644	128	1,440,650	7,750	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Washington, State Col. of, Pullman, Wash. . . . .	1865	Wilson Compton	5,427	5,427	456	1,608,746	60,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Washington, University of, Seattle, Wash. . . . .	1861	Raymond B. Allen	14,002	14,590	1,200	24,603,709	72,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Washington and Jefferson Col., Wash., Pa. . . . .	1787	Boyd C. Patterson	628	639	30	1,302,090	143,834	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Washington and Lee Univ., Lexington, Va. . . . .	1749	Francis P. Gaines	1,148	1,148	82	5,432,563	25,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Washington College, Chestertown, Md. . . . .	1782	D. Z. Gibson	413	413	35	—	34,894	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Washington Missionary Col., Takoma Pk., Wash., D.C. . . . .	1904	W. H. Shephard	550	630	48	30,244,000	635,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wayne University, St. Louis, Mo. . . . .	1853	Arthur H. Compton	6,288	12,048	1,411	15,000	379,636	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wayne University, Detroit, Mich. . . . .	1868	David D. Henry	8,031	20,307	1,001	15,000	379,636	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Weatherford College (Jr.), Weatherford, Tex. . . . .	1888	Vernon D. Parrott	1,069	2,430	140	50,000	20,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Weber College (Jr.), Ogden, Utah . . . . .	1889	H. A. Dixon	1,069	2,430	140	50,000	20,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Webster College, Webster Groves, Mo. . . . .	1915	Sister Mariella Collins	339	339	40	—	27,700	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wellesley College, Wellesley, Mass. . . . .	1870	Margaret Clapp	1,634	1,718	184	17,145,484	269,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wells College, Aurora, N.Y. . . . .	1868	Jerome H. Bentley	245	296	22	—	3,400	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wenatchee Junior College, Wenatchee, Wash. . . . .	1939	Paul Fergusen	245	296	22	—	3,400	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wentworth Mil. Acad. (Jr.), Lexington, Mo. . . . .	1880	J. M. Sellers	200	520	23	—	8,300	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wesleyan College, Macon, Ga. . . . .	1836	Silas Johnson	479	520	71	1,503,996	38,503	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Wesleyan University, Middletown, Conn. . . . .	1831	Victor L. Butterfield	450	892	104	9,625,748	361,344	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Westbury Junior College, Dover, Del. . . . .	1893	O. A. Barfield	1,000	1,118	20	120,000	5,183	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Westbrook College, Portland, Me. . . . .	1889	Milton D. Proctor	354	361	32	73,466	8,700	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Western Carolina Tch. Col., Cullowhee, N.C. . . . .	1889	Paul A. Reid	407	607	42	—	26,958	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Western College, Oxford, Ohio . . . . .	1853	Philip E. Henderson	307	313	121	879,536	47,634	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Western Illinois State Col., Macomb, Ill. . . . .	1899	Frank A. Beu	1,509	1,934	121	—	68,482	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Western Kentucky State Col., Bowling Green, Ky. . . . .	1906	Paul L. Garrett	1,759	1,960	110	905,000	78,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Western Maryland Col., Westminster, Md. . . . .	1868	Lowell Skinner Ensor	689	739	55	—	43,907	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Western Michigan College of Education, Kalamazoo, Mich. . . . .	1903	Paul V. Songren	4,184	5,174	285	—	81,841	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Yakima Valley Jr. Col., Yakima, Wash. . . . .	1928	H. A. Hoeglund	356	356	25	—	356	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Yale University, New Haven, Conn. . . . .	1701	Alfred W. Griswald	7,317	7,455	1,505	130,272,064	3,979,942	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Yankton College, Yankton, S.D. . . . .	1881	James C. Graham	290	291	33	720,615	3,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Yeshiva University, New York, N.Y. . . . .	1897	Samuel Belkin	1,600	1,950	175	1,500,000	110,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Young I. G. Harris Col. (Jr.), Young Harris, Ga. . . . .	1886	C. R. Clegg	250	250	17	275,000	10,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Youngstown College, Youngstown, Ohio. . . . .	1908	Howard W. Jones	2,067	3,741	238	1,500,000	53,485	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000
Yuba College (Jr.), Marysville, Calif. . . . .	1927	J. J. Collins	606	791	36	—	15,000	William Jewell Col., Liberty, Mo. . . . .	1843	Jacob H. Cunningham	279	283	36	575,000	19,000





PHOTOGRAPH SMUGGLED OUT of eastern Germany showing workers commuting to one of a series of soviet-operated uranium mines. According to a British report of Aug. 1950, the east German uranium mines were being operated 24 hours a day by conscripted German labour

**Uranium.** The development of the atomic bomb brought about an unprecedented demand for uranium and stimulated the search for uranium ore in every country in which it was known to occur, and in others where the geological conditions were favourable. This search resulted in the discovery of many new deposits and the expansion of the former producing areas, but, so far as was known, the newly discovered deposits were small and comparatively low in grade; because of their number, however, the output, both present and prospective, had been greatly increased. However, for security reasons, no country had released much information on its deposits or production.

While in the better deposits uranium is associated with vanadium and radium, it has also been found in small amounts in other combinations. For example, small amounts of uranium were found in the gold ores of South Africa and in the phosphate rock of Florida, and means were being sought for its recovery.

In the United States the former vanadium-producing area in the Colorado plateau was extended and its production increased to such a point that in 1950 there were six ore treatment plants. This area had furnished nearly all the output up to that time, but numerous deposits had been reported in other western states. Improvements were made in concentration and recovery processes, increasing the yield and reducing costs. Equipment was expanded at both the Hanford, Wash., and the Oak Ridge, Tenn., plants.

The number of shipments of radioactive isotopes increased from 1,652 in 1947 to 2,644 in 1948 and 4,370 in 1949, and of other isotopes from 315 to 434 and 958. (See also ATOMIC ENERGY.) (G. A. Ro.)

**Urology.** Examination of the urinary sediment for cells indicating malignancy in the genitourinary tract had not proved to be as useful as in other clinical fields during 1950. Although the presence of definitely malignant cells in the centrifuged urine had been regarded as positive evidence of cancer in the urinary tract, the incidence of successful cytologic diagnosis had not been high according to many urologists. Most cells that have had their origin in a renal cancer when found in the urine appear washed out and may resemble the normal epithelial cell so closely that microscopic differentiation has been found difficult. This is particularly true of small malignant cells.

Larger cells arising from a tumour in the renal cortex have been recognized more readily but they have been found in only a small percentage of cases. Malignant cells obtained from tumours of the renal pelvis and ureter have been found more frequently than those from tumours of the renal cortex. Since the absence of malignant cells does not exclude the possibility of tumours, negative results have even less diagnostic value than positive results. Although malignant cells have been found in the urine more frequently with tumours in the bladder, the practical value of their discovery is but little since cystoscopy readily permits diagnosis.

Cancer of the prostate gland usually may be recognized on rectal digital examination by the presence of a firm irregular nodule in the gland. When the nodule is small and of a doubtful nature, tissue biopsy made through perineal exposure is usually employed. Examination of prostatic secretion obtained by massage has confirmed the presence of cancer in some cases; however, cytologic diagnosis was usually possible only in cases with advanced carcinoma of the prostate gland.

The comparative value of castration and administration of estrogen in the treatment of prostatic cancer was still a controversial subject in 1950. A competent appraisal of their relative value was offered in an article which studied the survival statistics of 1,818 cases of prostatic carcinoma. (Reed M. Nesbit and William C. Baum, "Prostatic Carcinoma," *J.A.M.A.*, 143: 1317-20 [Aug. 12, 1950].) The following deductions were made: (1) it was demonstrated conclusively that patients with prostatic cancer who responded to castration or estrogen therapy lived longer and more comfortably than did patients not treated by this method; (2) five-year control of prostatic cancer was most effectively obtained by the combined employment of orchiectomy and diethylstilbestrol in patients who were free from metastases; (3) when metastases were present, orchiectomy was significantly more effective than diethylstilbestrol; the combination of diethylstilbestrol and orchiectomy did not appear to offer any advantage over orchiectomy alone in this group of patients; (4) the maximum benefit was achieved by the institution of treatment as soon as the diagnosis was established. (See also VENEREAL DISEASES.) (W. F. Br.)

**Uruguay.** A republic in southeastern South America, Uruguay is bounded on the north by Brazil, on the south by the Río de la Plata, on the east by the Atlantic ocean and on the west by Argentina. It is the smallest country in South



America with an area of 72,172 sq.mi. It has a population of 2,353,000 (official est. Dec. 1949), mostly of European extraction. Montevideo, the capital, has 850,000 inhabitants (1947 est.). Other leading cities are Paysandú (50,000); Salto (48,000); Mercedes (33,000); and Minas (32,000). Religion: Christian, mostly Roman Catholic. President: Luis Batlle Berres. President-elect: Andrés Martínez Trueba.

**History.**—Early in 1950 the treaty of friendship, commerce and economic development signed with the United States on Nov. 23, 1949, was submitted to the Uruguayan congress for ratification. The treaty dealt with the Point Four development program and recognized the right of U.S. enterprises to hire technical personnel regardless of their nationality and to receive a fair return on their investments. Fissionable material was exempted from its provisions.

The Communists synchronized all their moves to hamper ratification of the treaty. They denounced the visit to Uruguay of U.S. Assistant Secretary of State Edward G. Miller, and claimed that the treaty would make Uruguay a United States colony. The Latin American Labour confederation, led by Vicente Lombardo Toledano, held a conference in Montevideo which coincided with a major strike in the wool industry. At the conference Roberto Morena, a Brazilian Communist active in Uruguayan labour circles, Eugenio Gómez, Communist secretary-general, and Enrique Rodríguez, a Communist deputy, were active in parroting the party line. A speaking tour throughout the country launched by United States Ambassador Christian M. Ravndal, with the approval of the Uruguayan government, explaining the democratic way of life, also brought about further Communist charges of United States intervention in local affairs.

In the presidential election held in November, the dominant Colorado party had three candidates: Andrés Martínez Trueba, president of the Bank of the Republic; César Mayo Gutiérrez, vice-president of the republic; and Eduardo Blanco Acevedo, former cabinet member. The Blanco party opposition nominated its perennial candidate Luis Alberto Herrera, although some believed that a younger man should make the race. Martínez Trueba, the candidate backed by President Batlle, was elected and was to be inaugurated early in 1951.

Relations with the United States and British meat-packing companies operating in Uruguay were strained on account of the partiality of the government in favour of the Frigorífico Nacional. The meat packers stopped buying beef because they alleged that the government owed them \$447,000, which represented the difference between the export price to Great Britain and production costs. (J. McAd.)

**Education.**—In 1948 there were 1,644 public schools with 194,072 pupils. Rural schools were attended by 52,815 students. The 180 private schools had 32,448 students. University education was available at the University of Montevideo.

**Finance.**—The monetary unit is the peso, valued at \$0.5263 U.S. currency, controlled rate; \$0.4082, commercial free rate; and \$0.4219, uncontrolled rate, on Dec. 1, 1950. Actual government expenditure in the year 1949 amounted to 288,808,000 pesos; revenue was 286,662,000 pesos. The funded public debt (Dec. 31, 1949) amounted to 818,500,000 pesos. Notes in circulation on Sept. 30, 1950, totalled 244,600,000 pesos. Bank deposits averaged 413,000,000 pesos in Sept. 1950; gold holdings of the Bank of the Republic totalled \$217,000,000 on Sept. 30, 1950.

**Trade and Communications.**—Exports in 1949 totalled \$191,660,000; imports were \$184,644,000 (excluding imports of gold for banking purposes). Chief exports were wool (35%), meat (21%), industrialized farm products (15%) and hides and skins (15%). Chief imports were raw materials (26%), machinery (15%), vehicles and fuels and lubricants. The leading customers were the U.S. (26%), the United Kingdom (22%), Germany (11%), Brazil (7%) and Belgium (4%); the leading suppliers were the United Kingdom (23%), the U.S. (21%), Brazil (11%) and Belgium (7%).

Railways (1948) totalled 1,874 mi. The highway system (1948) comprised 26,000 mi. of which 3,051 mi. were paved national roads. On Dec. 31, 1949, there were 56,500 automobiles and 20,000 trucks. According to *Lloyd's Register of Shipping*, the merchant marine had 47 steamers and motor ships (100 tons and more) aggregating 84,598 gross

tons on June 30, 1949. Air service was supplied by eight international air lines and two local lines in 1950. Telephones numbered 77,686 on Jan. 1, 1949.

**Agriculture.**—Production estimates for major crops in the crop year 1949-50 (in short tons) included wheat 303,000; linseed 77,000; oats 44,000; malt barley 13,200; ordinary barley 6,600.

Official estimates (1949) showed 8,700,000 cattle and 23,000,000 sheep. Wool exports in the year 1949-50 (Oct. 1-Sept. 30) were 175,491 bales (about 81,000 short tons) (1948-49: 118,237 bales), of which 117,726 bales went to the U.S., 12,624 bales to Belgium, 10,402 bales to France and 7,816 bales to Germany. In 1948 22,833 short tons of cattle hides and 10,322 tons of sheepskins were exported. Meat exports in 1949 (largely to the United Kingdom) totalled 103,600 short tons, including 72,624 tons of frozen beef, 22,934 tons of canned beef and 6,897 tons of frozen mutton.

**Manufactures.**—The estimated values added by manufacture (exclusive of the cost of raw materials) of the leading industrial products in 1947 were: food products 62,000,000 pesos; textiles 35,000,000 pesos; beverages 35,000,000 pesos; metal products 27,000,000 pesos; stone, sand, cement and clay products 16,000,000 pesos; and clothing 15,000,000 pesos. There were four *frigoríficos* for treating meat, eight *saladeros* and seven meat-canning plants in 1950. There were about 115 textile mills in 1948, with an estimated total capital of 105,000,000 pesos and employing about 15,000 workers. The cost-of-living index for Montevideo stood at 181 in July 1950 (1937=100).

**Mineral Production.**—Activity was limited to the extraction of semiprecious stones and construction materials. (J. W. Mw.)

**U.S.S.R.:** see UNION OF SOVIET SOCIALIST REPUBLICS.

**Utah.** A Rocky mountain state, admitted to the union in 1896, Utah is popularly known as the "Beehive state." Area: 84,916 sq.mi. (82,346 sq.mi. land; 2,570 sq.mi. water); pop. (U.S. census 1950): 688,862, an increase of 25.2% since 1940. Capital: Salt Lake City (1950 census, preliminary figures) 181,718. Other principal cities with preliminary 1950 population figures were Ogden, 56,910; Provo, 28,899; Logan, 16,802.

**History.**—The chief officers of Utah in 1950 were J. Bracken Lee, governor; Heber Bennion, Jr., secretary of state; Reese M. Reese, auditor; Ferrell H. Adams, treasurer; Clinton D. Vernon, attorney general; E. Allen Bateman, superintendent of public instruction.

The political highlight of the year 1950 was the congressional election which attracted more than 263,000 voters to the polls, 65,000 more than had ever before turned out for an off-year election. Chief interest centred around the U.S. senate race which was won by Wallace F. Bennett (Rep.), who in his first race for political office defeated incumbent Elbert D. Thomas (Dem.) by more than 20,000 votes.

In the other contests Walter K. Granger (Dem.) retained his congressional seat in a close race with Preston L. Jones (Rep.). The second congressional district re-elected Reva Beck Bosone (Dem.) to a second term. J. Allan Crockett (Rep.) was elected to the state supreme court.

The Republican party made large gains in the state house of representatives, the 1950 election returning 30 Democrats and 30 Republicans. The Democratic party was, at the close of the year, still contesting a close race in Utah county. The state senate remained in the hands of the Democrats with 13 Democrats and 8 Republicans.

Gov. J. Bracken Lee, in his 1951 budget message to the legislature, followed his economy policy by recommending a cut of \$38,000,000 from state departmental requests. He also asked for a consolidation of the four agencies dealing with highway safety under the state highway patrol.

**Education.**—There were 96,685 elementary students in Utah during the school year 1949-50 in 361 schools. There were 59,687 secondary school students in 71 junior high schools and 75 high schools. The total number of teachers for the school year in both elementary and secondary grades averaged 4,849. The total operating cost of Utah schools for 1949-50 reached \$26,134,043.50 with total payments of \$36,172,163.82 and a building fund of \$4,582,251.30. Federal funds for education amounted to \$1,054,010.17 and state funds amounted to \$15,167,707.11.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Total expenditures for public assistance during the fiscal year July 1949-June 1950 amounted to \$11,725,325.49 (for 29,156 persons), an 8% drop from the previous year. The funds were distributed as follows: old-age assistance \$5,438,860.24 (10,820 persons); aid to dependent children,



\$3,758,457.11 (13,480 persons); aid to the blind \$121,894.82 (237 persons); aid to the disabled \$1,031,798.57 (2,197 persons); aid to employables \$428,471.88 (1,692 persons); foster care \$264,512.27 (545 persons); indigents in institutions \$46,308.75 (185 persons); sight conservation \$2,813.39; welfare services \$113,372.24; and administration \$519,830.22.

Utah had one state prison which housed an average of 488.5 inmates during the fiscal year 1949-50 at a total cost of \$384,280.47 and an average cost per capita per day of \$2.14. The Utah state industrial school had a total enrolment of 159 during 1949-50 and expended the sum of \$193,421.63 during that fiscal year.

**Communications.**—On June 30, 1950, there were 2,128 mi. of primary state roads, 2,276 mi. of secondary state roads, 956 mi. of other state roads. Total expenditures for the fiscal year ending June 30, 1950, amounted to \$11,423,075.69 of which \$3,312,756.62 was spent for maintenance, \$705,801.87 for state construction costs and \$5,652,754.38 for federal construction costs. Motor vehicle registration had reached 246,483 vehicles by Dec. 1, 1950, with 193,854 of the number being passenger cars. Operating railroads had a combined mileage of 2,116.37 as of July 1949. As of Dec. 1, 1950, there were 189,220 telephones in use in the state under the leading telephone company and 5,242 telephones in use under the operation of local exchanges.

**Banking and Finance.**—The 44 state banks had total assets of \$291,114,469.22 as of June 30, 1950. On that date the 11 national banks had total assets of \$292,311,941.90. There were 13 state-chartered savings and loan associations with total assets of \$52,979,374.19; 6 federal-chartered savings and loan associations with total assets of \$30,201,658.95; 29 industrial loan associations with total assets of \$10,413,132.70; and 57 state-chartered credit unions with total assets of \$4,009,110.11. Total assets of all the above institutions amounted to \$690,998,299.54.

State receipts for the fiscal year ending June 30, 1950, were \$79,926,317.38; disbursements for the same period amounted to \$79,032,015.79. The total state debt on June 30, 1950, was \$770,000 which would be completely amortized by March 1, 1955, as a result of a bond retirement fund created by the 1943 state legislature.

**Agriculture.**—The total farm income for Utah in 1949 amounted to \$161,574,000 with livestock and livestock products accounting for \$103,114,000, and total crops for \$47,455,000. The 1949 estimated production of meat from cattle and calves amounted to 128,000,000 lb., from hogs 30,360,000 lb. and from sheep and lambs 43,018,000 lb. On Jan. 1, 1950 there were 3,427,000 head of chickens in the state, an 11% increase over the previous year. They were valued at \$4,181,000 while the income from eggs produced in Utah in 1949 amounted to \$15,946,000. The state produced 32,150,484 lb. of turkeys from July 1, 1949, to March 1, 1950. At the end of 1950 there were in the state 57,000 horses valued at \$2,964,000; 88,000 hogs valued at \$1,954,000; 560,000 cattle (all types) valued at \$71,680,000; and 116,000 milk cows valued at \$22,040,000.

Table I.—Principal Agricultural Products of Utah

Crop	1950	1949	Average, 1939-48
Wheat, bu. . . . .	8,008,000	9,440,000	6,450,000
Barley, bu. . . . .	5,520,000	6,063,000	5,184,000
Oats, bu. . . . .	2,186,000	2,115,000	1,881,000
Potatoes, bu. . . . .	3,335,000	3,388,000	2,672,000
Sugar beets, tons . . . . .	532,000	466,000	538,000
Hay (all), tons . . . . .	1,062,000	1,219,000	1,145,000
Apples, bu. . . . .	282,000	365,000	473,000
Peaches, bu. . . . .	130,000	778,000	754,000
Tomatoes (processing), tons . . . . .	63,000	83,000	. . .

**Manufacturing.**—The total income for Utah in 1949 amounted to \$825,000,000, an increase of \$9,000,000 over the previous year. The state was affected by a decrease in agricultural income but industrialization had progressed to such an extent that the decline in agriculture was not sufficient to bring down the total income from all sources.

Table II.—Principal Industries of Utah

Industry	Av. workers per month	Total wages 1949
Mining . . . . .	12,778	\$ 44,514,717
Contract construction . . . . .	10,724	33,513,110
Manufacturing . . . . .	27,678	83,992,902
Transportation, communication, and utilities . . . . .	10,159	29,113,832
Wholesale and retail trade . . . . .	42,745	104,750,202
Finance, insurance and real estate . . . . .	5,693	15,145,240
Service . . . . .	14,057	26,687,285
Miscellaneous . . . . .	104	189,983
Total (all industries) . . . . .	123,938	\$337,907,271

**Mineral Production.**—The total value of minerals produced in Utah in 1950 amounted to \$157,949,922. Despite a large decline (29%) in the output of zinc-lead ore in 1950, the total ore mined in Utah increased

Table III.—Principal Mineral Production in Utah

Mineral	Production 1950	Value 1950	Value 1949
Gold, oz. . . . .	460,000	\$16,100,000	\$10,992,030
Silver, oz. . . . .	7,023,500	\$6,356,622	\$6,086,356
Copper, tons . . . . .	278,850	\$116,001,600	\$77,714,530
Lead, tons . . . . .	43,050	\$10,762,500	\$16,770,752
Zinc, tons . . . . .	31,400	\$8,729,200	\$10,086,160

from 21,993,467 tons in 1949 to about 31,850,000 tons in 1950, because of an increase of 10,162,000 tons (49%) in the output of copper ore. The number of mines producing in the state declined from 95 in 1949 to 85 in 1950.

(B. D. M.)

**Utilities, Public:** see PUBLIC UTILITIES.

**Vacation:** see TOURIST TRAVEL.

**Vanadium:** see MINERAL AND METAL PRODUCTION AND PRICES.

**Vandenberg, Hoyt Sanford** (1899— ), U.S. air force chief of staff, was born on Jan. 24 in Milwaukee, Wis. He was graduated from the U.S. Military academy at West Point, N.Y., in 1923 and from the Air Service Flying school and its Advanced Flying school in 1924. After several years of flight training and teaching, he entered the Air Corps Tactical school in 1934, and the Command and General Staff school in 1935. He taught at the Air Corps Tactical school from 1936 to 1938, when he entered the Army War college.

Early in 1942 he was operations and training officer of the air staff in Washington, D.C. Later that year he helped organize the U.S. air forces in North Africa, becoming chief of staff of the 12th air force, and later of the northwest African strategic air force.

In Aug. 1943 he became deputy chief of staff at air force headquarters and headed an air mission to the U.S.S.R. In April 1944 he was designated deputy commander in chief of the Allied expeditionary air force and commander of its U.S. air component, assuming command of the 9th air force in August. His postwar positions included assistant chief of air staff (1945); director of intelligence on the war department general staff (January-June 1946); director of central intelligence (June 1946-April 1947); deputy commander and chief of air staff of the army air forces (June 1947); air force vice-chief of staff with the rank of general (Oct. 1, 1947); and chief of staff of the U.S. air force (April 30, 1948).

After the outbreak of the Korean war in 1950 he went to the far eastern theatre in July to confer on air strategy and tactics. In September he pointed out that air forces are part of a team with the other services, and alone could not win a modern war.

**Vargas, Getulio Dornellas** (1892— ), Brazilian president, was born on April 19 in São Borja, Rio Grande do Sul. He was educated at the Porto Alegre faculty of law and the Rio Parde military school. He became advocate of Rio Grande do Sul, and later deputy from that state to the congress in 1909. After an interval when he resumed his practice of law, he was again elected deputy in 1919. He became minister of finance in 1926; served as president of his native state, 1927-30, and led the revolutionary movement in 1930 that resulted in his being named president of Brazil on Nov. 3 of that year. He served as president of the republic until 1945, and was recognized as one of the strongest allies the United States had among Latin-American nations during World War II. He sent the Brazilian expeditionary force to fight with the Allied forces during the reinvansion of Europe. The Brazilian army forced his resignation in 1945 on grounds that it feared he would not hold promised elections and he backed Eurico Gaspar Dutra, who won the Dec. 1945 presidential election. Vargas re-entered politics for the 1950 campaign, and won the election to the presidency Oct. 3, 1950.

**Varnishes:** see PAINTS AND VARNISHES.

**Vatican City State.** This sovereign independent state was established by the Lateran treaty between the Holy See and the Italian government on Feb. 11, 1929. The treaty is recognized in international law, and the reigning pope is the sovereign. The area of Vatican City is 108.7 ac., excluding the papal estate of Castel Gandolfo and certain



basilicas in Rome which are extraterritorial. Executive powers are exercised by the governor, responsible to the pope. The population is about 1,000.

In Jan. 1950 there were 33 apostolic nuncios and internuncios, 3 regents of nunciature and a number of chargés d'affaires in the Vatican diplomatic corps. The nunciatures of Lithuania, Latvia, Estonia and Hungary were listed as vacant. There were 18 apostolic delegates. In Greece and Bulgaria, apostolic delegations were headed by chargés d'affaires. Arabia, Syria, and Albania were listed as vacant. The diplomatic corps accredited to the Holy See consisted of 19 ambassadors and 15 ministers. Diplomatic missions of China, Finland, Yugoslavia and Lebanon were headed by chargés d'affaires. Guatemala, Honduras, Panamá, Rumania and Hungary were listed as vacant.

Myron C. Taylor resigned in January as personal representative of Pres. Harry S. Truman at the Vatican.

The Sacred Congregation of the Holy Office issued a document explaining the Monitum of June 5, 1948, which forbade Catholics to take part in public discussions of religious doctrine without permission of the Holy See.

The Congregation of the Council, which regulates activities of the clergy, issued a decree excommunicating priests and religious who engage in business activity for themselves or others. The council also issued a decree excommunicating all those who attempt to overthrow ecclesiastical authority or accept church offices or benefices without proper ecclesiastical designation.

Diplomatic relations were established between the Vatican and Indonesia. The apostolic delegation in Jakarta was elevated to the rank of papal internunciature and Archbishop George de Joghhe d'Ardoye was named internuncio.

The Sacred Congregation of Rites approved canonization of seven new saints: Marie Emile de Rodat, founder of the Sisters of the Sacred Family; Antonio Maria Claret, Spanish textile worker who became Archbishop of Cuba; Bartolomea Capitanio and Vincenza Gerosa, who collaborated in founding the Sisters of Charity of Loreto; Jeanne de Valois, wife of King Louis XII; Maria Goretti, 11-year-old martyr of purity; Maria Ana de Paredes, who gave her life for plague-stricken Ecuador.

In his Christmas message Pope Pius XII announced that the tomb of St. Peter had been discovered under the main altar of St. Peter's basilica.

The Sacred Congregation for the Propagation of the Faith published a decree establishing a number of new sees on the African continent. According to the decree three ecclesiastical provinces would be set up. The first, in eastern Nigeria, would comprise the archdiocese of Onitsha with suffragan sees of Owerri, Calabar and Buea, the latter in Cameroon. The second would embrace the Gold Coast with the archdiocese of Cape Coast and suffragan sees of Accra, Kumasi, Tamale and Keta, the latter in Togo. The third, in western Nigeria, would be made up of the archdiocese of Lagos and the suffragan see of Ondo and Benin city. Erected in Sierra Leone were the dioceses of Freetown and Bo which would be immediately subject to the Holy See. (See also PIUS XII; ROMAN CATHOLIC CHURCH.)

FILMS OF 1950.—*Inside the Vatican* (Catholic Visual Education, Inc.). (J. LAF.)

**Veal:** see MEAT.

## Vegetable Oils and Animal Fats.

Domestic production of fats and oils in the U.S., including the oil equivalent of exported seeds, in the year beginning Oct. 1950 was forecast at 11,980,000,000 lb., almost the same as in the previous year. A huge soybean crop did not quite offset a large reduction in cottonseed. Lard, tallow and greases increased moderately; butter output declined. Domestic consumption of edible fats and oils was

indicated at a per capita total of 45.2 lb.

### U.S. Production of Principal Fats and Oils\*

	(In millions of pounds)			
	1950†	1949	1943	Average, 1937-41
Butter . . . . .	1,600	1,735	1,843	2,220
Lard . . . . .	2,800	2,657	3,267	2,091
Edible tallow . . . . .	170	168	213	225
Edible vegetable oils . . . . .	4,200	4,313	2,761	2,253
Soap fats and oils . . . . .	2,350	2,294	2,101	1,523
Drying oils . . . . .	840	798	804	363
Other oils . . . . .	20	23	32	21
Totals . . . . .	11,980	11,990	11,021	8,696

\*Year beginning October.

†Partly forecast.

Total U.S. butter production in 1950 was estimated at 1,600,000,000 lb., compared with 1,735,000,000 lb. in the previous year. The production of lard and pork fats increased by nearly 150,000,000 lb. Fats from other animals remained approximately at the previous level of production. Vegetable oilseeds, however, were 14,700,000 tons, 6% below 1949 but third largest on record. The 1950 cottonseed crop was less than two-thirds that of the previous year; soybeans were a record crop; flaxseed production declined 11% compared with 1949, but was 13% more than average. The peanut crop with acreage allocations and marketing quotas in force was larger than in 1949 or the average for the decade. Late in the year butter and flaxseed (but not linseed oil) were removed from the list of surplus commodities available for sale by the Commodity Credit corporation.

Prices of most fats and oils fluctuated more or less quietly at rather low levels prior to the outbreak of the war in Korea, then participated strongly in the upward trend. Butter remained near the support price of about 60 cents wholesale until late in the year; lard ranged between 12 and 19 cents and soybean oil from 10 to 20 cents per pound.

Exports of most sorts of fats and oils from the U.S., largely to western Europe, declined in 1950. For the first nine months of the year the outgo was 1,529,900,000 lb., compared with 1,843,100,000 lb. in the same period in 1949. Imports increased to 895,200,000 lb. in the first nine months of 1950, compared with 762,500,000 lb. in the comparable period of 1949. Copra made up about half the total.

On July 1, 1950, public law 459 became effective, repealing federal annual occupational taxes on manufacturers, wholesalers and retailers of oleomargarine, and also the excise tax of ten cents per pound on coloured and one-fourth cent per pound on other oleomargarine. Restrictions as to packaging and serving in public eating places to assure identification of the product were included. Prohibitions, restrictions or taxes continued in approximately 15 states. Consumption of margarine in the U.S. increased about 7% in 1950 to 6.1 lb. per capita, more than double the pre-World War II rate.

Synthetic detergents continued to make further inroads during 1950 into the amount of fats and oils needed for soaps. The Commodity Credit corporation (CCC) carried over a stock of almost 500,000,000 lb. of linseed; Canada also had a large surplus. The U.S. in November removed lard and tallow from import control.

Although fats and oils on a world-wide basis in 1950 were near prewar production, they were still unevenly distributed. Rationing of fats ceased in western Germany, but high prices restricted use to about half that of prewar. Edible fat rations were substantially increased in the United Kingdom as were soap rations. Denmark discontinued rationing of butter and margarine. The olive oil crop of 700,000 tons was a poor one in much of the Mediterranean area, 40% less than in 1949. Argentina increased flax acreage, and also stepped up exports from a heavy carry-over of linseed. Philippine copra activity expanded substantially after the Korean war began. The privy



council in England upheld the Canadian supreme court decision to the effect that responsibility for regulating the sale and manufacture of margarine in Canada rested with the various provinces, not with the federal government, thus overruling the Dairy Industry Act of 1927. (See also COTTON; PEANUTS; SOYBEANS.) (J. K. R.)

**Vegetables.** The U.S. 1950 crop of 25 vegetables, classed as commercial truck crops for the fresh market (strictly market garden areas and farm gardens not included), was the second largest on record, 8% larger than that of 1949 and 19% above average; the value was smaller by 8% compared with 1949, but 19% above average for 1939-48. Consumption per capita of fresh vegetables in 1950 was estimated at 258 lb., 3% more than in 1949 and 110% of the pre-World War II average. Prices averaged lower than in 1949, particularly for items in over-supply such as cabbages, onions and lettuce.

The 1950 U.S. production of 11 truck crops for commercial processing was 5,300,200 tons, 3% less than in 1949 but 2% above average. Acreage declined to 1,617,940, as compared with 1,736,240 ac. in 1949, and an average of 1,794,400 ac. in the decade 1939-48. Freezing as a processing method increased by 6% compared with 1949. Demand by the armed forces increased substantially.

The 1950 crop of dry edible peas and beans, widely used as a vegetable source of protein, were much smaller in the U.S. and in the world than the abundant crops of 1949.

**Commercial Truck Crops for the Fresh Market.**—The total production of 25 crops was 9,009,200 tons in 1950, valued at \$543,978,000, compared with 8,311,000 tons in 1949 and 7,558,200 tons average for the previous decade. The crops were so abundant that the tonnage produced but not marketed was the largest on record. Cabbage was the leading crop in tonnage with 1,503,700 tons; lettuce was second with 1,295,100 tons; and onions were third with 1,107,000 tons. California was the leading state with 2,629,000 tons; Florida second with 1,085,600 tons; and New York third with 905,200 tons.

Table I.—U.S. Vegetable Production for Fresh Market  
(In thousands)

Crop	Unit	1950	1949	Average 1939-48
Artichokes . . . . .	boxes	700	674	806
Asparagus . . . . .	crates	4,111	3,779	4,502
Beans, lima . . . . .	bu.	1,312	1,345	1,422
Beans, snap . . . . .	bu.	16,611	17,233	17,014
Beets . . . . .	bu.	2,035	1,781	2,160
Cabbage . . . . .	tons	1,504	1,221	1,205
Cantaloupes . . . . .	crates	13,050	12,384	10,475
Carrots . . . . .	bu.	27,777	25,220	23,708
Cauliflower . . . . .	crates	13,130	13,114	10,300
Celery . . . . .	crates	25,186	24,233	19,106
Corn, sweet . . . . .	ears	350,600	341,450	297,494
Cucumbers . . . . .	bu.	6,712	6,911	5,335
Eggplant . . . . .	bu.	1,385	1,447	1,231
Escarole . . . . .	bu.	1,872	1,275	999
Honeyball melons . . . . .	crates	115	137	208
Honeydew melons . . . . .	crates	2,662	2,615	3,180
Kale . . . . .	bu.	840	920	642
Lettuce . . . . .	crates	37,002	33,790	27,680
Onions . . . . .	sacks	44,313	37,865	37,740
Peas, green . . . . .	bu.	2,706	3,046	6,368
Peppers, green . . . . .	bu.	8,831	8,381	5,877
Shallots . . . . .	bu.	459	386	546
Spinach . . . . .	bu.	10,642	11,722	13,922
Tomatoes . . . . .	bu.	31,405	31,885	28,578
Watermelons . . . . .	melons	81,460	78,408	68,923

Acreage for harvest in 1950 was 1,822,780, compared with 1,784,660 ac. in 1949; as compared with the previous decade, acreage was also larger.

The total value of these crops was 8% less than in 1949, but 19% more than average for the decade. Tomatoes, valued at about one-fifth of the total for the 25 crops, provided the leading crop in value, followed by lettuce.

**Commercial Truck Crops for Processing.**—The aggregate production in 1950 of 11 truck crops for commercial processing, including crops for canning, freezing, pickling and other process-

ing, exclusive of dehydration, was 5,300,200 tons, compared with 5,441,300 tons in 1949, and 5,183,200 tons average for 1939-48. California produced more than one-fifth of the total, or 1,144,200 tons, and New York (464,200 tons) displaced Wisconsin as the second state. Tomatoes (2,763,300 tons) accounted for more than one-half of the total, sweet corn for about one-fifth. New record high yields per acre were made by lima beans, cabbage (for sauerkraut) and tomatoes; cucumbers made the lowest yield since 1939. Harvested acreage of asparagus, beets and pimientos set new high records; sweet corn acreage was the lowest since 1940.

The estimated value of the crop was \$204,701,000, compared with \$207,752,000 in 1949 and \$163,892,000 average for the decade 1939-48. Tomatoes were the largest contributor—\$69,039,000. Smaller amounts of the 1950 crops were canned (97% of the 1949 pack), but somewhat larger amounts were frozen; storage stocks of frozen vegetables in October were 18% larger than a year earlier.

Table II.—U.S. Production of 11 Vegetables for Processing  
(In tons)

Crop	1950	1949	Average 1939-48
Asparagus . . . . .	108,400	111,200	91,300
Beans, lima . . . . .	78,900	91,800	39,300
Beans, snap . . . . .	247,800	246,800	186,000
Beets . . . . .	170,300	149,200	118,600
Cabbage . . . . .	246,400	170,500	170,800
Corn, sweet . . . . .	950,600	1,406,300	1,075,500
Cucumbers . . . . .	176,600	284,300	189,800
Peas, green . . . . .	433,200	347,300	387,600
Pimientos . . . . .	45,000	23,800	12,900
Spinach . . . . .	79,700	94,400	80,200
Tomatoes . . . . .	2,763,300	2,518,700	2,381,200

The U.S. dry edible bean crop of 1950 was a small one of 15,128,000 100-lb. bags (cleaned basis), 24% smaller than the record crop of 19,890,000 bags in 1949 and smaller than the decade average of 16,110,000 bags. California was the leading producer (4,138,000 bags), and Michigan with 3,312,000 bags dropped to second place (5,502,000 bags in 1949). The crop was valued at \$109,011,000, against \$131,143,000 a year earlier. Acreage declined sharply to 1,493,000 from 1,838,000 in 1949, a result of rainy weather as well as a lower official acreage goal. Price support was available at 75% of parity, or \$6.30 per hundredweight average for all types. Domestic consumption was estimated to have increased about 25% to 8.9 lb. per capita in 1950. Good progress was made in disposing of government stocks, partly by export to Yugoslavia.

World edible dry bean production for the 1950-51 season was estimated at 109,000,000 bags, 5% less than in the previous year but 2% more than average in the pre-World War II period. The major decreases were in North America, a result of excess rain, and in eastern Europe, because of drought.

The dry pea crop of 1950 in the U.S. of 2,979,000 bags (uncleaned) was small compared with 1949 and very small compared with the 5,800,000-bag average of the previous decade. World production of 16,679,000 bags (excluding China) was 11% less than the previous year, but 7% above the prewar average. World trade dropped to 3,600,000 bags in 1949, from 4,300,000 bags in 1948 and 4,500,000 bags before World War II.

Although exports of vegetables, either in fresh or processed form, were a comparatively small part of the U.S. crop, exports of fresh vegetables in 1949-50 were sharply higher, 452,000,000 lb., compared with 307,000,000 lb. in the previous year, largely because of the rescinding by Canada on Oct. 1, 1949, of import restrictions on fresh vegetables. (See also CORN; HORTICULTURE; POTATOES.) (J. K. R.)

**Venereal Diseases.** In the United States, the downward trend in total numbers of reported cases of syphilis and gonorrhoea continued during 1950; mor-



tality rates from syphilis and admission rates to mental hospitals were lower than in previous years. There was also continuing evidence in 1950 that the incidence of syphilis might be decreasing in the United States. First advanced in 1949, this encouraging view of the progress of syphilis control was based on a combination of factors observed in studying reports from health departments. The most important of these factors were a consistent reduction in the number of reported cases of early infectious syphilis; decreases in the discovery rate of early latent syphilis; increased efforts by health departments to find cases of syphilis; and no evidence of a decline in the quality of syphilis morbidity reporting.

Nevertheless, syphilis was still considered a major public health problem in the United States. Deaths from this disease still exceeded 10,000 annually. Admissions to mental institutions for conditions resulting from syphilis were estimated at 6,000 for 1949, the latest year for which such an estimate was available. Thousands of new syphilitic infections were occurring, and, according to estimates, less than 50% of the cases were coming under medical care during the early stages of the disease, when treatment is most effective. Moreover, undiscovered cases of congenital syphilis in children ten years of age or less were estimated to number 100,000.

**Mortality.**—In the continental United States, the general mortality rate from syphilis had declined each year since 1936. This rate, which was 15.9 per 100,000 population in the calendar year 1938, was estimated at 7.6 in 1949 (employing the fifth revision of the *International List of Joint Causes of Death*). According to the *International Statistical Classification of Diseases, Injuries, and Causes of Death*, revised in 1948, the mortality rate of syphilis in the United States was 5.5 per 100,000 population in 1949. The infant mortality rate from syphilis decreased from .63 per 1,000 live births in 1938 to .12 in the calendar year 1948, less than one-sixth the rate of 1933.

**Morbidity.**—Reported cases of syphilis in the United States and territories (excluding the armed services) tentatively numbered 240,000 in 1950, as compared with 576,000 in 1943. During the same period the number of reported cases of late and late latent syphilis decreased from 257,000 in 1943 to a tentative 116,000 in 1950. For civilians as well as for the combined civilian and armed forces population in the continental United States, reported cases of primary and secondary syphilis showed marked decreases. For civilians, the 1950 total was 32,250, as compared with 54,268 for the preceding year.

Among civilians in the United States and territories, reported cases of congenital syphilis tentatively numbered 15,000 in 1950. This figure represented a substantial decrease from 1941, when 18,000 cases were reported. Over the preceding six years, however, the level of reported cases had remained substantially constant.

In 1941 cases of gonorrhoea reported among civilians in the United States and territories began an upward trend. After the peak year of 1947, however, when 410,000 cases were reported, annual declines were recorded, the tentative figure for 1950 being 308,000 cases.

**Mental Disability.**—The rate of first admissions to mental hospitals in the continental United States (excluding Veterans' administration facilities) for psychoses caused by syphilis was 3.7 per 100,000 population in 1948, the latest year for which data were available. This rate was 6.3 in 1938. In 1948 the first admissions to state mental institutions of patients with psychoses caused by syphilis was 6.2 per 100 first admissions for all psychoses. A decade earlier, this rate was 10.3.

**Activities of Health Departments.**—In 1950 diagnostic observations completed in public clinics located in the United States and territories numbered 2,717,000, as a result of which 368,000

cases of venereal disease were diagnosed. Almost half the syphilis cases diagnosed in clinics were referred to rapid treatment centres or other inpatient facilities for treatment. Ninety-eight per cent of the gonorrhoea cases diagnosed in clinics were treated in the clinics.

A total of 483,000 epidemiological investigations were made by staff members of health departments to find cases of venereal disease and bring them to treatment. Seventy per cent of these investigations were completed on contacts of known cases of venereal disease, and 30% on other persons. This latter group included those brought to the attention of health departments because of positive results in premarital, prenatal or mass blood testing.

Although the proportion of referrals to inpatient treatment centres was large in 1950, admissions to rapid treatment centres continued to decline, reflecting the reduction in reported cases of syphilis. Thus, in 1950, the number of patients treated in these centres was 18.7% below the 1949 figure. Of all patients admitted to rapid treatment centres 72% were syphilis cases; 2% were gonorrhoea cases; and 2% were other venereal disease cases. The remainder were patients admitted for examination and observation.

During the year, 59 special case-finding projects were conducted by state health departments, with federal assistance. Within the 32-state area covered by these projects were 17,000 communities with a total population of approximately 68,000,000. Case-finding techniques employed in these projects included dissemination of information on venereal disease through such media as radio, newspapers and motion pictures; investigation of contacts of persons diagnosed as having a venereal disease; and mass blood testing of both selected groups and entire populations.

**Treatment.**—In its evaluation of treatment schedules for early infectious syphilis, the public health service of the Federal Security Agency emphasized procaine penicillin G with 2% aluminum monostearate added to delay absorption. Brief ambulatory treatment schedules employing this preparation were available for use by private physicians and clinics. It was generally accepted as the drug of choice for all stages of syphilis, and was widely used in treating gonorrhoea.

Because of the sustained level of congenital syphilis reporting, interest increased in 1950 in the treatment of syphilis in pregnant women and in children with congenital infections. Studies were made of the necessity of re-treating pregnant women who had responded satisfactorily to therapy before pregnancy. Emphasis was also placed on determining the amount and type of penicillin most effective against congenital syphilis.

Research centres reported promising results from the use of antibiotics other than penicillin in the treatment of chancroid, lymphogranuloma venereum and granuloma inguinale. Antibiotics studied included aureomycin, streptomycin, chloramphenicol and terramycin. (See also BACTERIOLOGY.)

**BIBLIOGRAPHY.**—*Report on the Third Session of the Expert Committee on Venereal Infections*, World Health Organization, Technical Report Series, no. 13 (Geneva, 1950); Federal Security Agency, Public Health Service, *Annual Report* (1950). (T. J. B.)

**Venezuela.** A republic on the north coast of South America, Venezuela lies between Colombia, British Guiana, Brazil and the Caribbean sea. Area: 352,143 sq.mi.; pop. (1949 est.): 4,697,000. The census of Nov. 26, 1950 was expected to show a population of about 6,000,000, with 10% living in the capital, Caracas, and more than 275,000 in Maracaibo, 120,000 in Valencia and Barquisimeto each, 50,000 in Ciudad Bolívar, Puerto La Cruz, and San Cristóbal each, and 40,000 in Maracay. The chief executive of the nation continued throughout 1950 to be the military junta (or commission) the official name of which.



as of Nov. 27, became simply the governing junta. It was composed of three lieutenant colonels, Carlos Delgado Chalbaud, Marcos Pérez Jiménez, and Luis Llovera Páez, until the death of the first named on Nov. 13. He was replaced as member and chairman of the commission on Nov. 27 by a civilian jurist, Germán Suárez Flámerich.

**History.**—The outstanding political event of 1950 was the assassination of the president of the junta on Nov. 13. Col. Delgado Chalbaud was attacked by 18 men, who apparently intended to kidnap him, but the plan miscarried and the president was killed. An exhaustive police investigation was undertaken, a final report on which had not appeared when the year ended.

No disorder occurred in the republic, and after a fortnight of emergency regulation, civil rights were restored. On Nov. 24, the creation of two new ministries, justice and mines and petroleum, was announced, as well as plans for an election in 1951; on Nov. 27, the cabinet was reorganized.

Of importance, too, in 1950 was the suppression of the Communist party, which had survived its offshoot, Acción Democrática, by 18 months. This occurred when 47 Communist-affiliate oil workers' unions were dissolved in consequence of an illegal strike.

Employment remained at a high level throughout the year. Immigration, supervised by the Agrarian institute, brought some 20,000 Europeans to Venezuela.

Oil production continued to increase, and the average for the year was about 1,500,000 bbl. daily. A new refinery was put in operation in October by the Sinclair company. The steel companies made progress with their comprehensive plans for developing the large deposits of iron ore of high quality south of the Orinoco; shipments to the United States of the Bethlehem Steel Co. were to begin early in 1951.

(C. ME.)

**Education.**—In Oct. 1949 there were more than 5,300 primary schools with 464,697 pupils enrolled. In May 1950 secondary and special schools, public and private, numbered 137, with an enrolment of 21,723; the 27 normal schools had 3,068 students. In Oct. 1949 the Central university had 4,210 students; Los Andes, 738 and Zulia, 664. Education was allotted 7.55% of the 1949-50 budget.

**Finance.**—The monetary unit is the bolivar, valued at \$0.2985 U.S. currency, controlled and free selling rates, during 1950. Actual government expenditure in the fiscal year ending June 30, 1950 was 1,984,600,000 bolivares; revenue was 1,889,000,000 bolivares. Cash funds in the treasury on June 30, 1950, amounted to 282,900,000 bolivares. There was no external debt. The domestic debt on Dec. 31, 1949, was 15,100,000 bolivares. Currency in circulation (Aug. 31, 1950): 708,000,000 bolivares; government deposits: 88,000,000 bolivares; gold reserve of the Central bank and treasury: \$373,000,000.

**Trade and Communications.**—Exports in 1949 totalled 3,360,387.618 bolivares; imports were 2,241,011,274 bolivares. Chief exports were crude petroleum and petroleum products (97%), coffee (1%) and cacao (1%). Chief imports were machinery and equipment (32%), metals and manufactures (20%) and foodstuffs and beverages (17%). Chief suppliers were the U.S. (74%) and the United Kingdom (8%). Major customers were the Netherlands Antilles (56%) (petroleum for refining) and the U.S. (29%).

Railway equipment remained obsolete and in need of repair; trackage totalled 700 mi. in 1950. The highway system included 3,750 mi. of all-weather roads and 1,600 mi. of unimproved, dry-weather roads. According to *Lloyd's Register of Shipping*, the merchant marine had 79 steamers and motorships (100 tons and over), aggregating 136,700 gross tons, on June 30, 1949.

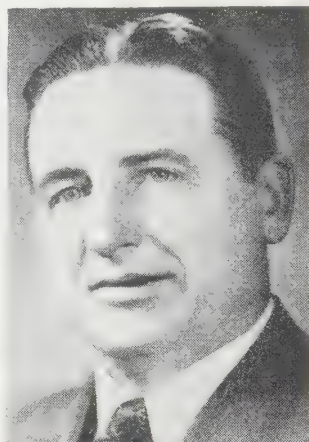
**Agriculture.**—Agriculture still failed to meet the basic foodstuff needs of the people. Output of coffee, the chief export crop, totalled 480,000 bags of 132 lb. each in 1949-50; exports in 1949 were about 367,000 bags. Exports of cacao (1949) were 15,000 short tons. Sugar production (1949) was about 39,250 short tons; maize 320,000 tons; rice 11,000 tons and tobacco 3,100 tons. There were about 3,000,000 cattle and 1,500,000 goats. Fish production in 1949 included 37,500 tons of fresh fish and 11,500 tons of salted fish.

**Manufactures.**—Production figures in 1949 included cement 330,385 short tons; soap 12,685 tons; cigarettes 1,882,378,000 units; electric energy 408,613,000 kw.hr.; natural gas 14,065,788 cu.m. Textile mills supplied about one-third of domestic needs. The cost-of-living index (food, fuel and soap) stood at 202 in July 1950 (1937=100).

**Mineral Production.**—Petroleum continued to be the dominant factor in the economy. Production in 1949 fell slightly to 482,315,973 bbl. (1948: 490,015,593 bbl.). Crude petroleum exports dropped to 422,842,809 bbl.; exports of refined products rose to 37,272,471 bbl. Refinery output by the 11 refineries and topping plants in operation in 1949 totalled 53,066,648 bbl. Two additional refineries went into operation in 1950 and two more were scheduled for completion early in 1951. Production of other minerals in 1949 included 61,177 oz. of gold and diamonds totalling 56,655 carats. In July 1950, Iron Mines Co. of Venezuela, a Bethlehem Steel Corp. subsidiary, made the first rail shipments of iron ore from its

concession in the El Pao area south of the Orinoco to the river port of Palau; ocean shipments were scheduled to begin in the spring of 1951. During the year Orinoco Mining Co., a U.S. Steel Corp. subsidiary, continued preliminary development of its rich concession south of Ciudad Bolívar.

(J. W. Mw.)



LEE E. EMERSON, Republican, elected governor of Vermont, Nov. 7, 1950

**Vermont.** A north Atlantic States of America, the only one of the New England states without a sea coast, Vermont is popularly known as the "Green Mountain state"; it was admitted to the union in 1791. Area: 9,609 sq.mi., of which 331 sq.mi. are water. Population (1940) 359,231 (including 235,992 rural, 123,239 urban); 328,740 native white, including 71,180 of foreign and mixed parentage; 384 Negro; 41 of other races. The official 1950 census determination placed the population of the state at 377,-

747, a 5.2% increase since 1940.

Montpelier is the capital city, with a population (1950 census, preliminary) of 8,585. The chief cities are Burlington (33,039) and Rutland (17,647).

**History.**—The general assembly did not meet in 1950. The chief officers of the state during 1950 were: Harold J. Arthur, governor (succeeding Ernest W. Gibson, who resigned in January to become federal district judge of Vermont); George H. Amidon, state treasurer; Howard E. Armstrong, secretary of state; David V. Anderson, auditor of accounts; Clifton G. Parker, attorney general.

Elected in Nov. 1950 to take office in Jan. 1951 were the following: George D. Aiken, U.S. senator; Winstan L. Prouty, representative in congress; Lee E. Emerson, governor; Joseph B. Johnson, lieutenant governor; George H. Amidon, state treasurer; Howard E. Armstrong, secretary of state; David V. Anderson, auditor of accounts; Clifton G. Parker, attorney general.

**Education.**—There were 801 elementary schools in the state in 1949-50, with a teaching staff of 1,868 and enrolment of 45,450. There were 93 public high schools with a teaching staff of 734 and enrolment of 15,759. The total current expense for public elementary and secondary schools was \$10,801,229.02, of which the state paid \$2,833,800.37. The state superintendent of schools was the commissioner of education, A. John Holden.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Relief in general was administered by the overseer of the poor in each town. Approximately 6,899 persons a month received old-age assistance from state funds amounting to \$2,935,787 for the year 1950. Dependent children receiving aid from state funds averaged 2,783 representing payment of \$668,188 to 1,027 mothers' aid recipients a month. Blind assistance funds to the amount of \$88,050 for the year were distributed to about 190 persons a month. Aid to adult crippled persons amounted to \$35,016.76 for the year, distributed to approximately 188 persons a month. Unemployment compensation payments made under the state law numbered 154,355 and amounted to \$2,829,604 in 1950; 5,535 readjustment allowance payments under the G.I. Bill of Rights amounting to \$108,489 were paid for unemployment and 2 payments totalling \$200 were made to self-employed veterans. The three state correctional institutions, during the fiscal year ending June 30, 1950, had an average of 428 inmates; their total expenses were \$544,974.44.

**Communications.**—The total mileage of the public highway system (state, state-aid and town highways) as of June 30, 1950, was 13,970.27, of which 1,820.73 mi. were in the state system and 2,772.88 mi. were in the state-aid system. Total expenditures during the fiscal year ending June 30, 1950, amounted to \$11,445,814.18, of which \$7,770,607.13 was for state highways and \$2,227,512.47 for state-aid highways. There were 944.76 mi. of railways in the state in the year ending Dec. 31, 1950; airports in the state numbered 20, seaplane landing areas 5 and airways 2, with a total mileage of 144. Telephone subscribers as of Dec. 31, 1950, were estimated at 80,200.

**Banking and Finance.**—The number of state and national banks as of June 30, 1950, was 78, of which 39 were state banks with total deposits of \$205,960,265.66 and assets of \$230,813,306.27. There were eight co-operative building, savings and loan associations, with total assets of \$4,000,313.77.

Total receipts of the state as of June 30, 1950, were \$39,458,425.58;



disbursements \$36,350,593.06; unappropriated surplus \$319,147.68; obligations outstanding \$6,291,000.

**Agriculture.**—The total acreage of harvested crops in the state in 1950, according to the U.S. bureau of agricultural economics, was 1,131,000 compared with 1,145,000 in 1949. The maple sugar season, fairly long and cool, was favourable to a good yield per tree. Because of the small number of trees tapped, the total production, though large, was less than the ten-year average. Dry weather during May, June and early July did considerable damage to the first cutting of hay, but did not hinder other crops to any great extent. The season was generally favourable for apple production except for slight damage from dry weather. Potato production, because of a decrease in acreage planted, was smaller than in 1949 despite a record high yield per acre. Growing conditions were good for seed potatoes and, though small, the crop was reported as exceptionally good for the state.

The value of the 1950 crop production was estimated at \$59,656,000 compared with \$57,713,000 in 1949.

Table I.—Leading Agricultural Products of Vermont

Crop	1950	1949	Average 1939-48
Corn, all, bu. . . . .	3,060,000	2,565,000	2,436,000
Hay, all, tons . . . . .	1,397,000	1,357,000	1,402,000
Oats, bu. . . . .	1,295,000	1,178,000	1,500,000
Potatoes, late, bu. . . . .	1,092,000	1,128,000	1,479,000
Apples, commercial, bu. . . . .	972,000	1,089,000	670,000
Maple syrup, gal. . . . .	786,000	554,000	829,000

**Manufacturing.**—The total value of products of manufacturing, quarrying, mining and processing industries as reported to the department of industrial relations for the fiscal year ending June 30, 1950, was \$293,397,755 as compared with \$293,713,170 in 1949; 35,303 persons were employed in these industries, as compared with 35,424 in 1949.

Table II.—Principal Manufacturing and Processing Industries of Vermont

Industry	Value of products 1950	1949
Machines, machine tools and allied industries . . . . .	\$60,780,700	\$63,061,400
Woollen, cotton and knit goods . . . . .	47,606,280	51,571,000
Woodworking, furniture and lumber, etc. . . . .	41,070,720	36,906,150
Granite, marble and other stone industries . . . . .	28,271,610	26,531,000
Paper and paper products . . . . .	27,963,600	26,435,650
Dairy products . . . . .	17,115,000	16,500,000

**Mineral Production.**—According to the director of research and planning, very little accurate information was obtainable regarding Vermont's mineral production, except as reported to the department of industrial relations. Chief minerals were granite, marble, lime, talc, slate, asbestos and copper.

(C. E. Fe.)

**Veterans' Administration (U.S.).** By Nov. 1, 1950, living U.S. veterans of all wars numbered 19,003,000, of whom 15,336,000 had served in World War II. Veterans with their families made up about one-third of the nation's total population.

Following are the major services administered by the Veterans' administration for veterans, their dependents and beneficiaries.

**Education and Training.**—More than half of all World War II veterans had trained at government expense under the G.I. bill and public law 16 (for the disabled) by Nov. 1, 1950.

Of the total, 2,300,000 veterans had studied in colleges and universities; 3,200,000 had trained in schools below the college level; 1,600,000 had taken on-the-job training, and 660,000 had enrolled in on-farm training courses.

Veterans' 1950 fall enrolments under the two laws ran about 20% less than that for the fall of 1949. On Nov. 1, 1950, veterans attending school and training on jobs and farms numbered 1,819,000. The total a year before was 2,319,000.

In July 1950 congress amended the G.I. bill in several ways. Chiefly, minimum standards were established that many schools operating for profit must meet in order to train veterans. Also, veterans were permitted to make a first major change of course merely by applying for it. In the past, veterans changing fields of study had to justify the change and get a prior VA approval.

Under the G.I. bill, veterans discharged before July 25, 1947, must start training by July 25, 1951, in order to continue afterward. Those discharged after the 1947 date have four years from time of discharge in which to begin. For most, the G.I. bill program ends July 25, 1956.

Under public law 16, disabled veterans may begin training at any time, so long as they can complete their courses by the 1956 date.

**Loans.**—A second major G.I. bill provision calls for the guarantee or insurance of loans made mainly by private lenders to World War II veterans who desire to buy or build homes, purchase farms or farm equipment or go into business.

By Nov. 1, 1950, VA had approved a total of 2,347,000 G.I. loans amounting to nearly \$13,000,000,000. About 90% of the loans, or 2,163,000, were for homes.

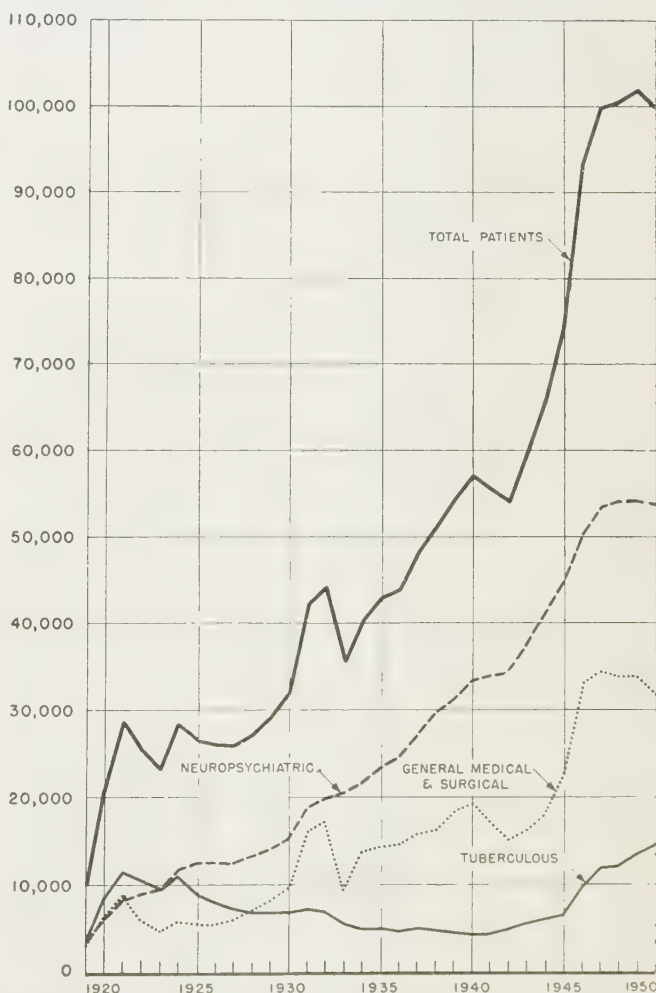
The Housing act of April 20, 1950, increased the amount of VA's guarantee on home loans from 50% to 60% of the loan, and the maximum guarantee from \$4,000 to \$7,500.

The act also extended home-loan eligibility to unmarried widows of veterans who died in service or from service-connected causes after discharge, authorized VA to make direct 4% loans of up to \$10,000 in certain areas of the country and authorized VA, in certain circumstances, to restore the loan guarantee rights of veterans who already had used their entitlement.

The last provision applies only on veterans' property later taken from them through condemnation, or which was destroyed by fire or other natural hazards, or which they had to give up for reasons such as illness or change in employment.

Under the Defense Production act of 1950, new down-payment restrictions were placed on G.I. loans on Oct. 12, 1950. Down payments range from 5% on a \$5,000 loan to 45% on a loan of \$24,250 or more.

**Readjustment Allowances.**—A third major G.I. bill benefit—readjustment allowances for unemployment or self-employment—ended for most World War II veterans on July 25, 1949. By then, more than 8,000,000 veterans had been on VA's rolls, and



NUMBER OF VETERANS remaining in VA and non-VA hospitals on Dec. 31 from 1919 to 1950 by types of disability, as compiled by the Veterans' administration





PARAPLEGIC VETERAN riding his wheel chair along suspended cables during a rehearsal for *On Stage Everybody*, a 1950 film short made as a public service in Hollywood, Calif., by patients of the Birmingham Veterans Administration hospital, Van Nuys, Calif.

had obtained more than \$3,500,000,000 in allowances.

**Medical and Hospital Benefits.**—On Nov. 1, 1950, VA was operating a network of 146 hospitals for the treatment of ill and disabled veterans. Beds in civil, state and other federal hospitals were also being used for veterans on a contract or agreement basis.

A \$750,000,000 VA hospital-construction program was under way at the close of the year. It would result in 66 modern new hospitals with a total of 37,000 beds. By Nov. 1, 1950, 27 of the hospitals had been completed, 31 were under construction and the remaining 8 were in the planning stage.

As of Nov. 1, a total of 97,000 patients were in VA hospitals, and another 7,500 in non-VA hospitals. More than half of all the patients were neuropsychiatric cases, about 14% were tuberculosis cases and the remainder were general medical and surgical cases.

**Insurance.**—National Service life insurance, in amounts of not less than \$1,000 or more than \$10,000 in multiples of \$500, is available to members of the armed forces and to World War II veterans.

During the previous ten years, VA had written more than 20,000,000 of these insurance contracts having a face value of more than \$158,000,000,000. On Oct. 1, 1950, policies in force numbered 5,652,000 and had a total value of \$36,000,000,000.

During 1950, approximately 16,000,000 present and former National Service life insurance holders shared in a special \$2,800,000,000 dividend paid by VA. The dividend covered the time insurance was held in force from the date the policy was taken out up to its anniversary date in 1948.

**Pension and Compensation.**—Wartime rates of compensation for service-connected disabilities range from \$15 to \$150 a month, depending on the degree of disability, plus statutory

awards for certain disabilities which may bring total payments to a maximum of \$360 a month. Peacetime rates are 80% of these figures.

The monthly rate for pensions—paid to veterans of either World War who become permanently and totally disabled for reasons not traceable to service—is \$60, which is increased to \$72 after 10 years or when the veteran reaches age 65.

On Nov. 1, 1950, a total of 2,358,213 disabled veterans of all wars were on VA's compensation and pension rolls. At the same time, 1,004,720 dependents of deceased veterans were drawing death compensation and pension payments.

Living veterans on VA rolls on Nov. 1, 1950 included: Civil War, 13; Indian wars, 442; Spanish-American War, 89,908; World War I, 538,779; Regular Establishment, 55,439, and World War II, 1,637,626.

(See also MEDICAL REHABILITATION OF THE DISABLED; TUBERCULOSIS.)  
(C. R. GY.)

## Veterans' Organizations. United States.

—In 1950 all the major veterans' organizations of the United States were amending their constitutions in order to make the veterans of the Korean war eligible for membership. The American Legion, the Veterans of Foreign Wars, the American Veterans of World War II (Amvets) and the Disabled American Veterans, all of whom operate under congressional charters, petitioned congress to amend their charters to allow veterans of the Korean war to become members.

**American Legion.**—In 1950 the Legion had a membership of about 3,000,000. At its convention in Los Angeles, Calif., it selected Erle V. Cocke, Jr., of Georgia, a World War II veteran, as its national commander. The program for 1950–51 adopted at the convention placed great emphasis on national preparedness. While it also urged increased veterans' benefits, this was a secondary issue. During 1950 the Legion took the lead in organizing the All American Conference against Communism. Ninety national organizations were invited to the organizing conference.

**Veterans of Foreign Wars.**—This organization, with 1,100,000 members, was the second largest veterans' group. At the 1950 national convention in Chicago, Ill., Charles C. Ralls of Seattle, Wash., was elected national commander. The convention received nation-wide publicity when a communication from Gen. Douglas MacArthur dealing with Formosa was withdrawn at the last moment. The program adopted at the convention urged strong defense measures, increased veterans' benefits and anti-Communist legislation and included heavy attacks on the policy of the departments of defense and state.

The V.F.W. also had a nation-wide program of community projects.

**Disabled American Veterans.**—The Disabled American Veterans had in 1950 a membership of 150,000. At the national convention, held in San Francisco, Calif., Boniface Maile of Grosse Pointe, Mich., was elected national commander. The organization continued its policy of being primarily concerned with veterans' benefits, the sole exception being emphatic action by the convention in favour of increased national defense.

**American Veterans of World War II (Amvets).**—Under the leadership of Harold Russell, handless star of the motion picture *The Best Years of Our Lives*, membership of Amvets increased during 1950 to 100,000. As a result, the 1950 convention of Amvets at Cleveland, O., amended the organization's constitution to permit Russell to be the first and only commander to serve two terms. He was re-elected by an overwhelming majority. The convention adopted a platform which included support of the United Nations, a 100-group air force and a 3,000,000-man army, opposition to a federal bonus and opposition to



discrimination in housing, education and employment.

Amvets took a special interest in the problem of civil defense during 1950 and instituted a program which would provide bloodtype "dog tags" for every person.

**American Veterans Committee.**—The membership of this organization dropped to about 20,000 during 1950, but it nevertheless achieved financial stability. No convention was held during the year, and the organization continued under the chairmanship of Michael Straight. The over-all program called for support of the United Nations, the European Recovery program and the North Atlantic treaty; a full civil rights program; and legislation to aid housing, education and health facilities.

**Other Organizations.**—In addition to the above, other veterans' groups with memberships of more than 10,000 that carried on continuing activity included the Air Forces association, the Catholic War Veterans, the Jewish War Veterans, the Army and Navy union, the Military Order of the Purple Heart, the Marine Corps association and the Regular Veterans association.

One of the most interesting developments in 1950 was the organization in Paris of the International Federation of War Veterans Organizations. It was formed by representatives of 30 veterans' associations in eight countries representing 10,000,000 veterans. The countries that participated were Denmark, Italy, Belgium, France, Finland, Turkey, Yugoslavia and the United States. Observers were present from Greece, the Netherlands, the Union of South Africa, Brazil and Norway. The organization endorsed the United Nations action in Korea, attacked aggression and urged the establishment of a real peace. Elliot Newcomb resigned as executive director of Amvets to assume the duties of secretary-general of the new organization. The president of the association was Albert Morel of France.

(R. A. B.)

**Canada.**—The largest Canadian veterans' group, the Canadian Legion, celebrated its 25th anniversary during 1950 by holding its annual meeting in Winnipeg, Man., and dedicating a plaque in the Marlborough hotel on the scene of the Legion's founding. The first World War II veteran Legion president, Group Capt. Alfred Watts, was elected. The main project of the jubilee year was a children's program, to give full guidance and ample opportunities to children of veterans killed overseas. In the annual convention the Legion voted for immediate conscription of Canada's manpower for armed service anywhere in the world under the United Nations; formation of a nonpolitical advisory committee to consult with the defense minister and chiefs of staff on total preparedness; higher pay and allowances and war service pensions for armed forces members; and protection against war profiteering. Those resolutions were presented to the federal government, as well as resolutions asking for continued rent controls, the curbing of subversive activities, stepped-up education in citizenship and more low-rent housing for civilians and faster housing construction for service personnel.

The Canadian Legion and the Royal Canadian Air Force association both turned down efforts to abolish rank within their organizations. The Canadian Women's Army Corps association undertook to preserve the *esprit de corps* of the wartime body.

(C. Cy.)

**Veterinary Medicine.** Classical application of veterinary science, to insure maximum food production continued to be outwardly expressed by mounting interest in veterinary education and research during 1950.

**Prostration of Newborns.**—The prostration of newborn mules and foals characterized by a congenital anaemia of high mortality was found to respond promptly to early exsanguination and concurrent transfusion of an equal quantity of adult blood. Cures were spectacular and the research carried out in

1948 and 1949 disclosed that the malady was comparable to the haemolytic anaemia of babies caused by Rh incompatibility. Adult mules, asses or horses were chosen for donors. The results obtained from transfusion alone had less virtue than did the dual procedure.

**Fowl Pests.**—Improved methods of diagnosis clarified the confusion created by the clinical similarity of true fowl pest and pseudo fowl pest (Newcastle disease or avian pneumoencephalitis) the two viral infections which had long menaced poultry production around the world. The reliability of vaccination was sketchy until the specific agent of each was actually identified and separate vaccines, or a dependable bivalent vaccine, could be produced thereby.

The differentiation of Newcastle virus (once thought to be confined to Great Britain and the United States) from that of true fowl pest disclosed that the former had a wide geographic distribution.

**Control of Rabies.**—The United Nations reported that of 1,300,000 persons bitten by dogs from 1928 to 1946, 4,023 (.31%) died of rabies, notwithstanding that certain rabies-free countries had long demonstrated the feasibility of complete eradication. There were no cases of rabies reported in Great Britain, Sweden, Norway, Denmark, Australia, New Zealand, Venezuela, Hawaii and Puerto Rico, but in all the rest of the world the incidence either increased or remained static. In the United States, where rabies is not reportable or centrally controlled, there were 8,916 cases with 27 human deaths in 1947. The Pan-American Rabies conference held in Mexico and an interstate meeting convened in New York city in 1949 publicized the well-known steps required to control the disease.

**Equine Sleeping Sickness.**—As of May 31, 1950, the U.S. bureau of animal industry reported the details of the explosive outbreak of encephalitis (sleeping sickness) among horses and mules in Louisiana during the summer of 1949. Particular importance was attached to the high morbidity and mortality. There were 1,525 cases concentrated in a few parishes of that state compared with a total of 4,023 in 37 other states during the same period, and the mortality was 60% in contrast to the general average of 10% to 30% of the previous 14 years. The Louisiana epizootic of 1949 was pointed out as a warning to vaccinate horses and mules against that disease regularly every spring.

**Artificial Insemination of Cattle.**—World-wide resort to artificial insemination in dairy cattle production continued to increase in 1950. The number of cows thus fecundated ran into many millions. There was, however, no corresponding mass popularity of that method of breeding in any of the other domestic mammals. Sheep in certain parts of the U.S.S.R. and Australia were cited as exceptions. With improved methods of diluting and preserving, the semen of 1 bull is capable of fertilizing 2,000 to 3,000 cows a year.

**Transfer of Ova in Cattle Breeding.**—Experimental work carried out on cattle at the University of Minnesota, Minneapolis, and on sheep at Texas A. & M. college, College Station, aroused new interest in the prospect of producing a large number of calves annually from purebred mothers by transferring their ova into the uterus of ordinary cows—grades or even scrubs—on the logical assumption that the offspring will retain the original blood lines. Fertilized ova taken from the Fallopian tube or unfertilized ova aspirated from ovarian follicles were used. Although, reportedly, no mature foetus had yet been produced in cows, early stage development of transferred ova and a lamb produced that way at the Texas college led the Foundation of Applied Research to convene the National Egg-Transfer Breeding conference at San Antonio, Tex., April 14, 1949, for the purpose of developing the idea of producing upward of 50



calves annually from prolific cows.

**Fractures in Small Animals.**—The fixation of fractures in dogs and other small animals by arranging a strong, noncorrosive, nonelectrolytic steel pin centrally into the medullary canal of each segment to hold them securely in apposition was fully described in the veterinary journals of Great Britain and the United States during 1950. Holding the segments with a silver plate screwed to the surface of the bone, the external pinning of Stader and of Ehmer, and the cumbersome Thomas splint were largely replaced by medullary fixation. The popularity of this somewhat older method was due largely to the fact that it prevents infection by the free use of antibiotics and sulfonamides in the wound before closure.

**Tuberculin.**—Maurice Vallée of l'École Vétérinaire Nationale d'Alfort was credited with the discovery of a new combination of techniques employed in the preparation of tuberculin and named the improved product "la tuberculine activée d'Henri Vallée." Ever since Koch's lymph (tuberculin) was first used in the 1890s to ferret out subclinical tuberculosis in cattle, its reliability was subjected to critical studies. Some cases escaped its allergic action entirely while others reacted in the absence of recognizable lesions post mortem. Pronounced tuberculosis cases which did not react at all to Koch's lymph but which were diagnosed positively by other methods were particularly disquieting. In the face of these discrepancies, owners and livestock sanitary services were loathe to vouch for its value as a diagnostic agent.

The first improvement came in 1909 when Henri Vallée added mascerated tubercle bacilli and permitted the traces of porphyried glass to remain in the preparation. This technique stabilized tuberculin without altering its specific action on the tuberculous animal. The 1950 tuberculin of Vallée differed only in the preparation complex: culturing, sterilizing, centrifuging, separating (the microbe), cryolysis, and especially the use of defatted cow's milk as a growth factor in the culture medium.

**Animal Tuberculosis of Human Origin.**—Because critical investigations carried out in Sweden, Norway, Denmark and France in recent years had proved that human beings affected with open, pulmonary tuberculosis could transmit their infection to the cows they milked and cared for, the importance of typing Koch's bacillus wherever found was emphasized in veterinary literature. It had long been known that the three types of *Mycobacterium tuberculosis*—human, bovine and avian—are somewhat interchangeable among the mammalian species. Dogs are particularly receptive to the human type, cats to the bovine type and swine to both the bovine and avian types; but that the bovine species was menaced by the human being suffering from pulmonary tuberculosis of bovine origin was not heretofore regarded as a factor to account for in bovine tuberculosis eradication.

**Research in Canine Medicine.**—Neglect of scientific research on diseases of the dog came to an end in 1950 when the New York State Veterinary college, Cornell university, established a fully equipped laboratory devoted exclusively to that purpose.

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**Viêt-Nam:** see INDOCHINA.

**Virginia.** One of the 13 original states of the United States, Virginia was admitted to the union on June 26, 1788; it is known as the "Old Dominion" and as the "Mother of Presidents." Southernmost among the middle Atlantic states, Virginia has an area of 40,815 sq.mi., including 916 sq.mi. of water. The population according to the 1950 census was 3,318,680, a 23.9% increase since 1940. The principal urban areas, with preliminary 1950 census figures, include the capital, Richmond (229,906 in August, 1950, and 193,042 in 1940), Norfolk (188,601 and 144,332), Arlington county (135,240 and 57,040), Roanoke (91,089 and 69,287) and Portsmouth (71,294 and 50,745).

**History.**—During 1950 the general assembly approved an unprecedented program for distribution of \$45,000,000 in surplus state funds as grants-in-aid to the localities for needed school construction. The legislature also repealed rent control in Virginia, provided for a continued program of governmental reorganization, broadened a plan of medical scholarships in rural areas and provided for women's jury service. Though it rejected many recommendations for modernization of the state's tax structure, the assembly did provide for compulsory reassessment of real estate at six-year intervals (real estate is segregated for local taxation) and attempted otherwise to stimulate local responsibility. Legislation also was enacted permitting state seizure of coal mines during labour disputes, establishing a state debt commission and requiring compulsory prenatal examination of women for venereal disease. The assembly killed a proposal for a veterans' bonus, refused to consider a sales tax and declined to repeal the laws requiring racial segregation on common carriers. In August the nine incumbent members of the house of representatives were renominated, and in November they were elected to office against scant opposition. John Stewart Battle succeeded William M. Tuck as governor; his term would expire in Jan. 1954. L. Preston Collins was lieutenant governor. D. J. Howard was superintendent of public instruction.

**Education.**—In 1949-50, elementary school enrolment was 458,708, with a teaching staff of 12,336; secondary school enrolment was 148,490, with a teaching staff of 5,505. The teaching staff also included 1,214 instructors in vocational education and 2,319 principals and head teachers.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—For the year ended June 30, 1950, 10,910 persons received \$1,344,106 in general relief; 23,046 received \$4,777,328 in old-age assistance; 10,511 families with 30,226 dependent children, \$4,023,548; 5,286 under the foster care program \$792,645; and 1,757 blind, \$511,056. In 1950, 571,614 checks representing nearly 687,647 weekly payments were written for civilian unemployment compensation, amounting to \$10,627,472. This was more than \$3,000,000 less than such compensation in 1949. Also, in 1950, 21,630 checks representing 26,678 payments for war veterans' readjustment allowances were written for \$525,944.

The average daily population of six penal institutions for adults was 5,114, and of four industrial schools for juveniles was 624 at the end of the fiscal year in June 1950.

**Communications.**—On Jan. 1, 1950, there were 8,799.8 mi. of highway in the state's primary system; on July 1, 1950, there were 39,046 mi. in the secondary system. During the year ended June 30, 1950, the state spent \$56,377,840 on its highways, 5% more than the previous year's expenditures. The total railroad mileage was 4,076.45 on Jan. 1, 1950. There were 556,358 telephones in Virginia on Nov. 30, 1950.

**Banking and Finance.**—On June 30, 1950, Virginia had 182 state banks with 56 branches and 132 national banks with 35 branches. On June 30, 1950, deposits in national banks were \$1,064,938,000 and assets \$1,159,847,000. On June 30, 1950, deposits in state banks totalled \$759,914,000 and assets \$833,610,000. Resources on Dec. 31, 1949, of 15 industrial loan associations were \$11,722,000; of 55 building and loan associations \$58,217,000; of 28 credit unions, \$2,027,055.

For the fiscal year ended June 30, 1950, the state treasurer received revenues of \$313,815,884, about 7.5% more than in the previous year; expenditures were \$361,261,949. The gross debt on June 30, was \$12,754,657; there was no net debt, because a sinking fund of \$14,300,430 left an excess of \$1,545,773. The fiscal year ended with a cash general fund surplus of \$49,723,363, plus an invested surplus of \$33,484,800.

**Agriculture.**—The 1950 crop year was an exceptionally favourable one for most Virginia farmers. Corn production achieved an average yield of 49 bu. per acre, highest on record. Soybeans also established new record yields. Apple production in commercial counties increased 48% over the preceding year. Though the acreage planted to potatoes was the second lowest since 1890, the yield of 171 bu. per acre was second largest of record. Production of oats was the largest since 1893, and of barley, the second



highest of record. A disastrous boll weevil infestation reduced the 1950 cotton crop to 5,000 bales, the smallest harvested in 50 years. The peach crop also encountered adverse conditions, when early freezes killed back the crop to less than half the 1949 level. Total acreage in principal crops was estimated at 3,744,000 ac., a fraction below the acreage of 1949. Total value of crops, including fruit crops, was placed at \$317,655,000, 19% above the corresponding 1949 value of \$266,741,000. The five leading crops in value were corn, \$87,573,000; tobacco, \$86,818,000; hay, \$46,413,000; peanuts, \$28,320,000; and apples, \$17,436,000.

Table I.—Leading Agricultural Products of Virginia

Crop	1950	1949	Average 1939-48
Corn, bu. . . . .	54,733,000	53,580,000	38,031,000
Wheat, bu. . . . .	7,862,000	8,732,000	7,998,000
Oats, bu. . . . .	5,200,000	4,650,000	3,437,000
Rye, bu. . . . .	390,000	375,000	499,000
Barley, bu. . . . .	2,898,000	2,700,000	2,147,000
Buckwheat, bu. . . . .	111,000	105,000	119,000
Tobacco, all types, lb. . . . .	165,220,000	136,972,000	132,659,000
Peanuts, lb. . . . .	221,250,000	195,940,000	186,333,000
Hay, all, tons . . . . .	1,719,000	1,800,000	1,536,000
Apples, commercial, bu. . . . .	12,580,000	8,525,000	9,589,000
Peaches, bu. . . . .	837,000	1,734,000	1,501,000
Cotton, lint, bales . . . . .	5,000	20,000	23,000
Potatoes, bu. . . . .	9,405,000	9,126,000	8,883,000
Sweet potatoes, bu. . . . .	3,120,000	2,880,000	3,380,000
Soybeans for beans, bu. . . . .	2,527,000	2,106,000	1,128,000

**Manufacturing.**—The value of products manufactured in Virginia was estimated by the state department of labour and industry, on the basis of reports from 1,726 plants, at \$2,532,009,000 in the year ended Dec. 31, 1949. Wage earners in production received \$344,949,000; total salaries were placed at \$99,701,000. The average factory production employment in 1949 was 153,000.

Table II.—Principal Industries of Virginia

Industry	Value of products	
	1949	1948
Tobacco products . . . . .	\$748,982,000	\$888,677,000
Food and kindred products . . . . .	315,993,000	378,638,000
Textiles and their products . . . . .	325,195,000	414,195,000
Lumber and wood products . . . . .	59,347,000	109,232,000
Paper and printing . . . . .	116,363,000	141,182,000
Chemical products . . . . .	439,003,000	428,433,000
Primary metals . . . . .	26,435,000	36,295,000
Fabricated metals . . . . .	39,338,000	52,123,000
Leather and its products . . . . .	27,111,000	41,803,000

**Mineral Production.**—The production value of raw mineral resources in the year ending Dec. 31, 1949, was placed at \$116,410,000, a decline of 18.8% from the preceding year. Coal production was valued at \$82,366,000 in 1949, when 14,584,000 short tons were produced. Petroleum production increased in 1949 to 43,000 bbl. Principal ores mined during 1950 were zinc (valued at \$3,265,000 in 1949), titanium and manganese.

(J. J. Kr.)

**Virgin Islands.** The Virgin Islands have the status of an organized but unincorporated territory of the United States, located 1,400 mi. S.E. of New York city and 40 mi. E. of Puerto Rico. The three largest islands, with a total area of 133 sq.mi., are St. Croix (pop. 12,096, preliminary census of 1950); St. Thomas (13,811) and St. John (747). The chief cities are Charlotte Amalie, the capital on St. Thomas (11,463), Christiansted (4,110) and Frederiksted (1,925) on St. Croix.

Morris F. de Castro was inaugurated as governor on March 24, 1950. He was the first Virgin Islander to hold the position.

**History.**—The \$10,000,000 federal public works program was considerably advanced during 1950. The salt-water fire protection and sanitary sewer facilities and intercepting sewer in Charlotte Amalie, Christiansted and Frederiksted were substantially completed. The potable water facilities for St. Thomas and St. Croix were nearing completion. The airstrips at the Alexander Hamilton field in St. Croix and at the newly renamed Harry S. Truman airport in St. Thomas were resurfaced. A contract was awarded for extensive water-front improvement in St. Thomas, and work was to begin during the next fiscal year. Contracts were also let for telephone communication facilities in St. Thomas and St. Croix.

The new abattoir at St. Thomas was in operation by private enterprise through a lease negotiated with the municipality of St. Thomas and St. John.

**Education.**—Enrolment in the public schools of the Virgin Islands during 1950 totalled 4,604 as compared with 4,401 in 1949. Of this number, 2,030 students were enrolled in the elementary schools and 889 in high

school in St. Thomas, while in St. Croix, 1,241 were enrolled in the elementary schools and 444 in high school. Expenditures for public education in the Virgin Islands totalled \$535,590, of which \$114,147 was made available by the federal government. The average annual cost of education per pupil in the public schools was \$72.21. This did not include the daily school lunch service. The average monthly salary per teacher in St. Thomas was \$127.50; in St. Croix \$115.58.

**Finance.**—Budgeted expenditures of the municipality of St. Thomas and St. John during the fiscal year 1950 amounted to \$1,230,888. A total of \$886,071 was raised through local taxation, and \$279,200 was allocated from the federal deficit appropriation. Transfers and contributions from other funds, and temporary loans, made up the difference. The municipality ended the fiscal year with a deficit of approximately \$40,000 chiefly because of a substantial reduction in the yield from trade taxes, customs dues and fees from steamer tickets, which were less than the estimated income from these sources. In 1940 the actual revenue collections in the municipality of St. Thomas and St. John amounted to \$227,798, while in 1950 a total of \$886,071 was collected, an increase of 288.97% in the ten-year period. However, during the same period public expenditures increased 309.30%.

In the municipality of St. Croix, a total of \$355,118 was raised from local taxes. The allocation of \$465,800 from the federal deficit appropriation enabled the municipality to meet its total budgeted expenditures of \$825,100. The actual revenue collections of the municipality of St. Croix in 1940 amounted to \$175,944, while in 1950 the collections were \$355,118, or an increase of 101.84% for the ten-year period. Public expenditures increased 178.15% during the same period.

**Trade and Communication.**—Although the value of goods imported into the Virgin Islands during the calendar year 1949, \$9,967,225, showed a slight increase over the value of imports in 1948, \$9,465,562, there was a marked increase in the value of exports in 1949, \$2,501,056, as compared with \$1,698,037 for 1948. Machinery and vehicles accounted for \$1,093,221 of the total imports.

During the fiscal year 1950, a total of 335 commercial ships with a gross tonnage of 1,794,697 entered the port of St. Thomas, as compared with 298 ships and a gross tonnage of 1,603,374 in 1949.

**Agriculture and Industry.**—A total of 99,482 tons of sugar cane was harvested by the Virgin Islands corporation during 1950, compared with 45,252 tons in 1949. About 10,752 tons of sugar were produced, compared with 4,579 tons in 1949. In addition, 548,087 gal. of molasses were produced, as against 287,066 gal. in 1949. A total of 634,000 proof gallons of alcoholic beverages was exported from St. Thomas as compared with 386,915 proof gallons in 1949. In St. Croix 27,943 proof gallons of alcoholic beverages were exported as against 57,333 proof gallons in the preceding year.

(M. F. DE C.)

**Virgin Islands, British:** see LEEWARD ISLANDS.

**Viruses:** see INFANTILE PARALYSIS; MEDICINE; PNEUMONIA.

**Vishinsky, Andrei Y.** (1883— ), soviet government official, was born at Odessa. He studied law at the University of Kiev and started his political activity in 1902 by joining the menshevist wing of the Social Democrats. When the bolsheviks took power in 1917, he deserted the mensheviks, served in the Red army for a year and joined the Communist party in 1920. Appointed attorney general of the Russian Socialist Federal Soviet republic in 1923, he became professor of jurisprudence at Moscow university two years later. He was appointed people's commissar for justice in 1927, All-Union deputy public prosecutor in 1933 and was public prosecutor from 1935 to 1939 during the period of the ruthless liquidation of the anti-Stalinist opposition inside the All-Union Communist party. On March 31, 1940, Vishinsky was appointed deputy chairman of the council of people's commissars and on Sept. 7, 1940, deputy people's commissar of foreign affairs. He brought about the setting up of a Communist government in Latvia in June 1940, the severing of U.S.S.R.—Polish diplomatic relations in April 1943, and the setting up of a Communist-controlled government in Rumania in March 1945. From the Potsdam conference onward he attended virtually all the important inter-Allied and United Nations meetings. On March 4, 1949, he succeeded Vyacheslav M. Molotov as minister of foreign affairs. He took part as chief soviet delegate at the 5th general assembly of the U.N. at Flushing Meadow, N.Y., and on Sept. 20, 1950, submitted a three-point peace plan aimed at reducing the existing armed forces of the five great powers of the world by one-third.

**Visual Education:** see MOTION PICTURES.

**Vital Statistics:** see BIRTH STATISTICS; CENSUS DATA, U.S.; DEATH STATISTICS; INFANT MORTALITY; MARRIAGE AND DIVORCE; SUICIDE STATISTICS.



**Vitamins.** During 1950 another as yet unidentified nutrient, presumably another vitamin, was found as a result of studies of bacterial growth. A strain of *Leuconostoc citrovorum* was found to require an unidentified factor supplied by refined liver extract such as the type used in the treatment of pernicious anaemia. H. Sauberlich and Carl A. Baumann found that there was a relationship of this unidentified factor to folic acid, since large amounts of folic acid produced growth in the absence of refined liver extract. This unknown factor was referred to as the *Leuconostoc citrovorum* factor, sometimes abbreviated CF. A relationship of CF to folic acid was also suggested by the observation that CF competitively overcame inhibition of *Leuconostoc citrovorum* by aminopterin, an antivitamin related to folic acid in structure. Sauberlich further observed that rats on a folic acid-deficient diet excreted little CF in the urine, whereas administration of folic acid with the diet, or by subcutaneous or intraperitoneal injection, resulted in large increases in the excretion of CF. A similar result was obtained in man, and these observations suggested an actual conversion of folic acid to CF *in vivo*.

C. A. Nichol and A. D. Welch investigated the possibility of a conversion of folic acid to CF *in vitro* by liver slices. Weanling rats were held on a folic acid-free diet containing succinylsulfathiazole for five weeks, at which time an acute folic acid deficiency was indicated by rapid losses in body weight and severe diarrhoea. Liver slices from such deficient animals were incubated for two hours with shaking in Krebs-Ringer phosphate solution with the following additions: (1) none, (2) folic acid, (3) ascorbic acid and (4) folic acid and ascorbic acid. Following incubation, contents of all vessels were homogenized, heated, filtered and the filtrates assayed for CF with *Leuconostoc citrovorum*. Liver slices from rats on a complete diet were compared with those from the deficient animals. The findings were as follows: (1) Livers from folic acid-deficient animals were grossly deficient in CF as compared with normal livers (from 36 to 147 units of CF per gram of liver in the deficient livers as compared with 1,710 to 2,880 in livers of normal animals). (2) Incubation with folic acid (100 micrograms) increased the CF content of both deficient and normal livers to approximately the same high levels. This increase averaged almost 100% for the normal livers, and from 2,000% to more than 10,000% for the deficient livers. (3) Incubation with ascorbic acid alone approximately doubled the CF content of both control and deficient livers. (4) Incubation with folic acid and ascorbic acid resulted in much larger increases in CF than when either supplement was employed alone. In view of the previous demonstration of a close relationship between CF and folic acid and results to be cited below, the conclusion appeared inescapable that an enzymatic conversion of some of the added folic acid to CF had occurred, and that this conversion was aided by ascorbic acid. Although readily demonstrable in liver slices, this conversion did not occur in homogenates. The evidence supported the view that CF is a derivative of folic acid, that it is more active than folic acid for some organisms and that it can be formed *in vivo* from folic acid by some organisms by a process that is favoured by ascorbic acid.

Studies of the interrelationship of dietary components led to continued important advances in knowledge of fundamental biochemistry and improvements in applied nutrition. A. E. Schaefer, W. D. Salmon, D. R. Strength and D. H. Copeland showed that the nutritional requirements for folic acid, vitamin B<sub>12</sub> and choline are mutually interdependent in both rats and chicks under certain experimental conditions. Their experiments were conducted using a basal diet composed of extracted peanut meal, casein, cystine, sucrose, cod-liver oil, lard, salts and the usual vitamins except B<sub>12</sub> and folic acid. This diet provided 0.3% methi-

onine and only 0.007% choline. When the basal diet was supplemented with 0.04% choline chloride or 0.128% methionine and fed to weanling rats, 100% of the animals developed renal haemorrhage within two weeks. Addition of 2, 10 or 100 mg. of folic acid per kilogram of the choline-supplemented diet reduced the incidence of renal haemorrhage to 75%, 42% and 50% respectively, while 30 to 150 micrograms of vitamin B<sub>12</sub> per kilogram of ration reduced the incidence 50%. However, 10 mg. of folic acid with 30 micrograms of vitamin B<sub>12</sub> completely prevented the renal lesions. Vitamin B<sub>12</sub> and folic acid were without effect unless choline or methionine (presumably) were added to the ration. Both folic acid and B<sub>12</sub> were effective in preventing death, in lessening the severity of renal haemorrhage, when it occurred, and in promoting growth. Vitamin B<sub>12</sub> and folic acid together promoted slightly better growth than either alone.

When day-old chicks were fed the basal diet supplemented with 0.6% choline chloride, rather poor growth occurred. Thirty micrograms of vitamin B<sub>12</sub> or 2 mg. of folic acid per kilogram of ration caused growth increments of 67 g. to 70 g. per chick in four weeks. Increasing the B<sub>12</sub> to 150 micrograms or the folic acid to 100 mg. produced only little better growth. However, 30 micrograms of B<sub>12</sub> plus 2 mg. of folic acid caused a growth increase of 126 g. per chick.

When chicks were fed the basal diet supplemented with only 0.10% choline chloride, similar growth responses to folic acid and B<sub>12</sub> were observed except that 2 mg. of folic acid were only slightly effective whereas 100 mg. of this vitamin had a marked effect. Again B<sub>12</sub> and folic acid together produced the best growth. As little as 5 micrograms of B<sub>12</sub> per kilogram of ration produced a marked effect when 100 mg. of folic acid were in the ration. On the other hand, only 0.2 mg. of folic acid was required to produce marked growth improvement when optimal B<sub>12</sub> was present.

Perosis occurred in a large percentage of the chicks not receiving folic acid or B<sub>12</sub>. Two milligrams per kilogram of folic acid provided definite but incomplete protection, while 100 mg. gave complete protection against perosis. Large amounts of B<sub>12</sub> gave incomplete protection. Small amounts of B<sub>12</sub> plus small amounts of folic acid gave complete protection. If the diet contained no added choline, perosis occurred in all chicks even though the diet was supplemented with folic acid, B<sub>12</sub> and methionine.

These experiments certainly seemed to demonstrate an interrelation between folic acid, B<sub>12</sub> and choline. In both the rat and chick experiments it was to be noted that neither B<sub>12</sub> nor folic acid had these effects unless a certain amount of choline, or in some instances methionine, was added to the diet. If a minimal amount of choline was in the diet, the change caused by these vitamins was similar, at least in many instances, to that which could have been produced by adding more choline. Thus, it might be stated that B<sub>12</sub> or folic acid "spared" choline. Also it should be noted that neither folic acid nor B<sub>12</sub> alone had a complete effect although both together did give a complete effect. Thus, it might be visualized that B<sub>12</sub> and folic acid can each spare a certain amount of choline and when used together can spare a larger amount sufficient to prevent completely the abnormal phenomena being observed, indicating that the effects of these two vitamins are additive and that B<sub>12</sub> is not acting, by substituting for folic acid or vice versa, at least in so far as the choline-sparing action is concerned. It was not likely, nor was it claimed, that the only effect of folic acid and B<sub>12</sub> in these animals was to spare choline. In some of the experiments the effect produced by folic acid and B<sub>12</sub> was considerably greater than that recorded with the largest amount of choline alone. It might indicate that folic acid and B<sub>12</sub> have interrelations which do not concern choline.



Experimental production of pyridoxine deficiency in man has been difficult to demonstrate. John F. Mueller and Richard W. Vilter actually produced pyridoxine deficiency. Eight patients were given a "standard vitamin B-complex-poor" diet which furnished approximately 3,000 cal., 42 g. of protein, 27 g. of fat, 0.42 mg. of thiamine, 4.2 mg. of niacin, 0.60 mg. of riboflavin and 0.5 mg. of pyridoxine. The patients had a number of chronic illnesses. One group was given desoxypyridoxine, 60 mg. intramuscularly daily, another 100 mg., later 125 mg. and finally 150 mg. of the substance. One patient was also given 6 g. of succinylsulfathiazole daily by mouth. When signs suggestive of pyridoxine deficiency occurred, a vitamin B-complex mixture was given intramuscularly daily: thiamine 25 mg., niacinamide 50 mg. and riboflavin 10 mg. Finally, in many instances, 100 to 200 mg. of pyridoxine were administered.

The following external lesions, presumably due to pyridoxine deficiency, appeared in some of the patients: superficial scaling; oily, reddened skin lesions, especially around the eyes, nose and mouth; fissures at the angles of the mouth and lateral canthi of the eyes. Sore, swollen, red tongues and buccal mucous membranes likewise appeared in some. One of the patients receiving 100 mg. of desoxypyridoxine daily developed extensive skin lesions and in addition nausea, vomiting, extreme weakness and dizziness. These lesions appeared either before B-complex vitamins were administered or during administration of them and were cleared (within 48 to 72 hours) only following administration of pyridoxine itself. The lesions usually appeared about three weeks after beginning the deficient diet and administration of desoxypyridoxine.

Anaemia developed only in the patient to whom the succinylsulfathiazole was given in addition to the low-pyridoxine diet and the desoxypyridoxine. At its height, there were 12 g. of haemoglobin per 100 ml., 3,000,000 erythrocytes per cu.mm. and a haematocrit of 36%. The anaemia was thus mildly macrocytic. Leukopenia was not observed, although a mild lymphocytopenia was noted in seven patients. At the height of the skin eruption, two patients developed eosinophilia of 22% and 9%, respectively. These experiments showed definitely that abnormalities occur in man by feeding a pyridoxine-deficient diet and in addition administering the antimetabolite, desoxypyridoxine. (See also CHEMISTRY; FISHERIES; FLOUR; MEDICINE; NUTRITION, EXPERIMENTAL.)

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**FILMS OF 1950.**—*Vitamin Rivers* (American Cancer Society, Inc.).  
(M. F. T.; F. J. Se.)

**Vocational Rehabilitation, Office of.** This office, a constituent unit of the Federal Security agency, administers grants-in-aid and supplies leadership and technical assistance for the state-federal vocational rehabilitation program, a public service to prepare handicapped civilians for or to keep them in jobs commensurate with their fullest capabilities.

The program is operated by 86 vocational rehabilitation agencies in the 48 states, Hawaii and Puerto Rico. The District of Columbia Rehabilitation service is operated directly under the federal office. In 35 states, separate agencies are responsible for rehabilitating the blind. In other states, rehabilitation of the blind and the generally disabled is the responsibility of a single agency.

Various combinations of the following services are provided, according to the disability and need of each individual. Those numbered 1, 2, 5, 8 and 9 are furnished without charge and the others are paid for from public funds to the extent of the individual's inability to pay: (1) medical examination to determine eligibility and extent of disability, to discover hidden disabilities and to ascertain work capacity; (2) individual counsel and guidance, including interest and aptitude tests, to help the disabled person choose and attain a job objective within his physical limitations but commensurate with his best potential abilities; (3) medical, surgical and psychiatric treatment and hospital care to reduce or remove the disability; (4) artificial appliances such as limbs, braces and hearing aids to improve work ability; (5) training in school, on the job or by tutor to fit the individual for the right job; (6) maintenance and transportation during physical restoration and training; (7) occupational tools, equipment and licences to give the handicapped person a fair start; (8) placement on the right job; and (9) a follow-up to make sure the rehabilitant and employer are mutually satisfied or to effect necessary adjustment.

Any person of or near working age who has a physical or mental disablement which constitutes a substantial vocational handicap is eligible. Through 1950, nearly 550,000 persons had been rehabilitated since the first vocational rehabilitation act was adopted in 1920.

During the fiscal year ending June 30, 1950, 59,597 persons were rehabilitated into self-supporting jobs and another 11,946 persons had been placed in jobs and were awaiting a postrehabilitation check at the year's end. In addition, 13,375 persons were ready for jobs on June 30 and the active rolls listed 115,620 persons in earlier stages of rehabilitation.

According to preliminary tabulations for 1950, two-thirds of the rehabilitants were men and 48% had one or more dependents. Approximately 75% were unemployed when services were started and nearly 11% had never worked before. Orthopaedic disabilities were the most common, being the primary handicap of 43% of the rehabilitants. Of these, 13% were amputees and 30% suffered from other impairments of the extremities or bones.

Visual disabilities accounted for 12%; aural, 9%; tuberculous, 8%; mental, 6%; cardiac, 4%; and all other defects, including ulcers, hernia, speech and asthma, 18%.

The jobs in which rehabilitants were placed fell into the following categories: professional, semiprofessional and managerial, 10%; clerical, sales, service, agriculture, skilled and semiskilled, 73%; unskilled, 7%; and family workers and housewives, 10%.

The annual rate of earnings of the rehabilitants when services were started was estimated at \$17,000,000, mostly in temporary, unsafe or otherwise unsuitable jobs. The annual rate of earnings for the first year after rehabilitation was estimated at \$93,000,000, on which federal income taxes were estimated at \$5,500,000. Within four years, the 1950 rehabilitants would pay in income taxes as much as the entire 1950 federal expenditure for the rehabilitation program, which was \$20,900,000. At the same time, they would also be paying state taxes. State expenditures totalled \$9,000,000 in 1950. During their working lives, the rehabilitants would pay in taxes several times the total cost of their rehabilitation.

The number of men and women throughout the country who were disabled to the extent of needing rehabilitation services was estimated at between 1,500,000 and 2,000,000 in 1950. Every year as a result of chronic illness, accidents and congenital defects about 250,000 persons were becoming disabled to a degree requiring rehabilitation services. (See also MEDICAL REHABILITATION OF THE DISABLED; VETERANS' ADMINISTRATION [U.S.])  
(M. E. Sr.)



**Wages and Hours.** In Sept. 1950 pay rolls in manufacturing industries in the United States reached more than four times the dollar level of 1939 pay rolls. The 1950 figure was 20.4% more than that for Sept. 1949. Manufacturing employment rose 9.1%, while total employers' disbursements, including salaries and wages, for Sept. 1950 were \$12,525,000,000, which was 12.3% more than for the same month in 1949.

Real wages continued upward reaching a postwar index peak of 145.5, based upon 1939 averages. Average real wages for the first nine months of 1950 surpassed the 1949 figures by 5.9%, as shown by Table I.

Table I.—U.S. Real Wage Indexes  
(1939=100)

Months	Consumers' price index		Index of average weekly manufacturing wages		Index of real wages	
	1950	1949	1950	1949	1950	1949
Jan. . . . .	167.9	171.9	235.9	232.6	140.5	135.3
Feb. . . . .	167.5	170.0	236.3	231.4	141.1	136.1
March . . . . .	168.0	170.5	236.9	229.4	141.0	135.0
April . . . . .	168.3	170.7	238.6	225.5	141.8	132.1
May . . . . .	169.6	170.2	241.2	226.7	142.2	133.2
June . . . . .	171.2	170.6	246.6	228.5	144.0	133.9
July . . . . .	173.5	169.5	248.2	229.0	143.1	135.1
Aug. . . . .	174.0	169.8	252.8	229.3	145.3	134.9
Sept. . . . .	174.8	170.6	254.3	233.5	145.5	136.5
Oct. . . . .	..	169.5	..	231.6	..	136.6
Nov. . . . .	..	169.6	..	228.1	..	134.5
Dec. . . . .	..	168.5	..	234.9	..	139.4

Source: Computed from data in *Monthly Labor Review*, United States Bureau of Labor Statistics.

In no industry did average weekly earnings or average hourly earnings decline. Data in Table II indicate that average weekly earnings exceeded \$50 in 80.6% of the recorded industries. In 1949, 69% of the industries fell into this category. In 61.3% of the industries, average weekly earnings were more than \$60 in 1950 as against 28.1% in the preceding year. This strengthening of wages was accounted for by an average increase of two hours in the manufacturing work week and by increases in hourly rates of pay.

The highest average "take-home pay" was \$75.74, in the building construction industry, followed closely by that of auto work-

Table II.—Average U.S. Weekly Earnings, Average Weekly Hours, and Average Earnings Per Hour in Major Industries

Industry	Average weekly earnings August		Average weekly hours August		Average hourly earnings August	
	1950	1949	1950	1949	1950	1949
<b>ALL MANUFACTURING</b> . . . . .	\$60.32	\$54.70	41.2	39.1	\$1.464	\$1.399
Durable Goods . . . . .	64.33	57.89	41.8	39.3	1.539	1.473
Nondurable Goods . . . . .	55.65	51.31	40.5	38.9	1.374	1.319
Iron and steel . . . . .	66.38	55.16	41.7	36.3	1.593	1.519
Electrical machinery . . . . .	60.46	56.73	41.1	39.1	1.471	1.451
Nonelectrical machinery . . . . .	67.65	59.86	42.2	39.1	1.603	1.531
Transportation equipment . . . . .	72.65	65.90	41.8	39.7	1.738	1.660
Automobiles . . . . .	75.24	67.78	42.2	39.8	1.783	1.703
Nonferrous metals . . . . .	63.07	58.39	40.9	39.4	1.542	1.483
Lumber and wood products . . . . .	58.46	52.87	42.3	40.7	1.382	1.299
Furniture and fixtures . . . . .	55.00	49.69	42.8	40.4	1.285	1.230
Stone, clay and glass . . . . .	59.39	54.17	41.5	39.6	1.431	1.368
Textile-mill products . . . . .	49.53	44.37	40.6	37.6	1.220	1.180
Apparel, etc. . . . .	46.18	41.95	37.7	35.7	1.225	1.175
Leather and leather products . . . . .	46.45	42.00	39.2	37.2	1.185	1.129
Food and food products . . . . .	56.41	53.00	42.0	41.7	1.343	1.271
Tobacco manufactures . . . . .	43.44	38.58	39.6	38.7	1.097	.997
Paper and allied products . . . . .	62.80	56.26	44.1	41.8	1.424	1.346
Printing and publishing . . . . .	73.09	70.69	38.9	38.5	1.879	1.836
Chemicals and allied products . . . . .	63.14	58.77	41.4	40.5	1.525	1.451
Products of coal and petroleum . . . . .	74.22	72.38	40.8	40.3	1.819	1.796
Rubber products . . . . .	67.61	57.72	42.6	38.3	1.587	1.507
Miscellaneous manufacturing industries . . . . .	54.91	48.51	41.6	38.9	1.320	1.247
<b>NONMANUFACTURING</b>						
Coal mining						
Anthracite . . . . .	65.41	42.80	33.1	23.4	1.976	1.829
Bituminous . . . . .	69.83	49.51	34.9	26.1	2.001	1.897
Metalliferous mining . . . . .	65.16	58.18	42.2	39.5	1.544	1.473
Street railways and buses . . . . .	67.24	64.46	44.8	44.7	1.501	1.442
Telephone . . . . .	54.71	51.57	39.3	38.4	1.392	1.343
Telegraph . . . . .	63.99	63.64	45.0	45.1	1.422	1.411
Gas and electric utilities . . . . .	65.97	63.92	41.7	41.4	1.582	1.544
Wholesale trade . . . . .	60.59	57.10	40.8	40.7	1.485	1.403
Department stores and mail-order houses . . . . .	42.17	39.58	38.3	37.8	1.101	1.047
Hotels . . . . .	33.80	32.93	43.9	44.2	.770	.745
Building construction (private) . . . . .	75.74	71.95	37.4	37.2	2.025	1.932

Source: *Monthly Labor Review*, United States Bureau of Labor Statistics.



TRUCK DRIVERS bound for a coal mine at Somerset, O., asking state troopers for protection in March 1950 during a strike by soft-coal miners

ers, who received \$75.24. In 1949, the petroleum and coal products industry reflected the highest weekly earnings. Lowest weekly payments were made to hotel employees (\$33.80), not including tips, board, room or uniforms. Department store and mail-order house clerks were second lowest with \$42.17. Both by dollar and index measurements average weekly earnings increased more rapidly over 1949 figures in durable goods industries than in nondurables. For manufacturing as a whole, "take-home pay" increased 10.3% over 1949.

The greatest increase in weekly earnings occurred in the anthracite coal-mining industry (52.8%). Bituminous coal miners were second (41%), followed by iron and steel workers (20.3%). The coal industry increases were attributable principally to a 43% increase over 1949 in hours worked per week. Coal miners still had the shortest work week in 1950, however, and telegraph workers the longest. The telegraph industry also experienced the smallest increase in average weekly earnings in 1950—0.5%.

Greatest hourly wage increases occurred in the tobacco industry (10%) and in anthracite coal mining (8%). The average rate of increase in industrial hourly wages was 4.6% in 1950, compared with 1.8% in 1949 and 9.1% in 1948. Dollarwise, the highest average hourly rates were in building construction (\$2.025)

Table III.—Rise in Hourly U.S. Earnings Rates  
(August rates)

Industry						Index, 1950 (1941 =100)
	1945	1946	1947	1948	1949	
<b>ALL MANUFACTURING</b> . . . . .	\$1.025	\$1.112	\$1.236	\$1.373	\$1.398	\$1.464
Durable goods . . . . .	1.114	1.186	1.312	1.441	1.473	1.539
Nondurable goods . . . . .	.908	1.036	1.158	1.293	1.319	1.374
Iron and steel . . . . .	1.109	1.222	1.376	1.514	1.539	1.593
Machinery (nonelectrical) . . . . .	1.136	1.246	1.377	1.498	1.530	1.603
Automobiles . . . . .	1.236	1.373	1.501	1.660	1.703	1.783
Lumber and allied products . . . . .	.816	.928	1.048	1.289	1.306	1.382
Textile products . . . . .	.771	.924	1.032	1.175	1.180	1.220
Food and food processing . . . . .	.882	1.015	1.140	1.235	1.269	1.343
Tobacco products . . . . .	.761	.885	.951	.963	.993	1.097
Rubber products . . . . .	1.119	1.295	1.445	1.497	1.507	1.587
<b>NONMANUFACTURING</b>						
Coal mining						
Anthracite . . . . .	1.331	1.598	1.780	1.900	1.827	1.976
Bituminous . . . . .	1.248	1.466	1.787	1.941	1.900	2.001
Wholesale trade . . . . .	1.013	1.148	1.258	1.366	1.406	1.485
Private building . . . . .	1.383	1.462	1.668	1.874	1.931	2.025

Source: Compiled and computed from data in *Monthly Labor Review*, United States Bureau of Labor Statistics.



and bituminous coal mining (\$2.001), and the lowest (77 cents) in the hotel industry.

Five-year shifts in rates of hourly earnings in selected industries are shown in Table III. The net increase for all manufacturing industries was 42.8%, compared with 37.6% measured retrospectively from 1949. The greatest increase was 69.4% in the lumber industry. It appears significant that even the weakest improvement, the increase of 34% in the transportation equipment hourly rates, was not far beneath the average for all manufacturing.

The Sept. 1950 average hourly rate for common labour (in road building) was \$1.20 compared with \$1.17 in 1949 and 47 cents in 1941. Farm wages continued a decline to 70 cents per hour (not including board and room) in 1950, as against 74 cents in 1949 and 78 cents in 1948.

Throughout 1950 the general trend in hourly and weekly earnings was upward. While the parallel increase in hours worked per week somewhat enhanced the total wage result, earnings moved ahead more rapidly than prices, producing a substantial net increase in real wages.

(D. J. H.)

**Great Britain.**—In Great Britain, the policy of wage restraint, hitherto accepted by the Trades Union congress, had been breaking down, and was definitely repudiated by the congress, against the wish of the general council, in Sept. 1950. Compulsory arbitration, however, remained in force and was not yet seriously challenged: so that the congress decision meant in effect that each union became free to formulate such claims as it pleased and to negotiate on them with employers, but that, if negotiations broke down, the matter went to arbitration without official strike action.

The latest figures of average earnings and hours in British manufacturing industries related to April 1950. At that date, for the industries covered, average weekly earnings were as follows: men (over 21) 145s. 9d., youths and boys 61s. 5d., women (over 18) 80s. 6d., girls 51s. 10d. The average hours worked were, for men 47, for youths and boys 44.2, for women 41.9 and for girls 42.5. The figure for women was reduced on account of a number of married women who worked less than full time. These earnings represented the following percentage increases over those of previous periods.

Table IV.—Percentage Increases of Earnings in Great Britain  
(Oct. 1938 = 100)

	April 1950	Oct. 1949	Oct. 1948	Oct. 1947	Oct. 1946	July 1945
Men (over 21) . .	111	107	100	86	75	76
Youths and boys .	136	130	125	99	78	74
Women (over 18) .	148	142	129	114	101	94
Girls . . . . .	180	179	167	136	109	90

Hours worked showed little change for adult men, as compared either with 1938 or with the years after the end of World War II. In comparison with 1938, the average hours worked by women had fallen from 43.5 to 41.9, for girls from 44.6 to 42.5 and for youths and boys from 46.2 to 44.2. These figures included overtime.

Earnings for men only by industry in April 1950 ranged from 166s. in the metal trades to 141s. in leather and clothing, 137s. in transport (excluding railways) and 117s. in government industrial establishments. For women the highest average was 91s. in the vehicle trades and the lowest 73s. in government establishments. For textiles, the women's average was 83s. and for clothing 82s. For coal mining, which was not covered by the main return, the average weekly earnings for adult men were 187s., and for regular dock workers 170s. No figure was available for railway workers.

All these figures grouped skilled and less skilled workers together, and referred to earnings and not to rates of wages. The official index figure for wage rates (June 1947 = 100) was 110 in Aug. 1950.

The aggregate national wages bill for 1949 was estimated in the White Paper on national income at £4,280,000,000, as against £4,050,000,000 in 1948. The corresponding figures for salaries were £2,250,000,000 and £2,140,000,000. The total national income was put at £11,201,000,000 in 1949 and at £10,703,000,000 in 1948. (See also AGRICULTURE; BUILDING AND CONSTRUCTION INDUSTRY; BUSINESS REVIEW; CENSUS DATA, U.S.; LABOUR UNIONS; PRICES.)

(G. D. H. C.)

**Wales:** see GREAT BRITAIN & NORTHERN IRELAND, UNITED KINGDOM OF.

**Walnuts:** see NUTS.

**War, Law of:** see INTERNATIONAL LAW.

**War Claims Commission.** The Rules of Land Warfare, adopted at The Hague in 1907 and sanctioned by the great majority of nations, provide for the immunity of nonbelligerent citizens from detention while in the jurisdiction of any enemy government. The sanctity and rights of individuals were further guaranteed when the civilized nations, with few exceptions, agreed by the terms of the Geneva convention of 1929 that the food ration of prisoners of war should be equal in quantity and quality to that of the detaining troops at base camps.

The United States government, after hearing a formidable array of evidence, determined that mistreatment of U.S. prisoners of war and civilian internees during World War II was almost universal; and that these violations of international law were not occasioned by the fortunes of war, but were the deliberate policies of enemy governments. The congress of the United States embarked on a program of redress by enacting the War Claims act of 1948 (public law 896, 80th congress), as amended, and that legislation created the War Claims commission.

The War Claims act sought to ameliorate some of the more critical suffering arising from the war by providing immediate payment for some of the more compelling types of war claims. The law enabled the War Claims commission to pay \$1 per day to each regularly enrolled member of the armed forces of the United States for each day he was detained by the enemy on insufficient rations; to pay certain U.S. civilians who were interned in specified areas by the Japanese government a maximum of \$60 per month for the period of their detention; and to pay Philippine religious organizations affiliated with religious orders in the United States on a dollar for dollar reimbursable basis for the value of food, medical supplies, clothing and other relief services rendered to Americans in the Philippines during the Japanese occupation.

The War Claims commission was first activated on Sept. 14, 1949, following confirmation by the United States senate of the three commissioners nominated by Pres. Harry S. Truman to head the administration of the war claims program. The members of the commission were Daniel F. Cleary of Illinois, chairman, Georgia L. Lusk of New Mexico and Myron Wiener of New York. The first claims were paid on Feb. 14, 1950.

The statistics for the aggregate of all 28,697 claims paid as of Dec. 1, 1950 were as follows: 27,107 military prisoner of war claims were settled, amounting to \$14,733,352.64 in disbursements. The average payment to prisoners of war was \$1,133.67 for detention in the Pacific area, and \$337.17 for the European theatre. Settlements were made with 1,556 living former civilian internees for a total of \$2,981,271.72, while survivors of 34 deceased internees were paid \$42,851.49. Civilian internee payments averaged slightly less than \$2,000. The complex claims of religious organizations were under study for adjudication at the end of the year.

Before the commission finished its assignment (scheduled by



law for March 1, 1954), it would have paid a few hundred dollars to each of more than 200,000 former prisoners of war, both U.S. and Filipino, or to their survivors; and it would have compensated about 10,000 civilian internees and 100 religious organizations. None of the funds was coming out of the general fund of the United States treasury. The War Claims act provided that the proceeds of assets of enemy aliens seized by the department of justice should be converted into a war claims fund to pay for the benefits and administrative expenses of these categories of war claims.

The intent of the congress of the United States to secure a comprehensive view of the total problem of war claims was clearly stated in section 8 of the War Claims act, marking the first time that a congress had sought an over-all picture of war claims before attempting to legislate for their settlement. In keeping with the section 8 directive, the commission submitted a report to the president and the congress concerning personal injury and property damage claims of U.S. nationals arising out of World War II, and for which no compensation was provided by law.

The report was a limited survey of the types and categories of World War II claims, and a review of existing means for satisfying them. Included were recommendations for appropriate legislative action and suggestions for administrative methods for re-enforcing the recommendations. The commission recommended giving priority to legislation which would authorize the satisfaction of personal injury and death benefit claims. It also urged that authority be granted to receive and adjudicate claims for real or personal property losses, while evidence was available, although there was no immediate prospect for payment of such claims.

The lingering aftereffects of malnutrition and maltreatment in enemy prison camps could not be fully appraised at the close of 1950, but the commission collected case studies and medical opinions which indicated that no prisoner of war had entirely avoided permanent physical or mental injury or both. (D. F. Cy.)

**War Prisoners:** see PRISONERS OF WAR.

**War Savings Stamps:** see POST OFFICE.

**Washington.** A state in the extreme northwest United States, popularly known as the "Evergreen state," Washington was admitted to the union Nov. 11, 1889. Total area: 68,192 sq.mi., of which 66,977 sq.mi. are land; pop. (1940): 1,736,191; native 1,525,812; foreign-born 210,379. The 1950 U.S. census determination, as of April 1, placed the state's population at 2,378,963, an increase of 37% over 1940. In 1950 the urban population was 1,271,538 or 53.8% of the total and represented an increase in urban population of 38.5% since 1940. Capital: Olympia, 15,711. The population of the three largest cities in 1950 (preliminary census figures) and the percentages of increase over 1940 were, respectively: Seattle, 462,440 (25.6%); Spokane, 160,484 (31.5%); Tacoma, 142,975 (30.7%).

**History.**—In 1950 the electorate of Washington cast the largest vote for any off-year election in the history of the state; the 800,573 votes represented 65.73% of the 1,217,942 registered voters.

Since the renomination of the Democratic incumbent U.S. senator, Warren G. Magnuson, was not contested, interest in the state primary centred upon the Republican slate. W. Walter Williams of Seattle won the G.O.P. nomination over four other contestants with a vote of 83,871 which represented a plurality; whereas his closest opponent, Al Canwell of Spokane, received 63,214 votes. In the November election Magnuson received 397,719 votes which exceeded Williams' 342,464 votes by 55,255. The incumbent delegation of the state in the U.S. house of representatives, consisting of four Republicans and two Democrats, was re-

elected. The Democrats retained control of the state legislature, the senate by a count of 54 to 45 and the house by 25 to 21.

With respect to six initiative and referendum measures and two proposed amendments to the state constitution, the most spirited contest involved two rival social security measures. Initiative 178, which had the support of Gov. Arthur B. Langlie and his administration, was designed to eliminate costly features in the existing law, which had been adopted as initiative 172 in 1948. The rival measure, initiative 176, was sponsored by the Washington Pension union. Initiative 178 received 394,261 votes as against 296,290 for initiative 176. Two referendum measures, number 7 and number 8, which provided bond issues of \$40,000,000 for state aid to the common schools and \$20,000,000 for construction of buildings for state institutions, respectively, passed. By a narrow margin of 0.33% of the vote, referendum number 9, which authorized \$20,000,000 in bonds to provide buildings for the institutions of higher learning, was lost. Referendum number 28 to establish a compulsory state disability insurance was defeated, as was house joint resolution number 10, a constitutional amendment to allow school districts to increase their bonded indebtedness. The electorate accepted the constitutional amendment, senate joint resolution 10, which permits Canadians to own land in the state.

The chief state officers for 1951 were: governor, Arthur B. Langlie; lieutenant governor, Victor A. Meyers; secretary of state, Earl S. Coe; treasurer, Tom Martin; auditor, Cliff Yelle; attorney general, Smith Troy; state superintendent of public instruction, Pearl Wanamaker (elected on nonpartisan basis); state commissioner of public lands, Jack Taylor; state insurance commissioner, William A. Sullivan; chief justice of the state supreme court, E. W. Schwellenbach.

**Education.**—During the school year 1949-50 total enrolment in public schools was 436,014 and average daily attendance 360,848. The total certified personnel numbered 16,082 and the average salary was \$3,443.04. Total current operating expenses were \$90,952,291.30. A total of 1,538 schools were maintained in 591 districts. The combined enrolment for the fall term of 1950 at the University of Washington, the State College of Washington and the three colleges of education was 24,312. Nine junior colleges, integrated with the secondary school program of the state but operated with state funds, had a total enrolment of 5,030 students.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—During the period Nov. 1949 through Oct. 1950, inclusive, public assistance in the state, including federal direct expenditures and state aid, cost \$107,916,673.47. An average of 161,476 persons received assistance to the total amount of \$103,887,148.93. An average of 36,174 persons received a total of \$12,858,515.44 in general assistance. A total of \$17,273,544.34 was spent on health care. An average of 78,001 old persons received a total of \$55,921,322.78. An average of 46,371 children were assisted to the total amount of \$17,089,592.47. An average of 929 blind persons received a total of \$743,763.90.

On Nov. 1, 1950, ten state charitable institutions had a total population of 10,659 and four correctional institutions had a total of 2,503 inmates. The total appropriation for both programs for the fiscal biennium of April 1, 1949, to March 31, 1951, was \$21,065,300.

**Communications.**—Railroad mileage for the state was 5,218 in 1947. On Jan. 1, 1949, there were 164 airports in Washington of which 102 were in class I. The total mileage of highways in Washington in 1950 was 46,383.71; the total mileage of federal aid highways on the state highway system was 5,897.59; the total mileage of primary and secondary state highways 6,437.32; and the total mileage of rural highways was 39,946.39. For the period Jan. 1, 1949, to Dec. 31, 1949, \$22,181,508 was spent for construction and \$8,206,195 for maintenance.

**Banking and Finance.**—In 1950 the state board of equalization placed the value of taxable real and personal property at \$3,890,583,286 and equalized it for purposes of taxation at \$1,945,291,643. On March 31, 1950, the bonded indebtedness was \$2,260,000; outstanding warrants amounted to a total of \$12,570,195.66; and the treasurer's cash balance stood at \$53,289,165.44. For the year ending March 31, 1950, total receipts were \$327,798,989.37 and disbursements were \$367,720,223.51; cash transfers were \$90,278,139.12.

On June 30, 1950, 121 banks in the state reported a total capital of \$46,750,000; capital surpluses and undivided profits at \$119,945,000; deposits of \$2,087,838,000; and total assets of \$2,232,616,000.

**Agriculture.**—In 1945 the state had 79,887 farms whose acreage totalled 16,719,870 and, of these, 4,147,000 were in 1949 devoted to 52 crops. The total value of Washington crops produced and livestock and livestock products marketed in 1950 was \$615,741,000. Field crops, including seeds, brought \$247,819,000; fruit, nut and berry crops, \$110,114,000; vegetable crops, \$217,753,000; livestock and livestock products, \$215,839,000; and specialty crops, \$20,216,000.

**Manufacturing and Trade.**—In 1947 there were 3,410 manufacturing es-



establishments employing a total of 144,324 persons, who were paid a total of \$438,000,000. The value added by manufacture was \$874,036,000.

Table I.—Leading Field and Fruit Crops of Washington

Crop	1950	1949	Average, 1939-48
Wheat, bu. . . . .	67,582,000	57,511,000	60,302,000
Apples, bu. . . . .	34,592,000	31,820,000	27,764,000
Hay, all, tons . . . . .	1,737,000	1,571,000	1,790,000
Potatoes, bu. . . . .	11,780,000	10,080,000	8,953,000
Pears, bu. . . . .	5,872,000	7,030,000	7,070,000
Hops, lb. . . . .	24,081,000	19,370,000	16,389,000
Peas (100-lb. bags) . . . . .	1,605,000	1,583,000	2,963,000
Strawberries (crates) . . . . .	720,000*	880,000	584,000
Oats, bu. . . . .	8,183,000	6,815,000	7,487,000
Barley, bu. . . . .	8,750,000	2,871,000	6,210,000

\*Estimate.

In the 12-month period ending Sept. 30, 1949, total Washington manufacturing pay rolls amounted to \$605,200,000, and in July 1950 the civilian labour force of the state constituted 968,800 persons of whom 927,000

Table II.—Principal Industries of Washington

Industry	No. of establishments	Value, 1947
Lumber and lumber products (except furniture) . . . . .	911	\$279,458,000
Food and kindred products . . . . .	752	148,904,000
Paper and allied products . . . . .	63	137,670,000
Transportation equipment . . . . .	130	76,579,000
Primary metals industries . . . . .	62	63,319,000
Printing and publishing . . . . .	401	42,680,000
Fabricated metals . . . . .	198	26,719,000
Machinery (except electrical) . . . . .	181	25,233,000
Stone, glass and clay products . . . . .	167	17,203,000
Chemicals and allied products . . . . .	115	15,570,000

were employed, 672,500 in manufacturing.

The output of lumber in 1949 was 3,435,000,000 bd.ft. (estimated); pulp production 1,629,000 tons (estimated); and plywood production for the Pacific northwest was 1,983,000,000 sq.ft. (estimated).

In 1949 commercial fisheries reported a total production of 181,831,000 lb., the wholesale value of which was estimated at \$102,352,140, of which fishermen were paid \$30,941,256.

Table III.—Production of Leading Minerals of Washington

	Amount, 1948	Value, 1948
Coal. . . . .	1,210,000 tons	\$7,732,000
Sand and gravel. . . . .	9,267,255 tons	6,657,129
Stone . . . . .	5,229,500 tons	6,382,462
Zinc . . . . .	12,638 tons	3,361,708
Lead. . . . .	7,147 tons	2,558,626
Copper . . . . .	11,330,000 lb.	2,458,610
Gold . . . . .	70,075 troy oz.	2,452,625
Silver . . . . .	375,831 troy oz.	340,146

Mineral Production.—Mineral production for the year ending Dec. 31, 1948, amounted to \$50,498,000, of which metals accounted for \$11,171,715 and nonmetals \$39,326,285.

(H. J. DE.)

**Washington,** DISTRICT OF COLUMBIA, national capital of the United States, was shown by the 1950 U.S. census (preliminary figures) to have a population of 802,178, with 1,457,601 in the metropolitan district, a growth larger in the suburbs than in the city.

The sesquicentennial of the occupation of the federal city as the nation's capital was celebrated during the year. The National Capital Park and Planning commission presented an exhibit designed by Oscar Stonorov at the Corcoran Gallery of Art, showing the progress of planning in the federal city and its environs. The Corcoran gallery also presented an American procession of historic pictures. At the Mellon National Gallery of Art a room was devoted to pictures of those whose work was primarily concerned with the founding of Washington. Included was a picture of the Washington family by Savage, with Gen. and Mrs. George Washington seated on the terrace at Mount Vernon looking at a map of the proposed capital as designed by Maj. Pierre Charles l'Enfant.

The Sesquicentennial commission made possible the building of an amphitheatre in Rock Creek park where Paul Green's pageant, "The Faith of Our Fathers," was shown.

As a part of its Sesquicentennial Citizens Conference on Planning, the American Planning and Civic association collaborated with the American Institute of Architects and other professional groups to present a program on the federal city. On this occasion citations for service were conferred on former Sen. Arthur Capper and former Rep. Louis Cramton, both of

whom had been instrumental in securing legislation of benefit to the nation's capital.

In 1950 there appeared the volume on *Washington, Present and Future, a Summary of the Comprehensive Plan for the National Capital and Its Environs*, issued by the National Capital Park and Planning commission. The plan contemplated the development of regional highway and park systems, with adequate extension of school and recreational facilities, and the redevelopment of slum areas. Recommendations based on social and economic needs for dispersal of federal centres of employment throughout the region were later reinforced by defense considerations.

Under the Capper-Cramton act of 1930 progress was made in the district and near-by Maryland in purchasing parks, parkways and playgrounds. Northern Virginia organized a regional park commission to take advantage of the legislation authorizing purchase of similar areas in the metropolitan district south of the Potomac.

(H. Js.)

**Water Supply:** see PUBLIC HEALTH ENGINEERING.

## Wealth and Income, Distribution of. *The Survey of Consumer*

*Finances* in the United States, published by the board of governors of the federal reserve system in 1950, supplied information on the distribution of income in 1949 and liquid assets in early 1950. Four previous surveys had made similar information available for the period 1945-48. The surveys were based on small field canvasses of consumer spending units, defined as all persons living in the same dwelling and related by blood, marriage or adoption who pooled their incomes for their major items of expense.

Survey data on the percentage distribution of spending units according to size of holdings of liquid assets—U.S. government bonds, savings accounts and checking accounts—are provided in Table I. The 1950 data showed a continuation of the major trends that had been in evidence in previous years. The average

Table I.—Distribution of Spending Units by Size of Liquid Asset Holdings

Amounts of liquid assets held*	1946	1947	1948	1949	1950
None . . . . .	24%	24%	27%	29%	31%
\$1-\$199 . . . . .	15	14	15	16	16
\$200-\$499 . . . . .	14	12	13	13	11
\$500-\$999 . . . . .	14	14	12	11	10
\$1,000-\$1,999 . . . . .	14	14	12	11	10
\$2,000-\$2,999 . . . . .	7	7	6	5	5
\$3,000-\$4,999 . . . . .	6	7	6	7	13
\$5,000-\$9,999 . . . . .	4	5	5	5	6
\$10,000 and over . . . . .	2	3	4	3	3
All units . . . . .	100%	100%	100%	100%	100%
Median holdings of all units . . . . .	\$400	\$470	\$350	\$300	\$250
Median holdings of those with assets . . . . .	\$750	\$890	\$820	\$790	\$810

\*Includes all types of U.S. government bonds, checking accounts and savings accounts in banks, postal savings and shares in savings and loan associations and credit unions. Excludes currency holdings.

Source: Board of Governors of the Federal Reserve System.

liquid asset holdings of spending units declined further and were only a little more than half their 1947 level. Furthermore, there was a continued increase in the percentage of spending units having no liquid assets. About 16,000,000 spending units, or 31% of the total, were in this category in early 1950. On the other hand, it should be noted that the average asset holdings of all the groups with assets increased in 1950 for the first time since 1947.

Table II summarizes data provided by the surveys on the distributions of spending units and total money income according to size of income. While these data had shown a significant upward shift in the income distribution since the end of World War II, there was a small decline in 1949 reflecting the minor economic recession of that year. The postwar expansion of total money income resulted in a shifting of many consumers to



Table II.—Distribution of Spending Units and Money Income Received, by Income Groups

Annual income (money income before taxes)	1945		1946		1948		1949	
	Spending units	Total money income	Spending units	Total money income	Spending units	Total money income	Spending units	Total money income
Under \$1,000 . . .	20%	5%	17%	3%	12%	2%	14%	2%
\$1,000-\$1,999 . . .	27	16	23	12	18	8	19	9
\$2,000-\$2,999 . . .	23	23	25	21	23	16	21	16
\$3,000-\$3,999 . . .	15	20	17	20	20	20	19	19
\$4,000-\$4,999 . . .	7	12	8	13	12	15	11	15
\$5,000-\$7,499 . . .	5	11	6	11	10	17	11	19
\$7,500 and over . . .	3	13	4	20	5	22	5	20

All units . . . 100% 100% 100% 100% 100% 100% 100% 100%

Source: Board of Governors of the Federal Reserve System.

higher income levels. This shifting pervaded the entire income distribution. It was found that when the nation's spending units were ranked into tenths by size of income there were only slight changes from 1945 to 1949 in the proportionate share of total money income received by each tenth.

A longer-term comparison of changes in the distribution of income is afforded by Table III. This shows for two prewar years

Table III.—Percentage of Money Received by Each Fifth of Families and Single Persons

Families and single persons ranked from lowest to highest income	1935-36	1941	1948
Lowest fifth . . . . .	4.0%	3.5%	4.2%
Second fifth . . . . .	8.7	9.1	10.5
Third fifth . . . . .	13.6	15.3	16.1
Fourth fifth . . . . .	20.5	22.5	22.3
Highest fifth . . . . .	53.2	49.6	45.9
All groups . . . . .	100.0%	100.0%	100.0%

Source: Council of Economic Advisers, based on survey data from National Resources Planning Board (1935-36), Department of Labor (1941) and Bureau of the Census, Department of Commerce (1948).

and the full-employment year 1948 the percentage of money income going to each fifth of the total number of families and single persons, ranging from those with the lowest incomes to those with the highest.

From 1935-36 to 1948 there was a redistribution of income in the United States away from the highest income bracket. The second, third and fourth income brackets significantly improved their relative positions, whereas the percentage of total money income received by the highest bracket declined from 53 to 47.

**State Distribution of Income.**—In 1949, the latest year for which department of commerce estimates of state income payments were available in 1950, the flow of income to individuals declined in 34 states. In seven states total income was stable from 1948 to 1949. In the remaining seven states and the District of Columbia there were further advances over the record highs established in 1948.

For the continental United States as a whole, the moderate downward adjustment in economic activity in 1949 was reflected in a 2% decline in aggregate individual incomes—from \$202,000,000,000 to \$198,000,000,000. By far the best regional showing was made by the southwest, where income payments increased 5%. Aggregate income held up at the previous year's level in the far west but declined in the other five regions. (See Table IV.) The declines varied from 1% in the middle east to 7% in the northwest.

The most important aspect of the 1948-49 changes in state income payments was the marked differences between movements in total income and nonfarm income. The general decline in farm income, which amounted to 22% nationally, had a large influence on geographic changes in total income from 1948 to 1949. Aggregate income from nonfarm sources, however, was well maintained. It was approximately stable on a nation-wide basis, actually increased in four regions and declined only 1% in the three other regions.

Per capita income payments (total income divided by total population) were \$1,330 in 1949 for the nation as a whole, 4% less than in the previous year. Although there was wide dis-

Table IV.—Income Payments to Individuals, by States and Regions

State and region	Total income payments					Per capita income, 1949	
	Amount			Per cent change 1948 to 1949	1929 to 1949	A- mount (dol- lar)	Per cent nation- al aver- age
	(In millions of dollars)						
	1929	1948	1949				
Continental United States . . . . .	\$82,617	202,385	197,531	-2	+139	1,330	100
New England . . . . .	6,792	13,463	13,247	-2	+95	1,395	105
Connecticut . . . . .	1,459	3,301	3,213	-3	+120	1,591	120
Maine . . . . .	449	1,058	1,004	-5	+124	1,087	82
Massachusetts . . . . .	3,787	6,904	6,892	0	+82	1,417	107
New Hampshire . . . . .	302	634	621	-2	+106	1,195	90
Rhode Island . . . . .	579	1,145	1,117	-2	+93	1,403	105
Vermont . . . . .	216	421	400	-5	+85	1,075	81
Middle East . . . . .	27,840	55,965	55,295	-1	+99	1,565	118
Delaware . . . . .	218	513	541	+5	+148	1,675	126
District of Colum- bia . . . . .	638	1,825	1,919	+5	+201	1,820	137
Maryland . . . . .	1,106	3,069	3,081	0	+179	1,401	105
New Jersey . . . . .	3,268	7,038	7,018	0	+115	1,546	116
New York . . . . .	14,479	26,633	26,340	-1	+82	1,758	132
Pennsylvania . . . . .	7,338	14,797	14,468	-2	+97	1,416	106
West Virginia . . . . .	793	2,090	1,928	-8	+143	998	75
Southeast . . . . .	8,681	27,829	27,084	-3	+212	882	66
Alabama . . . . .	802	2,486	2,313	-7	+188	773	58
Arkansas . . . . .	562	1,593	1,443	-9	+157	778	58
Florida . . . . .	695	2,817	2,948	+5	+324	1,102	83
Georgia . . . . .	956	2,990	2,928	-2	+206	876	66
Kentucky . . . . .	964	2,580	2,476	-4	+157	865	65
Louisiana . . . . .	862	2,522	2,647	+5	+207	1,002	75
Mississippi . . . . .	544	1,531	1,317	-14	+142	634	48
North Carolina . . . . .	966	3,439	3,349	-3	+247	854	64
South Carolina . . . . .	438	1,681	1,584	-6	+262	787	59
Tennessee . . . . .	905	2,946	2,858	-3	+216	873	66
Virginia . . . . .	987	3,244	3,221	-1	+226	1,039	78
Southwest . . . . .	4,153	12,464	13,066	+5	+215	1,166	88
Arizona . . . . .	245	835	839	0	+242	1,165	88
New Mexico . . . . .	161	614	665	+8	+313	1,033	78
Oklahoma . . . . .	1,079	2,299	2,297	0	+113	1,068	80
Texas . . . . .	2,668	8,716	9,265	+6	+247	1,205	91
Central . . . . .	24,226	59,085	56,111	-5	+132	1,414	106
Illinois . . . . .	7,036	15,002	14,107	-6	+100	1,618	122
Indiana . . . . .	1,877	5,387	5,097	-5	+172	1,290	97
Iowa . . . . .	1,348	3,788	3,301	-13	+145	1,292	97
Michigan . . . . .	3,543	9,155	9,013	-2	+154	1,443	108
Minnesota . . . . .	1,443	3,875	3,603	-7	+150	1,227	92
Missouri . . . . .	2,210	5,213	5,052	-3	+129	1,286	97
Ohio . . . . .	4,920	12,032	11,443	-5	+133	1,436	108
Wisconsin . . . . .	1,849	4,633	4,495	-3	+143	1,329	100
Northwest . . . . .	3,927	10,609	9,822	-7	+150	1,273	96
Colorado . . . . .	633	1,729	1,703	-2	+169	1,386	104
Idaho . . . . .	230	735	707	-4	+207	1,221	92
Kansas . . . . .	997	2,368	2,291	-3	+130	1,210	91
Montana . . . . .	325	897	787	-12	+142	1,390	105
Nebraska . . . . .	764	1,848	1,653	-11	+116	1,294	97
North Dakota . . . . .	264	862	703	-18	+166	1,202	90
South Dakota . . . . .	288	939	734	-22	+155	1,174	88
Utah . . . . .	272	816	825	+1	+203	1,213	91
Wyoming . . . . .	154	415	419	+1	+172	1,481	111
Far West . . . . .	6,998	22,970	22,906	0	+227	1,610	121
California . . . . .	5,217	17,003	17,005	0	+226	1,665	125
Nevada . . . . .	74	279	277	-1	+274	1,731	130
Oregon . . . . .	603	2,143	2,095	-2	+247	1,448	109
Washington . . . . .	1,104	3,545	3,529	0	+220	1,469	111

Source: United States Department of Commerce.

parity among the states and regions in per capita income in 1949, as shown by the data in Table IV, the relative differences had narrowed appreciably over two decades.

The percentage by which regional per capita income exceeded the national average dropped in New England from 23 in 1929 to 5 in 1949, in the middle east from 36 to 18 and in the far west from 27 to 21. On the other hand, the three regions with comparatively low average income levels all improved their per capita incomes in relation to the nation's. From 1929 to 1949, average income in the southwest rose from 68% to 88% of that for the country as a whole and in the southeast from 51% to 66%. The margin of the northwest's per capita income below the national average was reduced from 21 in 1929 to only 4 in 1949. In both 1929 and 1949 the per capita income of the large central region was 6% above the United States average. (See also INCOME AND PRODUCT, U.S.)

(M. GT.)

**Great Britain.**—The White Paper on national income published in 1950 gave the distribution of incomes in the United Kingdom for 1948. The official estimates had to be supplemented by an estimate in the number of incomes in the lowest income category, which was made with reference to the estimated total number of income recipients. As in previous years, details were



still insufficient for the lowest group, which comprised one-half of the income recipients.

The tendency already discernible in previous years, a shift from the lower to higher income groups, continued. The number of incomes of less than £250 decreased in comparison with 1947 by 1,000,000, and there was a corresponding increase spread over all the higher groups (it was particularly noticeable in the middle ranges of income). The distribution of incomes after

Table V.—Distribution of Incomes in the United Kingdom, 1948

Range of incomes (in £)	Number of incomes (in thousands)	Amount of income before tax (in million £)	Amount of income after income tax and surtax (in million £)
Under 250 . . . . .	(12,000)*	2,439	2,411
250–500 . . . . .	8,650	2,929	2,770
500–1,000 . . . . .	2,295	1,519	1,296
1,000–2,000 . . . . .	545	730	543
2,000–10,000 . . . . .	209	729	415
10,000 and over . . . . .	11	195	47
Total . . . . .	(23,710)*	7,541	7,482
Unallocated private income†		2,531	1,788
	Total	10,072	9,270

\*Figures in parentheses are private estimates.

†Including undistributed profits, interest on savings certificates, dividends of co-operative societies, income in kind, income of nonprofitmaking bodies, etc.

Source: *National Income and Expenditure of the United Kingdom, 1946 to 1949* (Cmd. 7933, H.M.S.O. London).

taxes on income showed little change compared with the previous year. The rate of income taxes was negligible on incomes of less than £500 but rose to about 80% on incomes of more than £10,000. The distribution of incomes was further modified by indirect taxes which, on the whole, fell more heavily on the lower income groups. Compared with 1947, the total of indirect taxes on consumption rose, but this rise was partly offset by a rise in subsidies.

Tax liabilities as a percentage of personal income, including direct and indirect taxes but deducting subsidies, rose in 1948 to a postwar peak of 28% but afterward fell a little. (See also BUDGET, NATIONAL.) (T. BAR.)

**Weather:** see METEOROLOGY.

**West Africa, British:** see BRITISH WEST AFRICA.

**Western European Union:** see EUROPEAN UNION.

**Western Samoa:** see NEW ZEALAND; TRUST TERRITORIES.

**West Indies, British:** see BAHAMAS; BARBADOS; JAMAICA; LEEWARD ISLANDS; TRINIDAD AND TOBAGO; WINDWARD ISLANDS.

**West Virginia.** The 35th state to enter the Union, West Virginia was admitted conditionally on Dec. 31, 1862, and proclaimed a separate state on April 20, 1863, effective 60 days later. It has an area of 24,282 sq.mi., of which about 148 sq.mi. are water surface. The 1950 U.S. census gave the state a population of 2,005,552, or 5.4% more than in 1940. Charleston, population 72,818, is the capital. Other cities in the order of their size are Huntington, 86,160; Wheeling, 58,447; Clarksburg, 31,817; Parkersburg, 29,510; Fairmont, 29,273; Morgantown, 25,446; Weirton, 24,143; Bluefield, 21,341; Beckley, 19,255; South Charleston, 16,627; Martinsburg, 15,566; and Moundsville, 14,759 (cities, 1950 prelim.).

**History.**—As a result of the 1950 election the state legislature was composed of 9 Republicans and 23 Democrats in the senate and 27 Republicans and 67 Democrats in the house of delegates. At the same time William C. Marland, Democrat, was elected attorney general and William H. Ansel, Jr., Democrat, was elected state treasurer, each of them to fill vacancies to which they held executive appointments. In addition to those elected in 1950 the other state officers, all Democrats, were: governor, Okey L. Patteson; secretary of state, D. Pitt O'Brien; auditor, Edgar B. Sims; superintendent of free schools, W. W. Trent; and commissioner of agriculture, J. Blaine McLaughlin.

An amendment to liberalize the state constitution to permit any county of the state, with the approval of 60% of its participating voters in an election, to issue bonds for school building purposes, was approved in 1950, as was also a proposition authorizing a state bond issue of \$90,000,000 to pay bonuses to resident veterans of World War I and World War II. A constitutional amendment to authorize an increase in the salary of a state legislator from \$500 to \$1,000 annually was defeated.

**Education.**—In 1949–50 the total net enrolment of the 4,022 elementary schools was 300,202. For the 380 high schools (junior and senior) it was 138,296. There were 10,342 elementary and 5,550 secondary teachers. Total receipts for the public free school program were \$69,078,916.82, of which \$21,781,107.20 (net) was from collections on general property for local taxing units; \$36,945,515.48 was state aid for the regular program; and \$5,955,612.26 was state aid to county school building programs. Other state funds included: \$37,718.19, aid to crippled children; \$108,834.50, aid to the school lunch program; and \$466,090.95, aid for vocational education. There were nine state-supported institutions of higher learning which had a total enrolment in the first semester of 1949–50 of 8,396, of whom 2,894 were veterans, and a total teaching staff of 439.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—In the year ending June 30, 1950, the total expenditures of the state department of health were \$2,583,000, of which \$406,000 was federal funds. The regular expenditures of the department of public assistance totalled \$23,323,406.41, of which \$7,843,591 was for old age assistance; \$343,685, aid to the blind; and \$9,940,271 was aid to dependent children. General relief items and the respective total expenditures were: crippled children, \$477,241.54; medical and hospitalization aid, \$1,133,594.45; correction of vision and prevention of blindness, \$19,682.40; child welfare, \$60,286.74; general assistance, \$1,375,101.75; and boarding care, \$625,940.21. A total of \$1,504,062.32 was spent for personal service, current expense and equipment. Of the total expenditures \$12,850,109.18 was federal funds.

**Communication and Transportation.**—The Kanawha county airport was completed at a total cost of about \$8,300,000; there were in the state 43 licensed airports, 7 licensed seaplane bases and 29 air station operators. The total assessed valuation of the air and bus lines was, however, only \$11,825,000, whereas that of the steam railway companies was \$311,777,300. The mileage of steam railways tended to be stationary at a total of about 7,500, including double tracks and sidings. There were 33,328.61 mi. of improved state roads, of which 28,411.27 were secondary.

**Banking and Finance.**—On June 30, 1950, deposits in 106 state banking and trust companies totalled \$438,030,962.35, and those in the 74 national banks, \$498,742,540.67. Resources of 21 federal savings and loan associations were \$46,157,414.44; of 16 state building and loan associations \$14,080,937; and of 26 industrial loan companies \$18,452,675.68. Total loans of 122 small loan companies were \$19,537,575.66, and 27 state-chartered credit unions had total resources of \$843,238.34.

State receipts for 1949–50 totalled \$243,254,060.13, and the disbursements were \$245,908,820.39. The cash balance in the state treasury on June 30, 1949, was \$49,503,232.44 which left a cash balance as of June 30, 1950, of \$46,848,472.18. The unencumbered balance in the state fund general revenue, as of that date, was, however, only \$13,695,387.77. The net state bonded indebtedness was \$62,214,393.63.

**Agriculture.**—The total gross farm income for 1949 was \$168,937,000. Of this total \$1,918,000 was government payments, \$41,324,000 was from crops and \$125,695,000 was from livestock and livestock products sold and traded. The estimated value of products consumed on farms where produced was \$52,631,000, which left a net cash income of \$116,306,000, or \$9,932,000 less than for 1948.

#### Principal Agricultural Products of West Virginia

Crop	1950	1949	Average, 1939–48
Corn, bu. . . . .	9,287,000	\$11,748,000	11,945,000
Wheat, bu. . . . .	1,221,000	1,424,000	1,588,000
Oats, bu. . . . .	1,568,000	1,530,000	1,752,000
Buckwheat, bu. . . . .	100,000	114,000	189,000
Hay (all), tons . . . . .	1,050,000	1,024,000	961,000
Apples (commercial), bu. . . . .	4,260,000	3,720,000	3,844,000
Potatoes (Irish), bu. . . . .	1,980,000	2,090,000	3,015,000
Barley, bu. . . . .	392,000	390,000	262,000
Tobacco, lb. . . . .	4,160,000	4,384,000	3,024,000

**Industry.**—In 1949–50 industry and business employed 502,681 persons, not including about 83,000 in agriculture, 35,000 in professional services, 23,000 in domestic service, and 8,000 in finance, insurance and real estate. Those employed in industry and business earned an average of \$2,547, or 11.5% less than in 1948–49, and a grand total of \$1,280,219,000, or \$208,944,000 less than in the previous year. In the order of the largest number of persons employed, the largest industrial groups, together with the total wages for each for 1949–50, were: coal mining and coke making 124,330—\$348,950,000; commercial, wholesale and retail 94,595—\$185,217,000; iron, steel and metals 36,550—\$126,609,000; transportation 21,624—\$56,958,000; public agencies, buildings and institutions 21,380—\$41,392,000; chemicals and allied products 19,314—\$73,818,000; building erection and repairs 18,548—\$50,636,000; glass and glassware manufacturing 18,415—\$52,409,000; automobiles and trucks 17,704—\$45,375,000; personal services, not professional or domestic, 15,502—\$26,384,000; lumber and lumber products 12,993—\$22,920,000; clay, stone and allied products 12,982—\$31,507,000; clothing and textile manufacturing 12,412—\$29,702,000; public utilities 12,323—\$35,174,000; food and bev-



rage production and manufacturing 11,346—\$20,026,000; construction, not building, 11,335—\$29,322,000; trucking, express and storage 9,834—\$26,768,000; and oil and gas 8,365—\$21,828,000.

**Mineral Production.**—The production of crude oil, with a total of 2,839,000 bbl. in 1949, was 152,000 bbl. more than in 1948. The 181,310,000,000 cu.ft. of natural gas produced in 1949 was 39,820,000,000 cu.ft. less than in 1948. Coal production, at 122,914,540 tons, was off 45,675,493 as compared with 1948, a loss generally attributed to strikes, and the production of coke, 106,203 tons, was less than half the total for 1948.

(C. H. A.)

**Whaling:** see FISHERIES.

**Wheat.** The U.S. wheat crop of 1950, which amounted to 1,026,755,000 bu., was the seventh consecutive crop of more than 1,000,000,000 bu. The harvested acreage of 61,714,000 ac. (out of 71,396,000 ac. planted) was considerably less than the 76,559,000 harvested acres of 1949. The yield of 16.6 bu. per acre compared with 14.9 bu. per acre in 1949, and 18 bu. per acre (on 73,017,000 harvested acres) in 1948, and an average yield for 1939-48 of 17.0 bu. per acre. Kansas, North Dakota and Montana were the leading producers. (See Table I.)

The 1950 winter wheat crop of 750,666,000 bu. was moderately small compared with the outturn of years since 1943 (895,101,000 bu. in 1949) but near average for the decade. Only 52,887,000 ac. were seeded in the fall of 1949; of that acreage 17.2% was abandoned and 43,816,000 ac. harvested, a reduction of 21% from the 55,129,000 ac. harvested in 1949. The lesser acreage was in line with government acreage allocations, in addition to which drought and green bugs took a heavy toll, especially in Texas. Yields averaged 17.1 bu. per acre, well above the 16.2 bu. per acre of 1949.

Spring wheat production, mostly in the northern Great Plains, was estimated at 276,089,000 bu., 12% more than the 246,087,000 bu. of 1949. Harvested acreage of 17,925,000 was considerably smaller (16%) than the 21,430,000 ac. of 1949, partly because of the reduction in official acreage allotments and partly because of the very late, wet, cool planting season. Yields were generally favourable at 15.4 bu. per acre compared with 11.5 bu. per acre in 1949 and 15.7 bu. per acre average for the previous decade.

Table I.—U.S. Wheat Production by Leading States  
(In thousands of bushels)

State	1950	1949	Average, 1939-48
Kansas . . . . .	178,060	164,208	188,577
North Dakota . . . . .	120,724	112,909	134,228
Montana . . . . .	93,958	64,080	67,048
Nebraska . . . . .	84,788	54,408	61,736
Washington . . . . .	67,582	57,511	60,302
Ohio . . . . .	46,596	60,002	44,400
Oklahoma . . . . .	43,614	88,725	71,156
Colorado . . . . .	39,924	49,551	32,247
Idaho . . . . .	37,350	38,106	29,648
South Dakota . . . . .	33,978	34,276	39,747
Indiana . . . . .	31,798	39,150	28,258
Michigan . . . . .	29,666	35,019	21,659
Illinois . . . . .	27,538	46,856	28,174
Missouri . . . . .	24,516	35,028	22,358
Oregon . . . . .	23,693	23,203	21,906
Texas . . . . .	22,712	100,398	56,350
Pennsylvania . . . . .	19,184	21,114	18,158
Minnesota . . . . .	15,410	19,971	22,109
California . . . . .	13,671	11,470	11,037
New York . . . . .	12,585	11,760	7,856

Of the total spring wheat, 36,064,000 bu. were of the durum type. Yields averaged 13.2 bu. per acre, compared with 11.0 bu. per acre in 1949. Acreage of 2,729,000 was 23% smaller than in 1949; black stem rust and frost both damaged the crop moderately.

In regard to classes of wheat, the notable change for 1950 was a sharp decline in both hard red and soft red winter wheats. A crop of 471,079,000 bu. of hard red winter wheat was produced, as compared with 570,232,000 bu. in 1949. Soft red winter wheat fell to 165,931,000 bu. from 214,418,000 bu. in 1949. Hard red spring wheat increased to 207,304,000 bu., as compared with 176,899,000 bu. in the previous year. Pacific northwest white wheat increased to 145,646,000 bu., thus leading to a difficult storage problem in that area.

U.S. exports of wheat and flour (in wheat equivalent) in 1949-50 were 298,300,000 bu., compared with an all-time record of 502,100,000 bu. in 1948-49 and less than 100,000,000 bu. average before World War II. Of that amount, about 195,000,000 bu. went to Economic Cooperation administration participants, and another 64,000,000 bu. to the far east, largely Japan.

The wheat situation at the end of 1950 in summary was: carry-over stocks of 420,018,000 bu. plus the 1950 harvest of 1,026,755,000 bu. provided a total supply of 1,446,773,000 bu. (compared with 1,448,955,000 bu. total supply the year before). Domestic requirements during 1950-51 were estimated at about 725,000,000 bu., including food, seed and feed. Thus, 722,000,000 bu. appeared to be available for export and carry-over, and exports were forecast at not more than 265,000,000 bu. It was expected that year-end stocks on July 1, 1951, would be at least 450,000,000 bu. Commodity Credit corporation holdings on July 1, 1950, accounted for 361,200,000 bu. of the total 420,000,000 bu. carry-over.

Wheat prices to producers fluctuated near the price support loan level of \$1.99 per bushel, rising from \$1.92 in January to \$2.04 per bushel in May, then dropping to \$1.91 in October and recovering to \$2.03 in December. The season average price to producers for the 1950 crop was estimated at \$1.98 per bushel (compared with \$1.88 for the 1949 crop). A government loan of not less than \$1.99 per bushel at the farm on the 1951 crop was announced.

The world wheat crop of 1950 was estimated at 6,405,000,000 bu., compared with 6,270,000,000 bu. in 1949 and an average of slightly more than 6,000,000,000 bu. in 1935-39 (See Table II). Production in North America, though 37% more than the pre-World War II average, fell below earlier expectation, largely because of a decline in Canadian production as a result of unseasonable frost.

The wheat harvest of the Soviet Union was estimated as the best since World War II, although at 1,110,000,000 bu. it was 130,000,000 bu. below the prewar average. Asia's total harvest of 1,630,000,000 bu. exceeded that of 1949, the increase being accounted for principally by Turkey and India.

Preliminary forecasts based largely on acreage and weather suggested an Argentinian crop of about 230,000,000 bu. and an

Table II.—World Wheat Production for Selected Areas\*  
(In millions of bushels)

	1950	1949	1948	Average, 1935-39
United States . . . . .	1,027	1,141	1,314	758
Canada . . . . .	462	367	386	312
Mexico . . . . .	20	17	18	14
Europe . . . . .	1,530	1,505	1,455	1,599
Great Britain . . . . .	90	82	88	62
North Africa . . . . .	81	84	76	73
Union of South Africa . . . . .	—	14	18	16
Asia . . . . .	1,630	1,475	1,600	1,498
Argentina . . . . .	230	210	190	222
Australia . . . . .	190	218	191	170
U.S.S.R. . . . .	1,110	1,100	1,025	1,240
World Total . . . . .	6,405	6,270	6,420	6,024

\*Revised estimates by the U.S. Department of Agriculture on basis of incomplete reports from several countries with adjustments for year of harvest, and including allowance for missing data and forecasts for crops being harvested.

Australian outturn of 190,000,000 bu., the latter comparing with 218,106,000 bu. in 1949.

World exports of wheat and flour in 1949-50 were about 820,000,000 bu., compared with 958,000,000 bu. in 1948-49. The pre-World War II rate was about 560,000,000 bu. Carry-over stocks on July 1, 1950, in the four major exporting countries were 783,000,000 bu., 18% more than in 1949 and 71% larger than the pre-war average.

The International Wheat agreement in its first full year of operation included 44 participating countries and 432,000,000 bu. of the 820,000,000 bu. of wheat moving in world trade. U.S. sales under the agreement were about 163,000,000 bu. against an ad-



justed quota of 197,000,000 bu. The U.S. export quota in 1950-51 was about 230,000,000 bu., and as of December more than 100,000,000 bu. had moved under the agreement. Germany was admitted as an importing member, whereas consideration of Japan's application was postponed.

At the end of 1950 indications were that the planted acreage for the winter wheat crop to be harvested in the U.S. in 1951 would be approximately 6% more than in 1949. Favourable conditions of sown acreage suggested a winter wheat crop of 899,096,000 bu., which, with approximately 250,000,000 bu. of spring wheat, would give a preliminary estimate for the 1951 crop of 1,150,000,000 bu. (See also FLOUR; FOOD SUPPLY OF THE WORLD.)

FILMS of 1950.—*Turn the Soil* (Australian News and Information Bureau). (J. K. R.)

**Wholesale Trade:** see BUSINESS REVIEW.

**Wildlife Conservation.** Approximately one out of every seven inhabitants of the United States fished or hunted or did both in 1950, according to the 1951 annual report of the secretary of the interior. No index to the national numerical total of nonhunting or nonfishing recreationists dependent on an abundant wildlife was available. Reports of hunting licences sold by the states and tabulated by the federal fish and wildlife service, however, showed that a total of 12,626,539 such licences was issued in the 48 states during the fiscal year ended June 30, 1950. In addition, the service reported the sale during this period of 1,954,734 federal migratory bird hunting stamps, the so-called duck stamps required of all wildfowl hunters over 16 years of age.

Preservation of wildlife in the face of this hunting pressure and in the face of the continually increasing number of projects for the use of wildlife habitat for other purposes remained one of the important concerns of U.S. conservationists in 1950.

National interest in waterfowl was particularly high, as these birds are outstanding among the game birds given federal protection in accordance with international agreements for the conservation of migratory birds. The 1950 annual estimate by the fish and wildlife service, based on a January "inventory" but completed and announced in April, indicated a decrease of nearly one-fourth in the waterfowl populations of the continent. The increases hoped for when the liberalized shooting regulations were adopted in 1949 had not materialized. Nevertheless, the year's hunting rules adopted by Secretary of the Interior Oscar Chapman in August provided seasons of the same length as in 1949 in the Atlantic and central fly way states and increased the length of the season in the Pacific fly way states, shortening the season in only one of the country's four fly ways; namely, in the Mississippi fly way, where it was cut from 40 to 35 days.

A new official list of 522 migratory birds protected by federal law, announced in May, included 65 species never before listed, which investigations had proved to be migratory under the terms of treaties with Great Britain and/or Mexico. The additions included such conspicuous birds as the cardinal, road runner and fork-tailed flycatcher.

In addition to providing legal protection for migratory birds, the federal government maintained a system of 282 national wildlife refuges, as well as sanctuary areas within the national park system. Wildlife conservation was also among the objectives in the multiple-purpose administration of the national forests. Under the terms of the federal aid for Wildlife Restoration act the sum of \$8,673,517 from the federal excise tax on the manufacturing of sporting arms and ammunition was apportioned to the 48 states in Sept. 1950 for state projects. The states were required by the act to contribute 25% of the cost of their programs and to obtain federal approval of the proposed projects.



THREE ALBINOS in a herd of deer photographed by Staber W. Reese of the Wisconsin conservation department. Reese waited six days for his picture, believed to be the first ever made of multiple albinos, which occur about once in 40,000 births

Special efforts were made by conservationists to provide sanctuaries for forms threatened with extinction. Creation of a 1,300-ac. sanctuary containing all the North American area in which ivory-billed woodpeckers had been observed since 1947 was announced in October by the Florida game and fresh-water fish commission and the National Audubon society.

**BIBLIOGRAPHY.**—The principal source of wildlife information in the United States is the fish and wildlife service, U.S. department of the interior, Washington 25, D.C., which has lists of federal publications, including a list of officials and organizations concerned with wildlife conservation, and *Wildlife Review*, a periodical listing books, articles in journals and other publications and including critical notations. Scientific periodicals are notably *Journal of Wildlife Management*, *Journal of Mammalogy* and *The Auk: A Quarterly Journal of Ornithology*, published respectively by the Wildlife Society, the American Society of Mammalogists and the American Ornithologists' Union. (See also NATIONAL PARKS AND MONUMENTS.) (H. Z.)

**Canada.**—Full federal scientific investigation of wildlife ten-year cycles reached the discussion stages in 1950. When delegates of the federal-provincial wildlife conference urged federal authorities to control aircraft for hunting, department of transport officials pointed out that aerial hunting could be regulated by the Aeronautics act if conservation authorities wanted to use it. The federal government introduced regulations to preserve seals as a food supply for Eskimos and caribou for Indians.



The fisheries research board undertook tattooing of Hudson bay belugas (porpoise) to learn the extent and direction of migrations; management of trout streams in Prince Edward Island to produce larger fish; and clearance of 150 streams in British Columbia to increase salmon.

Ducks Unlimited (Canada) authorized 58 conservation projects, mostly concerned with slough deepening, in the prairie provinces.

Saskatchewan opened 13 new game preserves; Ontario commenced air patrol of game fishing in the St. Lawrence river, placed 250,000,000 whitefish fry in Ontario commercial waters, opened a guiding school and made sportsmen responsible for using licensed guides; Quebec restricted moose hunting and made Canada's first confiscation of an aeroplane used for illegal fishing; New Brunswick announced that 1,000,000 deer had been killed in the 1900-50 period and that annual kills of 20,000 could be maintained; Nova Scotia declared that the annual kill of 1.5 deer per square mile (about 30,000 per year) was inadequate to prevent overgrazing, and urged tourists to hunt. (C. Cy.)

**Other Countries.**—In India attempts were made to call a halt to the destruction of wildlife caused by the political changes and upheaval of recent years. A census of the only remaining Asiatic lions, carried out in Kathiawar, showed a total of at least 220 and indicated that these animals were not decreasing in number. The animals in the greatest danger of extinction in the whole of Asia being the three species of Asiatic rhinoceros, steps were taken to continue the protection of the great Indian rhinoceros in Nepal and in the Kasiranga reserve in Assam. Little information was obtained on the other two Asiatic rhinoceroses.

The government of Ceylon established a wild life department for improvements in nature reserves and for the acquisition of private land in the Katagamuwa sanctuary.

It was perhaps in Africa that the increase of human population and the spread of agriculture most threatened wild places, and it was generally realized that the only hope of preserving even a remnant of the vast herds of antelopes which had once roamed the plains lay in the provision of large national parks. In Kenya four national parks and four national reserves of faunal importance were established. In Tanganyika the boundaries of the Serengeti National park were agreed upon, to provide sanctuary for the largest remaining assemblage of African wild animals. The game laws of Tanganyika were revised and many significant changes made to the advantage of wild nature. In Northern Rhodesia the Kafue National park was proclaimed, covering more than 8,000 sq.mi. Southern Rhodesia started to establish a national parks department, but the policy of game slaughter in tsetse fly control operations was continued. Strenuous efforts were made by the Wild Life Protection society of South Africa to save indigenous animals from overexploitation. In particular, in February the exportation of all kinds of land tortoises from Cape Province was prohibited by proclamation. The status of the Cape mountain zebra also received particular attention; the total number still surviving was estimated to be fewer than 100.

Australia faced a special task in the protection of its wildlife; not only the acts of man but also the ravages of his imported animals, the rabbit, the cat and the fox, had to be counteracted. In New South Wales a fauna protection panel was set up to administer the Fauna Protection act. Immediate steps were taken for the preservation of the koala.

New Zealand made special efforts to preserve its unique native birds, particularly the recently rediscovered takahe or notornis, the kakapo or owl parrot and the brown duck or red teal. (C. L. BE.)

Revenue (1950 est.). . . . .	B.W.I. \$1,181,767
Expenditure* (1950 est.). . . . .	B.W.I. \$1,281,630
Imports (1949). . . . .	B.W.I. \$2,371,754
Exports† (1949). . . . .	B.W.I. \$1,363,625

\*Excluding colonial development schemes.

**Wilson, Charles Edward** (1886— ), U.S. industrialist and government official. was born on Nov. 18 in New York, N.Y. He began working in the shipping department of the General Electric company in New York at the age of 13, meanwhile continuing his education in night school. He moved up through the organization, successively serving in the accounting, production, engineering, manufacturing and marketing departments. From 1930 to 1937 he was manager of the company's merchandising department and a vice-president. From 1937 to 1939 he served as executive vice-president having been also elected to the board of directors in 1937. On Jan. 1, 1940, he became president of the company.

He supervised General Electric's rapid expansion during the World War II production emergency, until Sept. 1942 when he became vice-chairman of the War Production board, the top industrial and economic control agency of the World War II emergency government organization. In Feb. 1943 he became executive vice-chairman of the WPB, serving in that capacity until Feb. 1944.

The need for rapid rearmament following the outbreak of war in Korea in 1950 impelled Pres. H. S. Truman to set up a new over-all defense production agency; Wilson agreed to head it. On Dec. 16 the president signed an executive order creating the new Office of Defense Mobilization, and on Dec. 21 Wilson was sworn in as its director.

**Windward Islands.** The British Windward Islands (in the Caribbean sea) comprise the four islands of Dominica, St. Lucia, St. Vincent and Grenada—each ranking as a separate colony for internal administration—together with the Grenadines, which lie between St. Vincent and Grenada and are associated partly with the one and partly with the other. Total area: 821 sq.mi. Total pop. (1949 est.): 268,000. Governor (1950): Sir Robert Arundell.

**History.**—Details of important changes in the constitutions of the four colonies were announced on July 24, 1950. The most important of them was that the franchise should be based on universal adult suffrage. The three elected members of the executive council were to be chosen by vote of the whole legislative council; and the legislative council would be empowered to remove from the executive council, by a two-thirds majority vote, any member thus selected. The constitutional status of the executive council as advisory to the governor would remain unchanged; and the governor himself would continue to retain reserve powers. The first elections under the new constitution were to be held in 1951. Grenada was the first of the British West Indian colonies to accept the report of the Standing Closer Association committee proposing a federal government for these colonies. By the end of the year the three other Windward Island colonies had also done so.

Dominica, the least developed of the islands, was the scene of special activity during 1950, with the Colonial Development corporation carrying out operations in connection with the citrus industry and road development being pushed forward with the aid of colonial development funds. The work of rebuilding Castries, the capital of St. Lucia, which was almost wholly destroyed by fire in 1948, went steadily ahead.

**Finance and Trade.**—Currency: British West Indian dollar, valued at 58.33 cents U.S. (\$4.80 = £1 sterling).

#### Windward Islands

Dominica	Grenada	St. Lucia	St. Vincent
B.W.I. \$1,181,767	B.W.I. \$2,504,800	B.W.I. \$1,905,902	B.W.I. \$1,337,922
B.W.I. \$1,281,630	B.W.I. \$2,482,004	B.W.I. \$1,718,024	B.W.I. \$1,448,367
B.W.I. \$2,371,754	B.W.I. \$5,410,559	B.W.I. \$5,248,187	B.W.I. \$3,158,309
B.W.I. \$1,363,625	B.W.I. \$4,403,535	B.W.I. \$1,488,858	B.W.I. \$2,134,789

†Including re-exports.





PARISIANS SAMPLING FREE WINE in the Montmartre where *clairet*, a wine of the Bordeaux region, was reintroduced to Paris in the spring of 1950. *Clairer* could be drunk after only 12 months of aging

Principal exports: arrowroot, bananas, citrus products, cocoa, copra, cotton (sea-island), mace, nutmegs and sugar. (P. H.-My.)

**Wines.** France once again was the largest producer of wine in 1950. The total production of famous growth (*Appellation contrôlée*) wines amounted to 175,000,000 gal. against a total of 118,500,000 gal. in 1949. The famous growths of Burgundy and Rhône produced 24,400,000 gal. against 16,900,000 the previous year, the quality being good, almost equal to the 1949 wines, and Bordeaux 84,000,000 gal. of excellent quality against the 1949 yield of 59,000,000. Champagne production was large but of only fair quality. During 1950 government control helped to stabilize wine prices which started falling in 1949. Algerian production was close to the ten-year high of 1949.

World Production of Wine  
(Millions of gallons)

Country	1950	1949	Average	Quality 1950
Algeria . . . . .	377.7	382.2	450.6 (1935-39)	Better than previous years Fair average Uneven
Argentina . . . . .	325.5	224.6	183 (1935-44)	
Australia . . . . .	39.2	41.0	33.6 (1945-49)	
Austria . . . . .	28.7	22.0	29 (1935-39)	
Brazil . . . . .	20.5	23.7	20 (1935-49)	
Bulgaria . . . . .	54.0	68.0	50 (1935-44)	Record production—below average quality
Canada . . . . .	6.6	3.1	4 (1940-50)	
Chile . . . . .	107.5	83.0	79.7 (1942-49)	Good Good average Excellent
Cyprus . . . . .	6.4	5.8	4 (1935-44)	
Czechoslovakia . . . . .	11.5	11.2	10.9 (1935-39)	
Egypt . . . . .	0.8*	0.8		Fair
France . . . . .	1,620.3	1,054.4	1,555 (1929-38)	
Germany . . . . .	97.9	36.1	48.4 (1939-44)	
Greece . . . . .	101.5	107.0	88.5 (1935-40)	
Hungary . . . . .	85.0*	83.9	102.3 (1935-39)	
Israel . . . . .	1.2*	1.2	1.6 (1943-47)	
Italy . . . . .	925.0	946.5	106 (Prewar)	
Lebanon . . . . .	1.9	1.7		
Luxembourg . . . . .	3.4*	0.6	2.4 (1935-39)	

World Production of Wine (Continued)

Country	1950	(Millions of gallons)		Quality 1950
		1949	Average	
Malta . . . . .	1.0*	1.0	0.9	
Morocco . . . . .	15.9	13.2	14.7 (1935-39)	
New Zealand . . . . .	0.6*	0.6		
Peru . . . . .	5.0*	5.0		
Portugal . . . . .	215.1	209.7	227.5 (1945-49)	Average
Rumania . . . . .	112.5	109.4	186.5 (1935-39)	
South Africa . . . . .	70.2	69.1	57.6 (1940-48)	Good
Spain . . . . .	396.0	396.0	491.2 (1935-39)	
Switzerland . . . . .	17.0	14.6	20.4 (1941-49)	Good red, fair white
Syria . . . . .	2.0	1.7		
Tunisia . . . . .	26.4	23.4	41.5 (1935-39)	No variation
Turkey . . . . .	3.9	4.7	29 (1935-39)	Better than 1949
Uruguay . . . . .	23.0	19.0	16 (1935-39)	
U.S.A. . . . .	145.0	103.0	102.5 (1940-45)	No variation
U.S.S.R. . . . .	273.0	273.0		
Yugoslavia . . . . .	65.0	109.8	124.6 (1935-39)	Excellent
	5,186.2	4,450.0		

\*Estimate. Countries like the United States, marked "No variation" in the above table, produce uniform wines from year to year because of stable climatic conditions and methods of production used.

In Spain, the Jerez district produced a below-normal 8,120,000 gal. of good quality sherry against the very small 5,560,000 of the previous year. Of the Portuguese wines, port wine, controlled to world demand, was held to 4,675,000 gal.

United States production was well ahead of 1949 and approximately equal to that of 1948. About 90% of the production was from California. The combination of a short crop and a marketing order for grape stabilization which shunted grapes into raisins resulted in price increases of 100% to 150%. (J. WE.)

**Wisconsin.** One of the north central states of the United States, Wisconsin, popularly called the "Badger state," entered the union as the 30th state in 1848. Area: 56,154 sq.mi. of which 1,439 sq.mi. are water. The population by the federal census as of April 1, 1950, was 3,434,575, an increase of





WALTER J. KOHLER, JR., Republican, elected governor of Wisconsin, Nov. 7, 1950

9.5% over the federal census figures of 1940. Capital, Madison (1950 census, preliminary figures, 95,594). Milwaukee is the largest city with an estimated population of 632,651. Other large cities are Racine (70,749), Kenosha (54,360), Green Bay (52,443) and La Crosse (47,396).

**History.**—The renovation of the state's public welfare program inaugurated by the 1949 legislature was substantially completed in 1950. A new director, John Tramburg, was appointed, additional specialists and staff for the welfare institutions were hired and a substantial construction program was begun.

In the November elections, the Republicans carried the entire slate of state officers and picked up one additional seat in congress. The final totals for state offices were: for governor, Walter J. Kohler, Jr., (Rep.) 605,649, Carl W. Thompson (Dem.) 525,319, M. Michael Essin (People's Progressive) 3,735, William O. Hart (Soc.) 3,384; for lieutenant governor, George M. Smith (Rep. incumbent) 617,668, Eugene R. Clifford (Dem.) 480,696, Rudolph Beyer (Soc.) 4,272; for secretary of state, Fred R. Zimmerman (Rep. incumbent) 689,356, Nels Justeson (Dem.) 408,790, Linton Jahr (P. Prog.) 3,658, Fred Dahir (Soc.) 3,705; for state treasurer, Warren R. Smith (Rep. incumbent) 652,093, Paul L. McGettigan (Dem.) 428,339, Bertha Kurki (P. Prog.) 4,110, Marguerite Habelman (Soc.) 4,380; for attorney general, Vernon W. Thomson (Rep.) 615,309, Henry Reuss (Dem.) 470,057, Frank G. Stoll (P. Prog.) 3,893, Anna Mae Davis (Soc.) 4,075.

Members of congress re-elected were: Sen. Alexander Wiley (Rep.); Congressmen Lawrence H. Smith (Rep., 1st district), Glenn R. Davis (Rep., 2nd district), Gardner R. Withrow (Rep., 3rd district), Clement J. Zablocki (Dem., 4th district), Reid F. Murray (Rep., 7th district), John W. Byrnes (Rep., 8th district), Merlin Hull (Rep., 9th district), Alvin E. O'Konski (Rep., 10th district).

Charles J. Kersten (Rep.) defeated Andrew J. Biemiller (Dem.) in the 5th district. William K. Van Pelt (Rep.) succeeded Frank B. Keefe (Rep.) in the 6th.

George F. Watson was superintendent of public instruction; Oscar M. Fritz was chief justice of the supreme court.

**Education.**—There were 5,679 elementary schools and approximately 450 secondary schools, 24 county normal schools and 9 teachers' colleges in 1949-50. Enrolment in the elementary schools was 356,973; in the secondary schools it totalled 140,701; and in county normal schools 867. Elementary schools employed 14,240 teachers, while secondary schools had 6,674 and the county normal schools had 98. The teachers' colleges had 595 faculty members teaching 9,977 college and 2,260 training school students. State aid for education in the fiscal year 1948-49 amounted to \$11,448,023. Total expenditures in all elementary and secondary schools were \$102,906,770.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—The number of cases receiving public assistance as of June 30, 1950, was as follows: general relief 8,238; old-age assistance 52,840; aid to the blind 1,406; aid to the totally and permanently disabled 700; dependent children in their own or a relative's home 9,357; dependent children in foster homes 1,420—a total of 65,543 households. Expenditures for public assistance in the year ending June 30, 1950, were: general relief \$6,435,102; old-age assistance \$29,634,130; aid to blind \$819,601; aid to the totally and permanently disabled \$494,408; aid to dependent children in their own or a relative's home \$10,169,079; aid to dependent children in foster homes \$659,757—making a grand total of \$48,212,077. Civilian unemployment benefit payments during the calendar year 1950 were \$13,061,617 as against \$19,626,899 in 1949 and \$4,895,635 in 1948. The contributions on pay rolls for 1949 totalled \$12,009,761 as compared with \$10,788,433 for 1948 and \$16,292,966 in 1947. Wisconsin's 12 charitable, mental and correctional institutions during the year ending June 30, 1950, were operated at a cost of \$10,151,262. The average daily popula-

tion for June 1950 was 9,991.

**Communications.**—Public highways as of Jan. 1, 1950, totalled 94,364 mi. divided as follows: 85,595 (towns), 2,487 (villages) and 6,282 (cities). Expenditures by the highway commission for the fiscal year 1949-50 were \$70,345,273. The total railway mileage (steam and electric) as of Dec. 31, 1949, was 6,649.73 with 68.41 mi. of trolley coach route (trackless).

There were 936,282 telephones, and on Aug. 1, 1950, there were 167 airports and 14 seaplane bases.

**Banking and Finance.**—At the end of 1949 there were 95 national banks and 461 state banks (an increase of one). National banks had deposits of \$1,425,443,000 and assets of \$1,519,399,000. Deposits in state banks totalled \$1,544,112,069, and their assets were \$1,653,260,791. The 534 credit unions (11 less than in 1948) listed assets of \$35,620,734 (an increase of \$5,000,000). Assets of the 113 savings and loan associations totalled \$224,413,858 (an increase of more than \$23,000,000).

State receipts for the fiscal year ending June 30, 1950, were \$200,992,188; disbursements \$207,387,333. Taxes collected by the state and returned to local subdivisions totalled \$50,444,117; agency collections returned to counties were \$3,004,915; state aids amounted to \$62,263,258.

**Agriculture.**—Total acreage harvested in 1950 was 10,157,600; in 1949 it was 10,215,300. Cash receipts in 1949 amounted to \$952,428,000, consisting of \$123,952,000 from crops and \$828,476,000 from livestock. Wisconsin's crop production in 1949 was good and continued so through 1950. The state's hay crop for 1950 was the largest in five years. Barley and potatoes set new records, but the corn crop was less than the record set in 1949 and only slightly above the state's ten-year average.

Table I.—Leading Agricultural Products of Wisconsin

	1950	1949	Average, 1939-48
Corn (bu.) . . . . .	104,304,000	129,800,000	103,589,000
Oats (bu.) . . . . .	141,814,000	119,884,000	108,370,000
Canning peas (lb.) . . . . .	257,460,000	220,420,000	238,140,000
All tame hay (tons) . . . . .	6,945,000	6,178,000	6,690,000
All clover and timothy (tons) . . . . .	2,562,000	2,280,000	4,072,000
Alfalfa (tons) . . . . .	4,000,000	3,554,000	2,216,000

**Manufacturing.**—The total value of Wisconsin manufactured products in 1947 was \$2,260,574,000, an increase of approximately 230% over the 1939 value. Most important industries in value of manufactured products were machinery (except electrical), fabricated metal products, motor vehicles, malt and malt liquors and primary metal industries. In 1949 the estimated average number of wage earners in Wisconsin manufacturing establishments was 312,900 as compared with 337,100 in 1948, and 339,700 in 1947; while the average estimated weekly pay roll had decreased from \$19,200,000 in 1948 to \$17,837,000 in 1949.

Table II.—Value of Mineral Products of Wisconsin

Mineral	1949	1948
Stone . . . . .	\$13,636,000	\$12,581,046
Iron ore . . . . .	6,325,987*	5,743,606*
Zinc . . . . .	1,313,160	2,091,824
Sand and gravel . . . . .	10,456,561	11,370,089

\*Estimated.

**Mineral Production.**—In 1949 the value of all mineral production in Wisconsin was \$35,878,000 as compared with \$37,108,000 in 1948 and \$34,491,000 in 1947. (C. L. L.)

**Withholding Tax:** see LAW.

**Woman's Christian Temperance Union, National:** see SOCIETIES AND ASSOCIATIONS.

**Women's Clubs, General Federation of:** see SOCIETIES AND ASSOCIATIONS.

**Wool.** In 1950 world wool production was estimated to have increased about 2% over 1949, but the total was far below world consumption. The improvement in production was accounted for by increases of about 63,000,000 lb. in apparel types and 20,000,000 lb. in carpet types. United States and Argentina were probably the only major wool-producing nations in the world to show declines in both sheep numbers and wool produc-

World Wool Production

Country	(greasy shorn pounds)	
	1950	1949
Australia . . . . .	1,129,000,000	1,045,500,000
New Zealand . . . . .	365,000,000	365,000,000
Argentina . . . . .	480,000,000	495,000,000
Uruguay . . . . .	155,000,000	150,000,000
South Africa . . . . .	220,000,000	218,000,000
United States . . . . .	265,000,000	270,000,000
Total . . . . .	2,614,000,000	2,543,500,000*
Others . . . . .	1,259,000,000	1,246,500,000*
Grand total . . . . .	3,873,000,000	3,790,000,000*
Apparel types . . . . .	3,023,000,000	2,960,000,000

\*Revised.

Source: Computed by the New York Wool Exchange from data released by the U.S. Department of Commerce and the International Wool Secretariat.



tion during 1950. Australian wool production improved, although Australia lost many thousands of sheep because of floods in the lowlands.

The principal wool-producing countries and the amount of wool produced by each are shown in the table.

For the fifth successive year consumption of wools exceeded production. The use of apparel and carpet wools in 1950 accounted for about 4,476,000,000 lb., or about 16% more than was produced. The release of preliminary statistics during the year made it apparent that most, if not all, of the increased consumption was attributed to the broadening use of apparel wools. The consumption of that type of wool alone appeared to have exceeded production by about 600,000,000 lb., or almost 20%. It was estimated, however, that the visible supply of apparel wools was almost 5,000,000,000 lb. Therefore, consumption of about 3,628,000,000 lb. still left a carry-over of nearly 1,400,000,000 lb., compared with about 2,000,000,000 lb. at the end of 1949. The excess of demand over supply was instrumental in the liquidation of most of the wartime accumulation of wools held by the United Kingdom Wool Disposals, Ltd., and by the Commodity Credit corporation of the United States. By 1950 these agencies were no longer important factors as sources of wool supply.

Even during the first six months, when the world was relatively peaceful, consumer demand for wool garments caused wool to be used at a much faster rate than it was produced. In early summer, after the outbreak of hostilities in Korea, the demand for apparel wools was greatly increased. So great was this world-wide demand for wool that buyers contracted for 1951 clips; *i.e.*, shorn wools, many months before it would be shorn. Although depleted wool stocks were reported in all major wool-growing countries, supply was adequate for all demand.

Argentina alone accounted for about 510,000,000 lb. of wool by means of export and local consumption, compared with only 292,000,000 lb. in 1949. It was estimated that the United States imported about 700,000,000 lb. of wool in 1950, or more than twice the 300,000,000 lb. imported in 1949. The re-entry of the U.S.S.R. as a large wool buyer in Australia, together with the rebirth of the Japanese wool-importing industry, made still further inroads into world wool stocks.

In recent years the major wool-producing countries had been enlarging their own wool-processing and -manufacturing facilities. This was particularly true in Australia, South Africa and Argentina. These three countries before World War II processed a combined total of about 157,000,000 lb. of wool annually. In 1950 it was estimated that they processed about 430,000,000 lb. A large part of this increased use of wools by these three countries was for broadening their export of wool manufactures or semimanufactures, and not for local consumption.

Wool prices in the United States started the year well above the government support level, and they rose progressively throughout the 12 months. As a result, all United States grown wools moved directly to consuming markets, rather than to the government purchasing agency. From a price of \$1.57 per clean pound in Boston for fine wools in January, a gradual rise occurred during the first half of the year to \$1.78. The final six months, however, showed record-breaking prices, as the same wools sold around the close of the year at \$2.70, a net rise of \$1.13 per pound, or 72% for the year.

Using Australian wools as a pattern for foreign wools, prices of fine Australian wools, duty paid in Boston, American yield, sold at \$1.63 per pound in January. At the end of the Australian auctions in June these same wools sold at \$2.12. When the auctions resumed in September, initial sales were up as much as 45% from the end of June, and much higher prices prevailed before the end of the year.

Toward the close of 1950 Australian fine wools were quoted

in Boston at more than \$3.10 per clean pound, a price never before reached in the history of the wool industry, and a net rise of over \$1.47, or 90%, during the year. (See also TEXTILE INDUSTRY.)

FILMS OF 1950.—*Goddess of Merchants* (British Information Services); *Shearing at Big Billabong* (Australian News and Information Bureau). (S. L. L.)

**Words and Meanings, New.** English adds many new words to its vocabulary every year, some destined to live long, others to die soon. The words listed below, pertaining largely to 1949–50, are but a small residue of those collected by the committee preparing this article.

Several groups of the coinages below may be commented upon briefly. As usual, scientific and technological advances were well represented among the new words and meanings: witness “auto-tronic elevator,” “berkelium,” “californium,” “Coxsackie virus,” “nerve gas,” “radio star,” “shaped charge,” “subminiaturization,” “terramycin,” “Vidicon” and “Viomycin.” New terms like “Antifa,” “Baltic Wall,” “defactoist,” “deviationism,” “integration,” “Rok,” “third force” and “Uniscan” reflected the international scene. The U.S. scene was represented by a number of interesting coinages in fields from national politics to fashions: for example, “air coach,” “bopera,” “Braford,” “charactonym,” “guilt by association,” “guitar look,” “mambo,” “McCarthyism,” “re-examinist,” “space opera” and “theatre-in-the-round.”

Americans also talked about “colorcasts,” “dot,” “field” and “line sequential systems,” and were interested in whether or not their television sets were “compatible.”

The words listed below became prominent or were seemingly used for the first time during 1949 and 1950. Dates within the parentheses following a word or definition indicate the first recorded use of the new word or meaning in the files of the committee.

A preceding hyphen means that the word or meaning is suspected of being older than the date given. If no date is given, the first record on file is 1950.

**ACE.** Adrenal cortex extract, said to be effective in checking alcoholism.

**Aggressor Republic.** A mythical totalitarian enemy which United States forces had been fighting in practice exercises since 1946.

**air coach.** An air liner with inexpensive accommodations. (–1948)

**air-to-air missile.** A type of guided missile launched from one plane in flight toward another also in flight. (1949)

**air-to-surface missile.** An aerial bomb or torpedo launched from a plane and guided from it. (–1950)

**Anglico.** Acronym of Air and Naval Gunfire Liaison company.

**Antifa, n.** General term for German underground resistance (*antifascist*) organizations. (1949)

**apartheid, n.** The doctrine of “apartness, separateness” of the South African Nationalist party, holding that the various South African racial groups should intermingle only in business and as master and servant. (–1949)

**arena staging, arena theatre.** A theatre-in-the-round (*q.v.*).

**autotronic elevator.** An automatic, electronically operated elevator capable of moving at a rate of 700 ft. a minute. (–1949)

**Baltic Wall.** Russian defenses along the Baltic seacoast.

**berkelium, n.** Suggested name for the synthetic element no. 97, produced by the University of California's 60-in. cyclotron. Named after Berkeley, Calif., it bears the symbol Bk.

**bird, n.** Nickname for a 1,400-lb. air-borne magnetometer. (1948)

**Boogie-Woogie boat.** An experimental boat of the royal air force started, reversed and steered by different musical tones originating in a mother ship.

**bopera, (bop + opera), n.** A night club, restaurant or the like specializing in bop music. (1948)

**Braford, n.** Cattle crossbred from Brahman and Hereford. (1947)

**Bumper missile, rocket.** A rocket with a booster which continues it on its way after its initial supply of fuel has been consumed.

**californium, (california + ium), n.** Synthetic radioactive element no. 98,



artificially created at the University of California by the bombardment of curium, element no. 96.

**captive audience.** An audience that has no choice but to listen to a broadcast.

**catastrophic coverage.** Health insurance designed to meet costly, unforeseen illnesses.

**central staging.** See *theatre-in-the-round*.

**characteronym** (Gr. *charakter* "mark, stamp" + *onym* "name"), *n.* A name denoting a character's occupation or outstanding trait. (1949)

**Cinca.** Commander-In-Chief-Alaska.

**Cinerama.** A type of motion picture projected onto a screen with an arc that covers a field of vision about 146° wide and 55½° high. Trade-mark.

**colorcast, n.** A broadcast of colour television.

**color conditioning.** The use of colours to which people react favourably. (1947)

**compatibility, n.** *Television.* The condition existing when colour television can be seen on existing sets in black and white without the installation of an adapter. (1949) **compatible, adj.** (1949)

**Contoura, n.** Trade-mark of a small camera designed to photograph curved surfaces such as those on a book page. (1949)

**Coxsackie virus.** Any of a group of mysterious filterable viruses, the first of which was isolated in a patient in Coxsackie, N.Y., causing symptoms ranging from those of a light cold to poliomyelitis.

**death sand.** Radioactivated dust which, spread over enemy territory, would serve as an invisible deadly weapon.

**defactoist, n.** One who recognizes a *de facto* government.

**demoth(ball), v.** To remove the preservative plastic covering from (a ship, plane, other vehicle, large piece of equipment).

**deviationism, n.** Nonconformity to the Communist line. (1948) **deviationist, n.** (1942)

**dianetics, (modification of *dianoetic*), n.** A system of psychotherapy claiming to relieve psychosomatic ills through working on the submind.

**disciplined fabric.** Cotton cloth treated to resist creasing and shrinking.

**DO.** Symbol for a defense order with a high priority.

**DOCA.** Short for desoxycorticosteroneacetate, an adrenal hormone used in the treatment of arthritis.

**dot sequential system.** A system of colour television. (1949)

**Eager Beaver.** Nickname of a 2½-ton Reo truck with a waterproofed engine that enables the vehicle to operate in water as deep as seven feet.

**electrohyetograph, n.** A machine which can predict whether a prospective mother's labour will be normal or abnormal and whether given symptoms are true or false labour pains.

**eye, n.** *Fig.* A football scout. (1949)

**femineered, adj.** Designed by a woman.

**field sequential system.** A system of colour television. (1949)

**fire fight.** Close rifle fighting.

**flame out, v. i.** Of a jet plane, to exhaust its supply of fuel. (1948)

**flying banana.** Nickname of the U.S. navy HRP-1 elongated helicopter. (1949)

**Fritalux, n.** The projected economic union of France, Italy, Belgium, the Netherlands and Luxembourg (1949)

**fusion bomb.** A bomb in which atomic nuclei would be caused to combine with a release of energy; contrasted with fission, in which a large nucleus breaks into parts having a total mass less than the original nucleus. Fission takes place with a heavy element like uranium 235, fusion with a light element like hydrogen.

**glamourlovely, n.** A beautiful, buxom girl. (1949)

**glide path.** The path of descent of an aeroplane as marked out by a radio beam. (1946)

**guilt by association.** The presumption that one shares the guilt of one's associates. (-1950)

**guitar look.** A style of women's contour with narrow waist and wide hips and bust.

**H-bomb.** Short for hydrogen bomb.

**heliport.** A helicopter airport. (-1949)

**Hell bomb.** The hydrogen bomb.

**integration, n.** *Specif.* Economic co-operation among western European countries, the aim of the Marshall plan. (1949)

**K-day.** The day of the beginning of hostilities in Korea.

**line sequential system.** A system of colour television. (1949)

**litter-bug.** One who throws wastepaper about. (1947)

**loon, n.** A guided missile of the U.S. navy, equipped with a ramjet engine, capable of travelling at about 300 m.p.h. for approximately 100 mi., and carrying about 3,000 lb. of test instruments. (1947)

**mambo, n.** A rumbalike dance. (1948)

**McCarthyism, (after Sen. Joseph R. McCarthy), n.** Repeated accusation of Communist connections.

**Mighty Mouse.** Nickname of the first successful air-to-air rocket.

**multi(ple)-stage rocket.** A rocket with multiple sources of power supply consumed in series. (1949)

**nerve gas.** An insidious, almost colourless and odourless gas which works on the nervous system, causing convulsions and eventual death. (1940)

**NPA.** National Production Authority.

**OMPA.** Short for octomethyl pyrophosphoramidate, a drug helpful in the treatment of myasthenia gravis, a disease of the muscles.

**para-rescue team.** A team of rescuers who drop by parachute from one or more planes.

**parathion, n.** A powerful and widely usable insecticide. (1948)

**phantom order.** A tentative order, to be filled only in an emergency such as war. (1948)

**pickle-barrel, n.** The L-17, a light, four-seated observation aeroplane.

**Plumericin, n.** Tentative name of a fungicide and test-tube antibiotic.

**Portrex, Operation.** A combined operation of the army, navy and air force of the United States held at Vieques Island in the Caribbean sea, designed to test defensive strength.

**Queuetopia, (queue + utopia), n.** A coinage of Winston Churchill's to describe the utopia of the Socialists, a salient characteristic of which is assumed to be queues.

**radiological warfare.** Warfare carried on with radioactive material. Also **radioactive warfare; RW.**

**radio star.** A star whose luminosity is so low that its existence is known only through short-wave radio emanations.

**railplane, n.** A fast-travelling rail car, running on two rails, one above from which it hangs, and one below.

**rat pack. California.** A group of teen-aged boys and girls who roam about at night victimizing people.

**re-examinist, n.** One who wishes to re-examine, specifically, the foreign policy of the U.S. state department.

**Rok, n. 1.** The Republic of Korea; also used attributively, as, "a Rok division." **2.** A South Korean soldier.

**RW.** See **radiological warfare.**

**Sation, (L. satis, "enough" + nation), n.** A people who are self-sufficient. (1949)

**scare buying.** Abnormal purchases during war scares; hoarding. (1944) **scare item, scare order.**

**scintillation counter.** A highly sensitive device for detecting radioactive materials which employs a number of synthetic crystals. (1949)

**shaped charge.** A charge making use of the Morse principle, whereby the impact of a shell throws forward a thin stream of hot particles which, travelling at a high velocity, cut a path through the object struck for the shell to follow. (1948)

**slope-line system.** A fog-landing system for airports employing on either side of the landing strip rows of lights which decrease in height and thus form a "slope-line" for the descending plane. (1948)

**Smerish, n.** A contraction of *Smyri Shpionam* (Death to the Spies), a top-secret counterintelligence corps of the soviet N.K.V.D.

**spaceman, n.** One who travels in space, as in a spaceship.

**space opera.** Trade term for a science-fiction novel centred about interplanetary travel. (1949)

**stutter play. Football.** A play (vaguely similar to a stutter) consisting of a series of fakes or deceptive moves and thus disguising for a brief while its true aim. (1947)

**subminiaturization, n.** The technique of making even smaller devices, such as radio tubes, that are already small. **subminiature, n.** (1949)

**super-bazooka, n.** A 15-lb., 3.5-in. recoilless rocket launcher which throws an 8.5-lb. rocket into armour as thick as 11 in. (1945)

**superbomb, n. Specif.** A bomb employing hydrogen or tritium or both.

**surface-to-air missile.** A type of guided anti-aircraft missile. (1949)

**surface-to-surface missile.** A type of guided missile for use on land and water between installations and targets that are relatively stationary. (1949)

**"Sweetbriar", Exercise.** The practice manoeuvre conducted jointly by U.S. and Canadian forces in the Yukon in February.

**swing team. Football.** The odd team in a professional league of teams.

**syntopicon, n.** A collection of topics; coined by Mortimer J. Adler of The University of Chicago to describe listing of topics discussed in *Great Books of the Western World*.

**tanker (plane).** An aeroplane used to refuel another plane while both are in flight. (1948)

**terramycin, n.** An antibiotic derived from an earth (L. *terra*) mould (Gr. *myc-*), which may be effective against virus pneumonia, influenza, typhus fever



and certain other diseases. The antibiotic is produced by *Streptomyces rimosus*, a new actinomycete. (—1950)

**theatre-in-the-round.** An experimental, circular theatre with the stage in the centre and the audience completely surrounding the stage. (1948) Also **arena staging, arena theatre, central staging.**

**third force.** A phrase borrowed from European politics to describe a group acting as a buffer between the Communists and another party of opposing beliefs; *specifically*, the non-Communist left; also a movement calling for a third power standing between the U.S.S.R. and the U.S. (1947)

**Titotataria, (Tito + totalitarian), n.** The region subject to the Tito form of totalitarianism. **titotatarian, n.**

**total diplomacy.** The participation or agreement of all persons in a nation in the diplomacy of that nation.

**triton bomb.** The hydrogen bomb, an important ingredient of which is tritium (the nucleus of an atom of tritium is called triton).

**two-stage rocket.** A rocket with one booster (*see bumper rocket*).

**umbrella (backfield).** *Football.* A defensive backfield so distributed behind the line as to suggest the shape of a raised umbrella; as, "a four-man umbrella."

**uncan, v.t.** To demoth (*q.v.*). (1946)

**Uniscan, n.** Proposed economic union between the United Kingdom and the Scandinavian countries. (1949)

**varitrons, n. pl.** Particles reported by Russian scientists: so called from the variations in their mass. (1948)

**Vidicon, (video + iconoscope), n.** A small, 1 by 6 in. television pickup tube. Trade-mark.

**Viomycin, n.** Trade name of an antibiotic derived from a soil mould, found to be effective against tuberculosis in the laboratory.

**Vosnian, n.** An artificial language of about 1,000 words derived in part from Estonian, Czech, Hungarian and Finnish for the British-made motion picture *State Secret*. (I. W. R.)

**World Bank:** *see* INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT.

**World Commerce:** *see* INTERNATIONAL TRADE.

**World Council of Christian Education:** *see* RELIGIOUS EDUCATION.

**World Council of Churches:** *see* CHRISTIAN UNITY; RELIGION.

**World Federation of Trade Unions:** *see* LABOUR UNIONS.

**World Government:** *see* INTERNATIONAL LAW.

**World Health Organization:** *see* CHILD WELFARE; UNITED NATIONS.

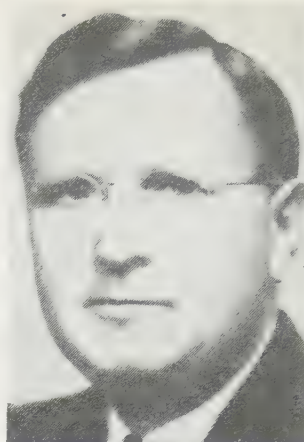
**Wrestling.** A strong band of grapplers representing the Iowa State Teachers college of Cedar Falls captured two of the sport's major team awards in 1950 by winning both the national Amateur Athletic union and National Collegiate Athletic association championships.

In the 60th annual A.A.U. tourney held at Hofstra college at Hempstead, L.I., N.Y., the Panthers amassed 44 points and won five of the ten individual titles in retaining their team laurels. Meet champions were: John Harrison, Iowa Teachers, 115 lb.; Arnold Plaza, Purdue, 121; Richard Hauser, Cornell College, Mt. Vernon, Ia., 128; Lowell Lange, Cornell of Iowa, 136; Keith Young, Iowa Teachers, 145; Bill Nelson, Iowa Teachers, 155; Bill Smith, Iowa Teachers, 165; C. S. Smith, Baltimore Y.M.C.A., 175; Dave Whinfrey, Rutgers, 191, and Fred Stoeker, Iowa Teachers, heavyweight.

Four Iowa Teachers carried home individual titles from the National Collegiate A.A. tournament, in which Young, Nelson and Bill Smith triumphed again. The N.C.A.A. title winners were Anthony Gazoni, Waynesburg College, Waynesburg, Pa., 121; Joe Patacsil, Purdue, 128; Lange 136; Young 145; Nelson 155; Bill Smith 165; Joe Scarpello, Iowa, 175, and Dick Hutton, Oklahoma A. and M., heavyweight.

National Y.M.C.A. honours were annexed by the Toledo, O., team. Newton Copple, 145-pounder from Lincoln, Neb., won the outstanding competitor award in that tournament.

(T. V. H.)



FRANK A. BARRETT, Republican, elected governor of Wyoming, Nov. 7, 1950

**Wyoming.** A Rocky mountain state of the United States, Wyoming was admitted to the union on July 10, 1890, as the 44th state. Having been a leader in extending rights to women, it is known as the "Equality state."

The land area is 97,914 sq. mi.; water area, 408 sq. mi. The 1940 census, which gave a total population of 250,742, listed rural inhabitants at 157,165 and urban at 93,577; 229,818 native white; 950 Negro; and 17,107 foreign-born. The 1950 census placed Wyoming's population at 290,529, a 15.9% increase since 1940.

The capital of Wyoming is Cheyenne, with a population (1950 census preliminary report) of 31,807. Other cities having a population of 10,000 or more are: Casper, 23,557; Laramie, 15,497; Sheridan, 11,402; and Rock Springs, 10,785.

**History.**—State officials during 1950 were: governor, A. G. Crane; auditor, Everett T. Copenhaver; treasurer, C. J. Rogers; and superintendent of public instruction, Edna B. Stolt. Justices of the state supreme court were Fred H. Blume, Ralph Kimball and William A. Riner.

The state house of representatives, elected in Nov. 1948, was evenly divided (28–28) between Democrats and Republicans, and the state senate was predominantly Republican (18 Republicans and 9 Democrats).

State officials elected in Nov. 1950 to hold office for the ensuing four years were: governor, Frank A. Barrett; secretary of state, C. J. Rogers; state auditor, Everett T. Copenhaver; treasurer, J. R. Mitchell; and superintendent of public instruction, Edna B. Stolt. The state house of representatives elected in Nov. 1950 was made up of 17 Democrats and 39 Republicans, and the state senate consisted of 10 Democrats and 17 Republicans.

**Education.**—In 1949–50 there were 600 elementary and rural schools in Wyoming with 1,152 elementary teachers and 527 rural teachers, and a total enrolment of 59,585. There were 86 accredited high schools, with 870 teachers and an enrolment of 13,581.

**Social Insurance and Assistance, Public Welfare and Related Programs.**—Funds spent on public welfare during the year ending Sept. 30, 1950, were as follows: old-age assistance \$2,800,180; aid to dependent children \$653,575; aid to the blind \$62,150; general welfare \$370,220.89; child welfare \$30,657; general welfare health \$342,840.12.

There were three correctional institutions with 467 inmates and appropriations as follows: state penitentiary at Rawlins, 374 inmates, appropriation \$358,150; girls' school at Sheridan, 45 inmates, appropriation \$156,750, capital outlay \$27,740; boys' school at Worland, 48 inmates, appropriation \$142,500, capital outlay \$87,400.

**Communications.**—During 1950 the Wyoming highway department let approximately 97 contracts for a total expenditure of \$7,251,565 of which 13 contracts, for an amount of \$418,731, were for special maintenance work and 15 contracts amounting to \$218,822 were state-county co-operative projects. This work was spread over a total mileage of 471.51. The highway system in Wyoming at the end of the year consisted of 4,618 mi., of which 1,281 mi. were secondary routes. The 1950 maintenance budget, which covered the period ending April 1, 1951, was set at \$3,093,000. Railroad mileage remained stationary at 1,912 mi.

**Banking and Finance.**—On June 30, 1950, there were 29 state banks with deposits of \$71,416,892.21. There were 24 national banks with deposits of \$167,284,090.65. Total state receipts for the fiscal year ending Sept. 30, 1950, were \$42,773,987.04. Total disbursements for the same period were \$40,647,291.22. The bonded debt for the state on Sept. 30, 1950 was \$770,000.

**Agriculture.**—Crop production in Wyoming during 1950 was slightly less than in the previous year. Farm products were valued at an estimated \$57,369,000. Wyoming livestock on the farm was valued at \$167,481,000 during the year 1950. (*See tables on page 744.*)

**Mineral Production.**—Mineral production in Wyoming for 1949 was estimated as follows: bituminous coal, 5,972,640 tons, estimated value



Table I.—Leading Agriculture Products of Wyoming

	1950	1949	Average 1939-48
Corn, bu.	1,156,000	1,085,000	1,402,000
Winter wheat, bu.	5,130,000	5,638,000	3,180,000
Spring wheat, bu.	1,088,000	1,312,000	1,317,000
Oats, bu.	5,184,000	3,982,000	4,030,000
Barley, bu.	4,564,000	4,727,000	3,605,000
All hay, tons	1,150,000	1,283,000	1,233,000
Dry, edible beans, cwt.	932,000	1,215,000	1,072,000
Sugar beets, tons	457,000	406,000	430,000
Potatoes, bu.	2,152,000	1,870,000	2,204,000

Table II.—Number and Value of Livestock in Wyoming

	Number on Farms, 1950	Value
Cattle	1,001,000	\$124,124,000
Hogs and pigs	85,000	2,014,000
Stock sheep	1,980,000	36,630,000
Sheep and lambs on feed	83,000	1,494,000
Horses	80,000	2,000,000
Mules	1,000	34,000
Chickens	831,000	1,055,000
Turkeys	21,000	130,000
Total		\$167,481,000

\$47,780,000; oil, 47,467,000 bbl.; bentonite, 40,000 tons. The trona report for 1950 was confidential.

**Employment.**—The total labour force in Wyoming as estimated for June 1950 was about 116,000 workers, of whom about 59,185 were covered by unemployment compensation. Of the total labour force, approximately 28,000 to 30,000 persons were employed in agriculture, 9,378 in mining, 8,524 in contract construction, 6,599 in manufacturing, 12,793 in all types of transportation, 2,400 in utilities and communications, 3,250 in wholesale trade, 14,487 in retail trade, 1,821 in finance and real estate, 8,204 in the services, 1,952 in professions, 14,600 in all types of government and an estimated 2,000 to 3,000 in miscellaneous. (A. G. Cr.)

**X-Ray and Radiology.** Among improvements in X-ray apparatus and technique achieved during 1950, two were especially worthy of mention. Photoelectric timing had been made practical in 1941 by the work of R. H. Morgan and P. C. Hodges which resulted in the Morgan photoelectric timer; it established its value in photofluorography and had much to do with the success of mass chest surveys for the control of pulmonary tuberculosis. A number of modifications and improvements in the construction of the timer were made, especially with a view to its use in direct roentgenography as well as in photofluorography. Hodges and associates reported on its further improvement during 1950, and A. M. McNabb and associates described the uses of the phototimer adapted to direct roentgenography.

The other notable advance in apparatus and technique was the development of electronic intensification of the image on the fluorescent screen. It not only increased the screen brightness 500 times or more but made it possible to make fluoroscopic examinations in a lighted room.

The therapeutic use of radioactive isotopes received considerable attention at the sixth International Congress of Radiology, held at London in July 1950, and many papers on their use appeared during the year. The principal applications in medicine had been the use of radioactive phosphorus in chronic leukemias and polycythaemia vera and radioactive iodine in hyperthyroidism and thyroid carcinoma.

Research confirmed the view that radioactive phosphorus is the best treatment for polycythaemia vera and that its action in the leukemias is not essentially different from or more valuable than the X-ray.

Numerous reports on the use of radioactive iodine ( $I-131$ ) in the diagnosis and treatment of hyperthyroidism appeared. Those of S. C. Werner *et al.* and of R. A. Shipley *et al.* constituted a satisfactory summary of knowledge in this field. Radioactive iodine used as a tracer to determine the presence of thyrotoxicosis had become of real diagnostic value in both diffuse and nodular goitre; its accuracy was believed to be greater than that of basal metabolism.

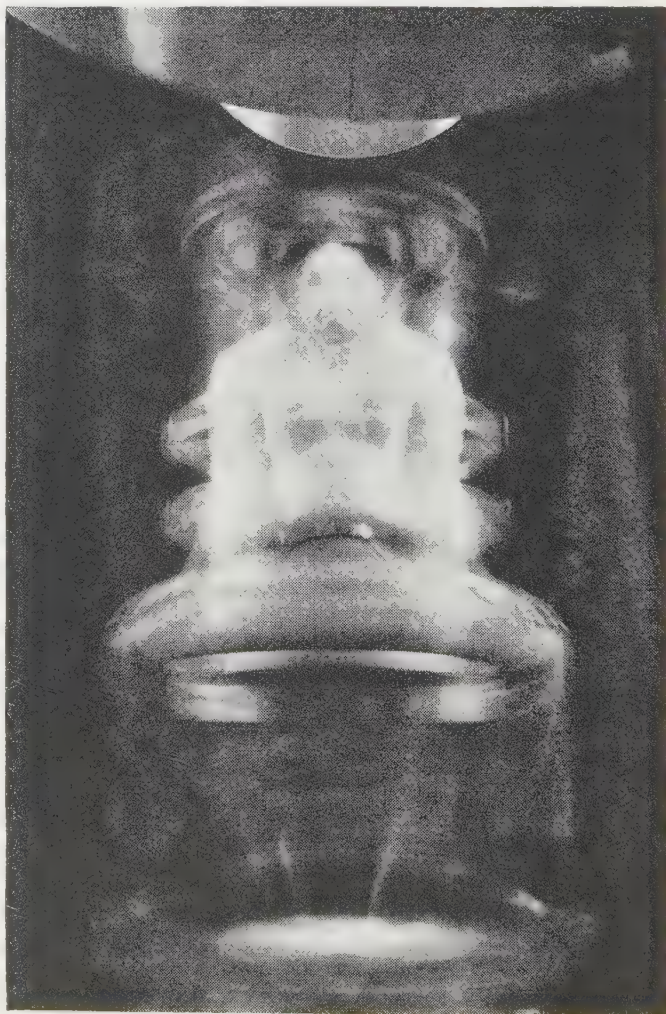
The remission rate of 80%-90% in the treatment of hyperthyroidism was essentially the same as that reported in previous years by X-ray treatment. It was generally agreed that radia-

tion is the treatment of choice in toxic goitre recurring after operation, and in the patient who has complications and is unsuited to surgery.

Radioactive iodine had also been found of value in the diagnosis, localization and treatment of metastatic lesions from cancer of the thyroid gland. To obtain the best results in treatment of the distant metastases it is necessary first to resort to either irradiation or surgical thyroidectomy in order that the radioactive iodine may be deposited in the metastases rather than in the thyroid gland itself.

"Radiological defense" against atomic explosions was the subject of much research and discussion in 1950. The potential damages to persons from an atomic explosion are of several different types:

1. Primary shock or blast damage; the best protections are underground shelters and reinforced concrete buildings.
2. Secondary shock, caused by the impact of flying objects or propulsion of the body against solid objects. Here again underground shelters are the best protection but if one is in a building or in the open he is best protected when lying flat on the ground or floor and away from windows.
3. Flash burns—injuries caused by direct exposure to the visible and near-visible radiation which emanates from the point of detonation of the bomb. The best protection against this is light-coloured clothing.
4. Flame burns—injuries arising from fires started in buildings or inflammable material. The best protection is fireproof



DEMONSTRATION OF AN X-RAY "barbecue" technique developed at the Massachusetts Institute of Technology. The patient was rotated so that the X-rays always hit the tumour but the point where they entered the body changed constantly to avoid radiation burns on healthy tissue



buildings and complete organization of fire-fighting equipment and personnel so located that they will not be wiped out by the explosion itself.

5. Damage by nuclear radiation. This may be due to "prompt" or "immediate" radiation or to delayed radiation. Immediate radiation damage is due to the large amounts of gamma rays and neutrons which emanate within a fraction of a second after the detonation. Protection against these hazards can be provided only by massive construction such as would be represented by 3 in. to 12 in. of steel, 6 in. of cement or 6 in. of water, and is therefore feasible only for the most vital installations. Underground shelters and distance are the best protection for human beings.

In addition to the dangers from immediate radiation are those due to delayed radiation which is the result of decay of fission products produced by the nuclear explosion and which may spread over an area of five square miles or more and may persist for varying long periods after the explosion. In addition to the above radiation hazards, there is additional danger from nuclear radiation when radioactive materials find their way into the body by inhalation, ingestion, etc. This will take place only if one is within the base surge of the explosion, in the mushroom cloud or working in an area over which the base surge has passed.

Many plans were being made in 1950 for protection against all these dangers. The Armed Forces Special Weapons project published three volumes on radiological defense available to the armed services and to the civilian defense personnel. (See also ATOMIC ENERGY; EAR, NOSE AND THROAT, DISEASES OF; TUBERCULOSIS.)

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FILMS OF 1950.—*Moving X-Rays* (Almanac Films, Inc.).

(A. C. CH.)

**Yachting.** The biennial ocean race from Newport, R.I., to Bermuda, with a record fleet of 54 starters including 6 British entries, was a feature of 1950, an active year of yacht racing. The first yacht to finish was John Nicholas Brown's 73-ft. yawl "Bolero," in 75 hr. 32 min. 9 sec. Winner of the Bermuda trophy and the Class A prize was the yawl "Argyll," owned by William T. Moore of Oyster Bay, N.Y., which saved her time on "Bolero" and the other larger boats in Class A, leaving "Bolero" second in that class and the U.S. Naval academy yawl "Royono" third. In Class B the winner was H. Irving Pratt's cruising yawl "Merry Maiden" of Oyster Bay, N.Y., while in Class C Gifford B. Pinchot's 38-ft. yawl "Loki" took first place.

Though beaten by "Argyll" on corrected time in the Bermuda race, "Bolero," which was built in 1949, proved an outstanding yacht in the American season. Besides showing the way to Bermuda and winning the Storm Trysail club's Block Island race in May, she won the historic King's and Astor cups, and two port-to-port runs on the New York Yacht club cruise in August, the annual meeting of the country's biggest racing yachts.

The new light-displacement type yachts, of which four British and three American entries in the Bermuda race were ex-



PART OF A FLEET of small sailing craft at the start of the Class A division of the open ocean race from Newport, R.I., to Hamilton, Ber., in June 1950

amples, enjoyed none of the outstanding success in American racing which many had predicted, until September when the 40-ft. sloop "Dirigo," owned by a Bath, Me., syndicate and sailed by her designer, Roger McAleer, cleaned up spectacularly in a fast fleet in the Stamford-Vineyard race.

The Florida ocean-racing circuit was well attended during the winter, when Kennon Jewett's ketch "Malabar XIII" winning the Cat Cay race; the sloop "Blitzen" of Detroit, owned by Ernest Grates and Murray Knapp, winning the Miami-Nassau; and Walter S. Gubelmann's yawl "Windigo" of Oyster Bay, N.Y., winning the St. Petersburg-Havana race and the Florida Governor's cup for the best collective scoring in the whole Florida series. On the Great Lakes, the over-all winners of the Mackinac races were Wendell Anderson's 72-ft. yawl "Escapade" in the Port Huron-Mackinac, and Nicholas J. Gieb's small ketch "Fleetwood" in the Chicago-Mackinac, while George Ford's yawl "Venture III" took the Rochester Yacht Club race around Lake Ontario. Among west coast winners were Heber Erickson's sloop "Scandia" in the Newport (Calif.) to Ensenada (Mex.) race, with 133 starters, and J. F. Eddy's yawl "Dorade," famous two decades before as the winner of a transatlantic race, which won the Tri-Island series of long distance races in Puget sound.

Six-metre sloops raced in Sweden for the Scandinavian Gold cup, won by a Swedish yacht, "Trickson VI," sailed by her designer, Arvid Lauren. Dragon class sloops raced for their own Gold cup in Denmark, the winner being "Pan," sailed by Thor Thorvaldsen of Norway.

The small one-design and restricted classes carried an in-



creasing share of national and international competition. A feature was the triumph of two brothers, Robert and Howard Lippincott of Riverton, N.J., the former winning the Star class international championship in "Sea Robin" and the latter the Comet class world title in "Cirrus III." Other champions included Snipe class (U.S. championship), won by "Ghoul," Clark King, Newport, Calif.; Lightning class (international), won by "Jinks," H. R. Krauss, Toledo, O.; Thistle class (international), won by "White Shadow," Frank Marquardt, Alexandria, Va.; 110 class (international), won by "Hot Breath," Les and Don Harlander, Oakland, Calif.; Moth class (international), won by Gene Willey, Elizabeth City, N.C.; 210 class (international), won by "Challenge," Morton Bromfield, Boston, Mass.; National class (U.S.), won by O. W. Pendergast, Leland, Mich.; Bantam class (U.S.), won by Bernard E. Hiller, Cleveland, O.; Flattie class (international), won by "Stormy," Austin Peeples, Los Angeles, Calif.; L-16 class (U.S.), won by "Can't Wait," Don McClave, Greenwich, Conn.; Penguin class (U.S.), won by Runyon Colie, Jr., Mantoloking, N.J.; 14-ft. dinghy (international), Open class won by "Oops," Richard Stephens, Stockton, Calif., and one-design class by "Green Dream," Richard Serrell, Balboa, Calif.; Raven class (U.S.), won by "Pipper," Lloyd E. Steele, Larchmont, N.Y.; Wood Pussy class (U.S.), won by R. W. Ayer, Cold Spring Harbor, N.Y.

The women's national sailing championship was won by the American Yacht club crew, of Rye, N.Y., headed by Mrs. Allegra Knapp Mertz; and the North American junior championship by the Pleon Yacht club crew, of Marblehead, Mass., headed by Stephen Smithwick. (W. H. TR.)

**Yeast.** During 1950 the established usefulness of yeasts as convenient tools for biological experimentation was reflected in a number of published studies. Among this fundamental research using yeast as the experimental organism were studies of the mechanism of action of the antibiotics streptomycin and antimycin A, significant progress in understanding of the intermediate energy metabolism of the living cell and several advances in knowledge of the basic cell constituent nucleic acid, including establishment of the shape, size and weight of the yeast nucleic acid molecule.

A definitive report with photomicrographs showed that the yeast cell possesses a nucleus organized similarly to that of other fungi; previously the existence of a nucleus in yeast cells had been questioned. A giant yeast double the normal size was produced by exposure to X-rays. Heparin (an impure liver phosphatide having anticoagulant and bacteriostatic properties) was found not to inhibit yeasts in concentrations that are strongly inhibitory to bacteria, possibly because of relative impermeability of the yeast cell membrane.

A new analytical method was developed for forecasting the effects upon yeast growth of raw materials used in brewing. The yeast enzyme, alcohol dehydrogenase (which produces reversible oxidation of alcohol to acetaldehyde), was shown to be useful in analytical chemistry. Another advance in the analytical applications of yeast was a microbiological method for determining sulphur, based on a new study of the abilities of various yeasts to utilize organic and inorganic sulphur-containing compounds as sulphur sources for growth.

The proceedings of the 1948 symposium on food and fodder yeasts were published during 1950. Other advances in yeast technology included intensive investigations of the physiology of *Rhodotorula gracilis*, a yeast capable of producing large amounts of fat, and of *Ashbya gossypii*, a filamentous yeast that produces high concentrations of riboflavin (vitamin B<sub>2</sub>).

An unusually large number of yeast patents were granted during 1950. The patent covering the industrial fermentation for

producing riboflavin using the yeast *Ashbya gossypii* was issued by the British patent office, and a patent on the freezing of bakers' yeast was also granted there. Yeast patents granted in the United States during the year covered an improved yeast propagating tank; a prepared baking mix containing active dry yeast coated with shortening; meat, fish or fowl loaves or patties held together with autolyzed or hydrolyzed yeast; an egg white substitute made from yeast proteins; a process for producing the antibiotic streptomycin on a substrate containing whole yeast; and sorption on yeast of sugars from dilute raw materials and removal of sugars and yeast together for subsequent fermentation.

Although primarily useful to mankind, yeasts like other generally beneficial classes of microorganisms on occasion cause spoilage. Thus during 1950 certain types of spoilage of salad dressings and French dressings were discovered to be caused by fermentation by a yeast. The troublesome scums on cucumber pickle brines sometimes caused by yeasts were intensively studied, and were found to involve yeasts of four different genera, all having unusually high salt tolerance and relative adaptability as to their requirements of carbon sources for growth. Sorbic acid was found to be a useful preventive of yeast scum formation on pickle brines.

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**Yemen.** An independent state in the southwestern tip of the Arabian peninsula, Yemen lies between Saudi Arabia north, the British Aden protectorate southeast and the Red sea west. Area: c. 31,000 sq.mi. Pop. (1949 est.): 1,600,000. Language: Arabic. Religion: Moslem. Capital: San'a (pop. est. 25,000). Ruler: Sayf al-Islam Ahmad ibn Yahya.

**History.**—During 1950 Anglo-Yemeni relations passed from the recriminatory stage which prevailed in 1949 to friendly negotiations for a wide settlement of the outstanding disputes which had arisen in 1949, mainly on account of the absence of an agreed delimited frontier between the Yemen and the Aden protectorate. In Aug. 1949 armed bands from the Yemen had prevented the building of a customs house, the site of which, according to the British view, was inside the Aden frontier. In September these bands had erected a fort, also inside the Aden frontier, and when they refused to dismantle it and withdraw, they had been bombed by the royal air force. There was also the more general problem of the establishment of proper diplomatic relations between the two countries. They had been conducted through the British governor of Aden, as the imam of the Yemen had consistently refused to admit foreign representatives to his capital, San'a.

The negotiations between the two countries were opened in London on Aug. 29, 1950. Discussions ended on Oct. 12 when a joint statement was issued that the delegations had agreed to submit to their governments proposals providing a sound basis for strengthening the friendly relations between the two countries.

In the sphere of Arab league policy the Yemeni government associated itself with the resolution qualifying Jordan's annexation of Arab Palestine (June 12). In February the United States announced the resumption of diplomatic relations with the Yemen which had been broken off in 1948 when the imam of the Yemen was assassinated. (O. M. T.)



**Foreign Trade.**—Imports from the U.K. (1949) £1,750; exports to the U.K. (1949) £210. Principal exports: coffee, food grains, hides and raisins.

**Finance.**—Monetary unit: Maria Theresa dollar, called the riyal, nominally = R. 1 (Indian) with an exchange rate of 4.775 riyals to the U.S. dollar.

**Yoshida, Shigeru** (1878– ), Japanese statesman, was born on Sept. 22 in Tokyo. He was educated at the Tokyo Imperial university, and graduated in law in 1906. He held many minor diplomatic posts in the far east and Europe and was second secretary at the Japanese embassy in Washington, D.C. (1916–17). He was minister to Sweden, Norway and Denmark in 1928; vice-foreign minister, 1928–30; ambassador to Italy, 1930–32; and ambassador to London, 1936–39. Yoshida was arrested in June 1945 allegedly for heading a “defeatist” peace faction. He was freed after Japan’s surrender at the end of World War II and became foreign minister in the Kijuro Shidehara cabinet, Oct. 6, 1945. On May 16, 1946, he was named successor to Shidehara as premier and his cabinet was sworn in May 22, 1946.

On Feb. 11, 1950, Premier Yoshida’s Democratic Liberal party absorbed the Democratic party to form a single conservative party with a comfortable majority over the combined opposition. In an election, June 4, of about half the members of the house of councillors, the upper house of the Japanese parliament, candidates supporting him dominated the election. On June 27, a few days after the outbreak of war in Korea, his

cabinet resigned to permit reorganization of the government to meet the crisis. On June 28 he installed a new cabinet strongly favourable to the U.S. occupation policy.

**Young Men's Christian Association:** *see* SOCIETIES AND ASSOCIATIONS.

**Young Womens Christian Association:** *see* SOCIETIES AND ASSOCIATIONS.

**Yugoslavia.** A federal people’s republic of southeastern Europe. Yugoslavia is bounded north by Austria, north and northeast by Hungary and Rumania, east by Bulgaria, south by Greece and west by Albania, the Adriatic sea and Italy. Area: (1940) 95,983 sq.mi.; (1947, incl. newly acquired territory of the Julian march, Zara and the islands) 98,826 sq.mi. Federal republics (pop., 1948 census):

	Population	Capital
Serbia (with the autonomous province of Vojvodina and the autonomous Albanian region of Kosovo-Metohija) . . . . .	6,523,224	Belgrade (388,246)
Croatia . . . . .	3,749,039	Zagreb (290,417)
Slovenia . . . . .	1,389,084	Ljubljana (120,944)
Bosnia and Hercegovina . . . . .	2,561,961	Sarajevo (118,158)
Crnagora (Montenegro) . . . . .	376,573	Titograd (12,206)
Macedonia . . . . .	1,152,054	Skopje (91,557)
Total . . . . .	15,751,935	

**MARSHAL TITO** joining the street dancing in Kola, Yugo., during his visit there prior to the legislative elections of March 26, 1950. Voters were offered a single slate of candidates, and registered their votes by dropping pink rubber balls in the ballot boxes





By mid-1949 the total population was estimated at 16,040,000. Other towns (pop., 1948 census): Subotica (112,551); Novi Sad (77,127); Rijeka, formerly Fiume (72,130). Languages: Serbo-Croat, Slovene and Macedonian; Albanian, Hungarian and Italian spoken by minorities. Religions (1931 census): Greek Orthodox 48.7%, Roman Catholic 37.5%, Moslem 11.2%. Chairman of the presidium of the people's assembly (*Skupština*): Dr. Ivan Ribar; prime minister: Marshal Josip Broz (Tito) (q.v.).

**History.**—During 1950 Yugoslavia's relations with the western powers improved, while the hostility of the Cominform group remained implacable. The effects of the Cominform blockade were felt in Yugoslavia's economic life, but the danger of direct attack from neighbouring countries or from soviet forces seemed less acute. There was little sign of Cominform-sponsored disaffection inside the country.

The continued feud with the Cominform led to no significant political changes within Yugoslavia. On March 26 elections took place to the federal parliament. As in 1945, there was one list of candidates, and majorities averaged more than 90% from a poll of 93%. The only exception of importance was the town of Subotica, on the Hungarian border, where the government list received little more than half the votes cast. This town and its surroundings had a predominantly Hungarian population, and it was probable that most of the opposition was the result of discontent with the political regime in general and the position of the Hungarian minority in particular.

During the year there appeared to have been some relaxation of police pressure on opinion. Removal of the compulsion to adulate all things Russian and permission to say a kindly word about western countries represented a significant measure of mental liberation. Criticism of abuses of power by the bureaucracy was also allowed. A satirical writer named Branko Ćopić won great popularity by his attacks on the exponents of policy and even on policy itself, but was sharply warned by Marshal Tito himself not to exceed decent limits. A commission was appointed in the summer, under the leadership of the party's principal Marxist theorist, Moša Pijade, to consider a reform of the judiciary. Among changes anticipated by optimistic observers were a reduction in the powers of the procurator's department (which functioned on exactly the same lines as the department of the same name in the Soviet Union); an increase in the authority of professional judges at the expense of the ignorant and politically prejudiced "people's judges"; and the abolition of the power of "administrative arrest," held by the security police and exempt from control by the courts. Public discussion of these questions was allowed by the authorities. Official support was also granted to attacks on abuse of power by bureaucrats. Some of the privileges of the bureaucrats, including the right to purchase better quality goods in special shops, were abolished. Extravagance on official occasions was denounced from the highest quarter. Marshal Tito himself, in a speech to women in Zagreb on Oct. 28, deplored the tendency of the people's authorities to make any visit by a senior official an excuse to give themselves a feast. In the opinion of the marshal, such occasions justified a glass of *slivovica*, but to kill a pig was too much.

The pace of collectivization of agriculture was slackened during the year. At the end of May the number of collective farms was just over 7,000, while at the beginning of the year it had already been more than 6,500. The average size of each collective farm had however greatly increased. At the beginning of the year the average number of families to a collective farm had been 50, in September it was nearly 200. The "Socialist sector in agriculture" in September covered 25% of the arable land of the country. There was evidence during the year that the authorities were trying to minimize hardship to the peasants. In particular, there was much less action against the *kulaki* (richer

peasants) than in neighbouring countries. Nevertheless, the authorities were forced at times to complain of the peasants' attitude. In a speech at Užice in February Tito stressed the need for a maize surplus to export, in order that raw materials and equipment essential to the industrialization plans might be imported. Yet the peasants were delivering too little to the state. There were more pigs, cattle and sheep in Yugoslavia than in 1939, yet far less meat was reaching the markets. Tito attributed these supply difficulties to the actions of "speculators." A month later, Edvard Kardelj, vice-premier, complained of speculators who evaded the government's purchasing agents. The result of these evasions was, Kardelj admitted, that the agents demanded excessive quotas from the "honest peasants" who had already delivered all that was required of them. Such injustices were, however, inevitable, he argued, until the speculators were checked. The remedy was for the peasants themselves to denounce such people to the authorities.

Whether through the action of these speculators, or because the mass of peasants wanted to eat their crops rather than sell them for money with which there was little to buy, or simply because of the drought, the harvest of 1950 was extremely bad. The government was obliged to decree, on Sept. 26, the stoppage of all maize exports, to reduce the bread ration by 10%, and to reduce drastically the compulsory delivery quotas (by 54% in Serbia, 64% in Croatia and 88% in Bosnia and Hercegovina). In the following months the food situation became so serious, and the fall in exports threatened to have such bad effects on the economy as a whole, that foreign aid became essential. The U.S. Export-Import bank granted Yugoslavia a loan of \$15,000,000, and the western German republic a credit of \$30,000,000, both in August. In mid-November a British credit of £3,000,000 was approved, and on Nov. 21 Pres. Harry S. Truman announced a grant of food supplies for the Yugoslav army to the value of \$16,000,000. But all this was much less than the Yugoslav government had asked for.

Official statements during the year on the progress of the five-year plan continued to claim high percentage achievements of the proposed targets. Western observers, however, were convinced that reality fell far short of these claims. The authorities continued to complain of absenteeism by factory workers, which in the first six months of the year was as high as 19% in Serbia. One reason was the frequent failure of the authorities to provide living accommodation in new industrial centres. On June 28 a new law limited the rights of factory managers and gave greater powers to works councils elected by the workers. The councils, however, were dominated by the Communist party. At the same time there was some tendency to replace managers earlier appointed for political reasons by technical experts. It seemed probable that the aim of the reform was to combine greater efficiency on the technical side with the maintenance of party political control now exercised not through the manager but through the works council. Another change was increasing decentralization of ministries, especially of economic ministries. The federal government transferred wide powers to republican ministries. Here again it would be wrong to take the change at its face value. As long as republican governments remained subordinate to, not co-ordinate with, the federal government, and as long as the hierarchy of the Communist party remained rigidly centralized throughout the country, it was unlikely that decentralization would be very effective. (See also ALBANIA; TRIESTE, THE FREE TERRITORY OF.)

(H. S.-W.)

**Education.**—Schools (1947-48): elementary 12,052, pupils 1,616,002, teachers 23,889; secondary 942, pupils 310,185; technical and art 1,219, pupils 117,369; teachers' training colleges 53, students 16,145; universities 5, students (1948-49) 54,421; other institutions of higher education 17, students 2,798.

**Finance and Banking.**—Budget: (1949 est.) balanced at 161,746,000,000 dinars; (1950 est.) balanced at 173,746,000,000 dinars. Currency circu-



lation (May 1950): 44,450,000,000 dinars. Bank deposits (May 1950): 40,710,000,000 dinars. Monetary unit: dinar, with an official exchange rate of 50 dinars to the U.S. dollar.

**Foreign Trade.**—(1949) Imports 14,570,000,000 dinars; exports 9,610,000,000 dinars. Main sources of imports: Italy 8.6%; U.S. 7.2%; Austria 7%. Main destinations of exports: U.K. 23.3%; Austria 8.7%; Italy 8.2%. Main imports: textile manufactures, textile raw materials and machinery. Main exports: cereals, timber, ores.

**Transport and Communications.**—Roads (1940) 20,906 mi. Licensed motor vehicles (Dec. 1949): cars 12,000; commercial 20,000. Railways (1949): 6,926 mi. Shipping (July 1949): merchant vessels more than 100 gross tons 101; total tonnage 209,530. Telephones (1948) 66,495. Radio receiving sets (1949) 230,000.

**Agriculture.**—Main crops (metric tons): wheat (1950) 2,300,000; rye (1950) 245,000; maize (1949) 4,150,000; barley (1948) 353,000; oats (1948) 345,000; potatoes (1949) 1,939,000; sugar, raw value (1949) 97,000; dry beans (1949) 145,000; hemp fibre (1949) 84,500; tobacco (1948) 28,000. Livestock: cattle (Dec. 1949) 5,238,000; sheep and goats (Dec. 1949) 10,810,000; horses used in agriculture (Jan. 1949) 1,062,000; chickens (Dec. 1949) 19,136,000.

**Industry.**—Coal and lignite (1949 est.) 11,703,000 metric tons; electricity (1949) 2,200,000,000 kw.hr. Raw materials (metric tons): bauxite (1944) 152,000; copper ore (1947) 30,000; lead (1947) 50,000; zinc ore (1947) 30,000.

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**FILMS OF 1950.**—*New Yugoslavia: Year Three of the Plan* (Yugoslav Information Center).

**Yukon Territory.** The most northwesterly political division of Canada, the Yukon was created in 1898. Area: 207,076 sq.mi. Pop.: (1941) 4,914; (1950 est.) 8,000. Capital: Dawson, pop. (1941) 1,043.

**History.**—Increased defense preparations during 1950 drew attention to the Yukon, one of the important points in arctic strategy. In February Canadian and U.S. forces co-operated in Operation "Sweetbriar" to test North American defenses against invasion. Scene of the mock battle was on the Alaska highway near the Donjeck river, 170 mi. south of Dawson. A plebiscite was held during the year in which the vote was 1,007 to 90 to legalize the sale of hard liquor over bars. Previously, the Yukon was dry except for beer beverage rooms. The city of Dawson got its first local government since 1919, when the Ottawa-appointed commissioner was replaced with an elected mayor and three-man council. The federal department of agriculture continued its agricultural station on the Alaska highway 100 mi. west of Whitehorse, where grain, poultry and dual-purpose cattle were tested for northern farming.

**Education.**—In the 1948-49 school year ending June 30, the superintendent of education for the Yukon, R. Hulland, reported that there were 10 schools, 23 teachers, a total enrolment of 652 and an average daily attendance of 503. In the same school year 273 Yukon Indians attended day and residential school classes.

**Finance.**—Total revenue raised in the territory during the 1949-50 fiscal year was \$1,593,620. Expenditure for the period was \$4,932,150, with the deficit provided by the federal government.

**Transportation.**—On Oct. 5 the all-weather, \$5,500,000, 243-mi. of highway from Mayo to the Alaska highway at a point 10 mi. from Whitehorse was opened. In 1949 river traffic moved 22,696 tons of freight, including ore, and 8,713 passengers. The federal government maintained ten overnight camps along the Alaska highway. In 1949, 6,417 automobiles and trucks drove past counters at Tok Junction.

**Furs.**—In 1949 a total number of 151,969 fur pelts was exported, compared with 131,227 in 1948 and 55,777 in 1947.

**Minerals.**—Spectacular results were reported in 1950 from the formerly discontinued United Keno mine at Mayo, reopened in 1946. By Oct. 1950 it was listed as the world's second largest producer of lead and silver, with production of \$80-per-ton ore totalling \$9,200,000. Milling capacity at the mine was enlarged from 250 to 350 tons of ore daily.

Mineral production during 1949 included: 81,970 fine oz. gold, 1,562,730 fine oz. silver, 5,356,405 lb. lead, 847,246 lb. zinc and 3,156 tons coal. (C. Cy.)

**Zanzibar:** see BRITISH EAST AFRICA.

**Zinc.** World production of zinc in 1949 increased 7% over 1948, to a level 10% above that of 1939, and less than 2% under the World War II peak of 1943, as is indicated by the data in Table I. The German output was greatly reduced, and

Table I.—World Production of Zinc

	(In thousands of short tons)						
	1939	1944	1945	1946	1947	1948	1949
Australia . . . . .	79.8	88.2	93.8	85.4	77.7	91.1	90.7
Belgium . . . . .	205.1	9.6	12.9	95.0	146.7	169.6	194.6
Canada . . . . .	175.6	168.5	183.3	185.7	172.9	196.5	206.0
France . . . . .	67.3	9.7	9.3	33.5	50.7	61.2	66.8
Germany . . . . .	254.6	286.2	?	31.3	22.8	45.6	95.8
Great Britain . . . . .	58.3	79.6	69.5	73.4	76.5	80.6	71.8
Italy . . . . .	39.0	—	1.7	17.3	25.1	29.1	29.3
Japan . . . . .	56.5	69.0	20.4	12.4	16.4	23.4	35.6
Mexico . . . . .	39.0	54.3	54.0	46.3	62.5	53.2	59.0
Netherlands . . . . .	22.4	2.3	—	2.2	10.5	15.0	17.2
Northern Rhodesia . . . . .	14.2	16.2	17.1	19.2	23.7	24.8	25.6
Norway . . . . .	50.6	13.0	10.2	33.3	38.1	46.3	45.2
Poland . . . . .	120.0	?	40.1	62.4	79.1	96.0	?
Spain . . . . .	14.8	19.9	19.1	19.4	21.8	23.4	21.6
United States . . . . .	507.2	869.3	764.6	772.4	802.5	787.8	814.8
Total . . . . .	1,820	1,790	1,400	1,550	1,760	1,865	1,995

Poland had not yet regained its prewar status. Of the other important producers, only France, Great Britain and Spain were producing at their prewar rates. However, these losses were more than offset by advances outside Europe.

**United States.**—Mine output dropped 6% in 1949, but smelter output gained 4%. Though recoveries from imported ores declined 7%, those from domestic ores rose 10%. The salient features of the industry in the United States, as reported by the U.S. bureau of mines, are shown in Table II.

Table II.—Data of Zinc Industry in the U.S.

	(In thousands of short tons)						
	1939	1944	1945	1946	1947	1948	1949
Mine production. . .	583.8	718.6	614.4	574.8	637.6	630.0	593.2
Smelter production. .	507.2	869.3	764.6	772.4	802.5	787.8	814.8
Domestic ores. . .	491.1	574.5	467.1	459.2	510.1	538.0	591.5
Foreign ores. . .	16.2	294.8	297.5	269.1	292.4	249.8	233.3
Imports. . . . .	67.0	486.3	478.8	376.8	370.3	357.4	367.8
In ore. . . . .	36.1	422.7	381.7	272.1	298.0	264.2	242.9
Metal. . . . .	30.9	63.6	97.1	104.7	72.3	93.2	126.9
Secondary recovery. .	189.6	345.5	360.4	300.7	310.8	324.6	237.8
Stocks. . . . .	?	298.5	328.6	269.2	149.3	116.7	175.1
Producers'. . . . .	86.3	233.7	256.2	176.2	68.6	20.8	94.2
Consumers'. . . . .	?	64.8	72.4	93.0	80.8	95.9	80.9
Consumption. . . . .	626.0	888.6	852.3	801.2	786.4	817.7	711.8

Imports advanced slightly and consumption dropped, leaving a substantial balance to add to stocks—the first increase since 1945. Mine production improved in the first half of 1950, and in spite of later declines totalled 500,202 tons through October.

**Canada.**—Primary zinc output rose from 234,164 in 1948 to 288,873 tons in 1949 and 203,821 tons through Aug. 1950. The recoveries of refined zinc were being cut by increased exports of ore. Smelter output for eight months of 1950 dropped to 134,582 tons, against 206,045 tons in 1949 and 196,575 tons in 1948.

(G. A. Ro.)

**Zonta International:** see SOCIETIES AND ASSOCIATIONS.

**Zoology.** The American Society of Zoologists met jointly with the American Association for the Advancement of Science in Cleveland, O., Dec. 27-30, 1950. There were 241 papers scheduled for this meeting compared with 270 in 1949. The \$1,000 prize of the association for the best paper went to Harvard zoologist Carrol M. Williams for the studies that he and his assistants carried out on the enzyme systems of larval and pupal stages of the *Cecropia* moth. Williams found that the enzymes concerned with cellular respiration (the cytochrome system) were greatly reduced during the change from larva to pupa. During the period of pupal dormancy and low metabolism a different enzyme system controlled cellular respiration. Apparently the metamorphosis hormone, responsible for the change from pupa to adult, acted to bring about a rapid synthesis of the enzymes of the cytochrome system and a consequent termination of dormancy and an increased metabolism.

**Behaviour.**—The notable studies by K. von Frisch were made available in English in his *Bees: Their Vision, Chemical Senses and Language* (1950). C. S. Ford and F. A. Beach in their *Patterns of Sexual Behavior* (1950) analyzed sexual patterns in contemporary human cultures and in some of the higher animals in an attempt to determine the contributions of cultural and physio-



logical factors to sexual activities.

E. T. Nielsen and H. Greve reported on the swarming habits of mosquitoes in Denmark. The swarms, made up exclusively of males, rose at sunset and at dawn. They were kept compact by the peculiar flight patterns of the individual mosquitoes: Each mosquito flew a circular course 20 cm. to 50 cm. in diameter and reversed its direction after each circuit. Reversal occurred at the point in the circumference of the flight circle that intersected the line of the prevailing wind. The authors suggested that swarming brought about a redistribution of the males and hence enlarged the interbreeding population.

**Experimental Zoology.**—R. E. Billingham and P. B. Medawar continued their studies of the spread of pigment from the spots in spotted guinea pigs and from minute disorganized grafts of pigment cells in white guinea pigs. The mode of spread led them to conclude that the pigment granules passed from pigmented to nonpigmented cells infectively. This concept implied that in the "infected" cells the pigment granules increased in number much as do virus particles. They made a further observation of much interest: When a small piece of skin from the original donor was grafted to any region of a host animal with one or more pigment grafts, the grafted pigment rapidly disappeared, presumably as a result of the action of specific antibodies produced by the host in response to the antigens of the grafted skin.

**Ecology.**—G. Thorson reviewed the knowledge of larval and reproductive ecology of marine bottom-dwelling invertebrates. Despite great differences in the numbers of eggs produced by different species, animal populations on the floor of the sea generally remain qualitatively constant from year to year. In the tropics 80% to 85% of the larvae of bottom dwellers are temporary surface feeders and are thus exposed to enormous risks. Currents may carry the larvae from the coastal shallows to deep water where no suitable bottom exists for their further development; a poor food supply will prolong the larval phase and the risk, as will a low temperature. The largest wastage is caused by predators: other surface-feeding larvae, coelenterates, echinoderms, barnacles, molluscs, copepods and plankton-feeding fishes (pilchard, sprat and herring). A single mollusc (*Mytilus*), for example, in filtering 1.4 l. of water per hour may destroy 100,000 molluscan larvae in a day.

The proportion of surface-feeding larvae is inversely related to latitude, declining to 55% to 65% in boreal seas and to 5% in the arctic and antarctic. The remainder of the larvae develop from large yolk-filled eggs—they have a self-contained food supply. This shift in relative numbers of surface feeders is correlated with the fact that any surface-feeding larvae in high latitudes must complete their development during the few weeks of the year when the minute plants (phytoplankton)—the fundamental producers of food—are available.

**Embryology.**—Jean Brachet's important book, *Embryologie Chimique*, was translated by L. G. Barth (*Chemical Embryology*, 1950). S. Hörstadius ably marshalled the scattered experimental and descriptive knowledge of one of the most versatile embryonic tissues in his monograph *The Neural Crest* (Oxford, 1950). C. R. Moore, in a comprehensive review of the role of endocrine glands in development, emphasized that there was as yet no conclusive proof that male and female sex hormones control the direction of development of the accessory reproductive organs. Paul Weiss continued to extend his concept of molecular ecology in an effort to bridge the "gap between chemical action and physical structure." He found a specially favourable example in the developing eye and lens of the embryonic chick. Here the future lens tissue came into intimate contact with the eyeball (future retina) for a short time. During and after this contact the future lens cells elongated and become reoriented as the first step in lens

differentiation. Weiss interpreted the results on the basis of molecular contact and orientation.

A. Lwoff considered differentiation in a group of unicellular animals in a monograph, *Problems of Morphogenesis in Ciliates* (1950). The measurement of growth and form was broadly treated by 13 specialists in a discussion led by S. Zuckermann.

**Morphology and Taxonomy.**—Libbie H. Hyman continued her monumental series of publications in *Invertebrates: Volume II. Platyhelminthes and Rhynchocoela* (1950). W. Demerec edited a work of importance to biologists in several fields, *Biology of Drosophila* (1949), and W. S. Creighton produced a systematic treatise on the ants of North America.

**General.**—Joseph Wood Krutch edited an anthology, *Great American Nature Writing* (1950). Paul B. Sears in *Charles Darwin, the Naturalist as a Cultural Force* (1950) ranged over the history of biological ideas from the Greeks to the moderns and showed the effect of the Darwinian revolution on all phases of human thought.

C. L. Prosser, D. W. Bishop, F. Brown, Jr., T. L. Jahn and V. J. Wulff assembled a large amount of fundamental information in their *Comparative Animal Physiology* (1950). Biologists would find the numerous extensive tables and the bibliography of nearly 3,600 references of much value. (See also ENDOCRINOLOGY; GENETICS; MARINE BIOLOGY; PALAEOLOGY.)

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**Zoological Parks.**—*Africa.*—The National Zoological garden of Egypt received in 1950 a pair of great Indian rhinoceros from the sanctuary in Assam.

*Australia.*—Since commonwealth regulations prohibit the importation of native-born ruminants, swine and monkeys of Africa, Asia and South America, the Australian zoos secured these forms from American collections where they were bred and born. The exhibits in the several smaller zoos of the country had been very much enlarged, the management and support of these having been taken over by zoological societies.

*Europe.*—At no time in the past had the collections and park lands of the zoos on the continent and in Great Britain been of such high standard and diversity. In these countries zoos differ more, one from another, than they do elsewhere in the world because specific achievement is sought along special lines: research and veterinary medicine in some institutions, for example, and animal behaviour studies in others. The sending out of expeditions not only to accumulate animals, but to study them in the wild with the intention of making better provision for them in captivity, is a specialty of others. How these facts which had been accumulated by the managements of the many zoos could be exploited was the subject of a book by H. Hediger, *Wild Animals in Captivity*.

*North America.*—In the American collections there seemed to be a trend, an aspiration, to show fewer animals more carefully and gainfully. The only exotic collection of great interest was that taken in western South America by Charles Cordier and exhibited at the New York Zoological park.

**FILMS OF 1950.**—*Anatomy (Anatomy of the Dogfish)*, *Vertebrates (Dogfish as a Vertebrate)* (British Information Services); *Animals in Winter*, *The Beaver*, *Insect Zoo*, *Monarch Butterfly*, *Sunrise Serenades* (Encyclopædia Britannica Films Inc.); *Beauties on the Beach*, *Giant Beetles*, *Miracle of Life*, *Mr. and Mrs. Canary* (Almanac Films, Inc.); *Biography of a Fish* (Sterling Films, Inc.); *Cells and Their Functions* (Athena Films, Inc.); *Know Your Snakes* (Hollywood Film Enterprises, Inc.); *Life Cycle of the Sockeye Salmon* (Paul Hoeffer Productions); *Life in a Pond* (Coronet Instructional Films); *Marsh Marauders* (National Film Board of Canada); *The Newt*, *The Rabbit's Development* (International Film Bureau). (Ro. B.)



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